Initial Study & Environmental Analysis
For:

Hell's Kitchen PowerCo 1 and LithiumCo 1 Project

Prepared By:

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TABLE OF CONTENTS

PAGE

SECTION 1

I. INTRODUCTION 3

SECTION 2

II. ENVIRONMENTAL CHECKLIST 7
PROJECT SUMMARY 10
ENVIRONMENTAL ANALYSIS 31

*I. AESTHETICS ..... **Error! Bookmark not defined.**31*
*II. AGRICULTURE AND FOREST RESOURCES ..... **Error! Bookmark not defined.**31*
III. AIR QUALITY 32
IV. BIOLOGICAL RESOURCES 33
V. CULTURAL RESOURCE 34
VI. ENERGY 34
VII. GEOLOGY AND SOILS 35
*VIII. GREENHOUSE GAS EMISSION ..... **Error! Bookmark not defined.**6*
*IX. HAZARDS AND HAZARDOUS MATERIALS ..... **Error! Bookmark not defined.**7*
*X. HYDROLOGY AND WATER QUALITY ..... **Error! Bookmark not defined.**8*
XI. LAND USE AND PLANNING 40
XII. MINERAL RESOURCES 40
XIII. NOISE 40
XIV. POPULATION AND HOUSING 41
XV. PUBLIC SERVICES 41
XVI. RECREATION 42
XVII. TRANSPORTATION 42
XVIII. TRIBAL CULTURAL RESOURCES 43
XIX. UTILITIES AND SERVICE SYSTEMS 43
XX. WILDFIRE 44

SECTION 3

III. MANDATORY FINDINGS OF SIGNIFICANCE 46
IV. PERSONS AND ORGANIZATIONS CONSULTED 47
V. REFERENCES 48

SECTION 1
INTRODUCTION

A. PURPOSE

This document is a ☐ policy-level, ☒ project level Initial Study for evaluation of potential environmental impacts resulting from the proposed Hell's Kitchen PowerCo 1 and LithiumCo 1 Project .

B. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REQUIREMENTS AND THE IMPERIAL COUNTY'S GUIDELINES FOR IMPLEMENTING CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's "CEQA Regulations Guidelines for the Implementation of CEQA, as amended", an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

☒ According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

☐ According to Section 15070(a), a **Negative Declaration** is deemed appropriate if the proposal would not result in any significant effect on the environment.

☐ According to Section 15070(b), a **Mitigated Negative Declaration** is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will not result in any potentially significant environmental impacts and therefore, an Environmental Impact Report is deemed as the appropriate document to provide necessary environmental evaluations and clearance as identified hereinafter.

This Initial Study (IS) is prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); Section 15070 of the State & County of Imperial's Guidelines for Implementation of the California Environmental Quality Act of 1970, as amended (California Code of Regulations, Title 14, Chapter 3, Section 15000, et. seq.); applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial Guidelines for Implementing CEQA, depending on the project scope, the County of Imperial Board of Supervisors, Planning Commission and/or Planning Director is designated the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the

principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. INTENDED USES OF INITIAL STUDY AND NEGATIVE DECLARATION

1) This IS and Notice of Preparation (NOP) are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals. The IS and NOP prepared for the Project will be circulated for a period of 35 days for public and agency review and comments.

D. CONTENTS OF INITIAL STUDY

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a significant impact, a potentially significant impact, or no impact.

PROJECT SUMMARY, LOCATION, AND EVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

IV. PERSONS AND ORGANIZATIONS CONSULTED identifies those persons consulted and involved in preparation of this Initial Study.

V. REFERENCES lists bibliographical materials used in preparation of this document.

E. SCOPE OF ENVIRONMENTAL ANALYSIS

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

1. **No Impact:** A "No Impact" response is adequately supported if the impact simply does not apply to the proposed applications.

2. **Less Than Significant Impact:** The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.

3. **Less Than Significant with Mitigation Incorporated:** This applies where incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact".

4. **Potentially Significant Impact:** The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less-than-significant levels.

F. POLICY-LEVEL or PROJECT-LEVEL ENVIRONMENTAL ANALYSIS

This Initial Study will be conducted under a ☐ policy-level, ☒ project level analysis. Regarding mitigation measures, it is not the intent of this document to "overlap" or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County's jurisdiction, are also not considered mitigation measures and, therefore, will not be identified in this document.

G. TIERED DOCUMENTS AND INCORPORATION BY REFERENCE

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which is discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included into this document. Tiering is defined as follows:

"Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project."

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

"Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."
Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the

requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

(1) Were not examined as significant effects on the environment in the prior EIR; or

(2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. Incorporation By Reference

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]). This document incorporates by reference appropriate information from the "Final Environmental Impact Report and Environmental Assessment for the "County of Imperial General Plan EIR" prepared by Brian F. Mooney Associates in 1993 and updates.

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR and updates are available, along with this document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.

- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.

- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.

- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the County of Imperial General Plan EIR is SCH #93011023.

- The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f]). This has been previously discussed in this document.

II. Environmental Checklist

1. **Project Title**: Hell's Kitchen PowerCo 1 and LithiumCo 1 Project
2. **Lead Agency**: Imperial County Planning & Development Services Department
3. **Contact person and phone number**: David Black, Planner , (442)265-1736, ext. 1746
4. **Address**: 801 Main Street, El Centro CA, 92243
5. **E-mail**: DavidBlack@co.imperial.ca.us
6. **Project location**: The Project would be located within Imperial County, California, approximately 3.6 miles west from the town of Niland. The Project would be adjacent to Davis Road and south of Noffsinger Road, within Controlled Thermal Resources (US), Inc. (CTR), geothermal lease area and on lands owned by Imperial Irrigation District (IID). The gen-tie line will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to Hudson Ranch. The gen-tie line will be located east of Davis Road and north of McDonald Road within Imperial Irrigation District's (IID) transmission right-of-way and within new right-of-way. The geothermal development area and lithium facilities would be within Sections 11 and 12 of Township 11 South, Range 13 East, San Bernardino Base Meridian, and the gen-tie/power line ROW corridor is located within Sections 12, 13, and 14 of Township 11 South, Range 13 East.
7. **Project sponsor's name and address**: Hell's Kitchen PowerCo 1, LLC and Hell's Kitchen Lithium Co1, LLC,

   447 West Aten Road, Suite G, Imperial, CA 92251
8. **General Plan designation**: Agriculture
9. **Zoning**: S-1-G (open space/geothermal overlay zone), S-2-G (open space/preservation/geothermal overlay) and M-2-G-PE (medium industrial/geothermal overlay)
10. **Description of project**: Hell's Kitchen PowerCo 1 LLC is proposing the Hell's Kitchen PowerCo 1 (HKP1), and Hell's Kitchen LithiumCo 1 LLC is proposing the Hell's Kitchen LithiumCo 1 (HKL1) (proposed Project) in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale.
11. **Surrounding land uses and setting**: Imperial Irrigation District (IID)-owned vacant land is located west of the Project site. Vacant private land is located north of the Project site. State of California-owned wildlife areas are located to the east of the Project site. Vacant land owned by IID and the Hudson Ranch 1 facility are located south of the Project site. There are no residential uses within 1 mile of the Project site.
12. **Other public agencies whose approval is required** (e.g., permits, financing approval, or participation agreement):
    - United States Fish and Wildlife (USFWS) – Incidental Take Permit (ITP; if required)
    - United States Army Corps of Engineers – Individual Permit under Section 404 of the Clean Water Act
    - California Department of Transportation (Caltrans) – Encroachment Permit
    - California Department of Fish and Wildlife (CDFW) – Lake or Streambed Alteration Agreement and Incidental Take Permit (if required)
    - California Department of Toxic Substances/Certified Unified Program Agency (CUPA) – Hazardous Materials / Environmental Protection Agency Approvals and Permits
    - California Geologic Energy Management Division (CalGEM) – New well permit(s)
    - Regional Water Quality Control Board – Waste Discharge Requirement and 401 Water Quality Certification
    - Imperial Irrigation District – Encroachment Permit
    - Imperial County Air Pollution Control District – Permit to Construct and Permit to Operate; Use of Generators (if needed)

- Imperial County Public Health Department – Nontransient-Noncommunity Water System Permit
- Imperial County Building Department – Building and Grading Permits
- Imperial County Public Works Department – Encroachment Permit(s)
- Imperial County Fire Department and Office of Emergency Services

13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

In accordance with California Assembly Bill (AB) 52, Native American tribes with potential resources in the area were notified of the Project on [PENDING] and offered the opportunity for consultation. As of [PENDING], PENDING tribe has requested consultation.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code, Section 21083.3.2). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code, Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code, Section 21082.3 (c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒	Aesthetics	☐	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Energy
☒	Geology /Soils	☒	Greenhouse Gas Emissions	☒	Hazards & Hazardous Materials
☒	Hydrology / Water Quality	☐	Land Use / Planning	☐	Mineral Resources
☒	Noise	☐	Population / Housing	☐	Public Services
☐	Recreation	☒	Transportation	☒	Tribal Cultural Resources
☒	Utilities/Service Systems	☒	Wildfire	☒	Mandatory Findings of Significance

ENVIRONMENTAL EVALUATION COMMITTEE (EEC) DETERMINATION

After Review of the Initial Study, the Environmental Evaluation Committee has:

☐ Found that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ Found that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ Found that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ Found that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ Found that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DE MINIMIS IMPACT FINDING: ☐ Yes ☒ No

EEC VOTES	YES	NO	ABSENT
PUBLIC WORKS	☐	☐	☐
ENVIRONMENTAL HEALTH SVCS	☐	☐	☐
OFFICE EMERGENCY SERVICES	☐	☐	☐
APCD	☐	☐	☐
AG	☐	☐	☐
SHERIFF DEPARTMENT	☐	☐	☐
ICPDS	☐	☐	☐

Jim Minnick, Director of Planning/EEC Chairman Date:

PROJECT SUMMARY

Hell's Kitchen PowerCo 1 LLC is proposing the Hell's Kitchen PowerCo 1 (HKP1), and Hell's Kitchen LithiumCo 1 LLC is proposing the Hell's Kitchen LithiumCo 1 (HKL1) in Imperial County, California. HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 involves development of mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale. HKP1 and HKL1 (together referred to as the proposed Project) will be constructed and operated by Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC respectively, both subsidiaries of Controlled Thermal Resources (CTR) and will have shared facilities.

A. PROJECT LOCATION

The Project is located within undeveloped land owned by Imperial Irrigation District (IID) and a right-of-way (ROW) corridor for the gen-tie and power line to the IID interconnect station at Hudson Ranch (HR1). The Project would be located within Sections 11 and 12, Township 11 North, Range 13 East in Imperial County near the eastern shore of the Salton Sea (Project site; Figure 1, Project Site Location). The Project is approximately 3.6 miles west of the Town of Niland. A list of the parcels included in the Project are shown in Table 1: Project Assessor Parcel Numbers (APNs). The majority of the proposed HKP1 and HKL1 facilities are located immediately west of Davis Road, with administrative buildings and warehouses located east of Davis Road. The 230-kilovolt (kv) gen-tie line for HKP1 will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to Hudson Ranch. The gen-tie line would be located east of Davis Road and north of McDonald Road, within the IID's transmission ROW and within new ROW. The power line to supply power to the HKL1 facilities would be collocated on the HKP1 transmission structures/poles. The layout of the Project is shown in the Project Site Plan (Figure 2, Project Site Plan).

Table Error! No text of specified style in document.**: Project Assessor Parcel Numbers (APNs)**

APN	Project Component	Zoning Designation
020-010-012	HKP1 and HKL1 Shared Facilities	S-1-G and S-2-G
020-010-013	HKP1 and HKL1 Shared Facilities	S-1-G
020-070-060	HKP1 and HKL1 Shared Facilities	S-1-G
020-010-042	Gen-Tie and Power Line	S-1-G
020-060-001	Gen-Tie and Power Line	S-1-G
020-060-002	Gen-Tie and Power Line	S-1-G
020-060-039	Gen-Tie and Power Line	S-1-G
020-060-040	Gen-Tie and Power Line	S-1-G
020-070-026	Gen-Tie and Power Line	S-1-G
020-070-025	Gen-Tie and Power Line	S-1-G
020-070-029	Gen-Tie and Power Line	S-1-G
020-070-055	Gen-Tie and Power Line	S-1-G
020-010-031	Gen-Tie and Power Line	S-1-G
020-010-032	Gen-Tie and Power Line	S-1-G
020-010-035	Gen-Tie and Power Line	M-2-G-PE
020-010-044	Gen-Tie and Power Line	M-2-G-PE
Notes: S-1-G (open space/geothermal overlay); S-2-G (open space/preservation/geothermal overlay); M-2-G-PE (medium industrial/geothermal overlay)		

As shown in Table 1, the majority of the development area is zoned S-1-G (open space/geothermal overlay zone)

with a portion zoned S-2-G (open space/preservation/geothermal overlay) and is entirely within the renewable energy/geothermal map overlay zone in the 2015 Renewable Energy and Transmission Element update to the County General Plan (Figure 3, Zoning Map). The gen-tie and power line ROW is zoned S-1-G and M-2-G-PE (medium industrial/geothermal overlay). The General Plan Land Use designation for the entire Project is Agriculture (County, 2007, Figure 4, Land Use Designation Map).

The Project will be accessed from Davis Road via new ingress/egress driveways. Project traffic will access the site from Highway 111 via McDonald Road and Davis Road. County road ingress/egress points will be constructed in conformance with Imperial County Public Works Department and Fire Department requirements. Road access will be restricted during construction, and appropriate traffic controls will be in place during construction of the Project. Following construction, Davis Road will be paved from McDonald Road to Noffsinger Road.

B. CURRENT USE OF THE PROJECT SITE AND SURROUNDING AREAS

The Project is located on vacant land that is generally undeveloped. On June 14, 2017 the County authorized Geothermal CUP #16-0001, which allowed construction of up to four well pads as well as drilling and maintenance of up to six separate geothermal exploratory wells on the Project site. A well pad, Well Pad 1, north of Alcott Road and west of Davis Road, and two geothermal wells were constructed on the site in 2021. Rough grading for Well Pad 3, south of Noffsigner Road and east of Davis Road began in November 2021. The remaining Project site is undeveloped.

Areas to the north and south of the Project site consist of undeveloped open space. Area to the west is open space followed by the Salton Sea. The State of California manages a wildlife management area, including waterfowl ponds to the east of the Project site.

C. PROJECT SUMMARY

The Project will consist of the following activities:

- construction and operation of a 49.9-MW geothermal power plant;
- construction of well pads with geothermal production and injection wells;
- construction of pipelines between HKP1 and HKL1 to facilitate the movement of brine between the facilities;
- construction and operation of a mineral-extraction facility to extract lithium hydroxide, silica, bulk sulfide, and polymetallic products from the geothermal brine;
- construction and operation of minerals handling and packaging facilities;
- construction of ingress and egress to the Project site from Davis Road;
- paving of Davis Road from McDonald Road to Noffsinger Road (approximately 2 miles);
- construction and operation of a 230-kV gen-tie line and collocated power line (approximately 2 miles south and 0.3 miles east); and
- construction of shared administrative facilities, offices, repair facilities, shipping and receiving facilities, and other infrastructure components.

The development area for the Project would be approximately 65 acres. The Project site layout is illustrated in Figure 2.

Structures

HKP1 will include construction of the following structures:

- production and injection wells and well pads
- geothermal fluid production and injection pipelines
- a brine processing facility
- a brine pond
- 49.9-MW net geothermal turbine generator facility

- a cooling tower
- material and equipment storage
- a control building
- administrative and warehouse buildings
- a water storage pond and water storage tank
- an on-site substation
- a 230-kV gen-tie line to the IID interconnect station at Hudson Ranch

HKL1 will include construction of the following structures:

- geothermal pipelines to transfer brine from HKP1
- a cooling tower
- truck entrance security
- a cooling tower and flocculation facilities
- brine crystallizers, clarifiers, thickeners, and filter presses
- a lithium-recovery resin vessel and systems
- raw water filtration, fire-water storage, and reverse osmosis facilities
- electrical buildings to house electric power switchgear and electrical metering
- a substation
- reagent storage and preparation buildings
- two motor-control centers and a control room building
- lithium product handling and packaging buildings (that will house the filtration and drying equipment for the lithium products and bagging and palletizing of finished products)
- polymetallic product handling facilities
- bulk sulfide product handling facilities
- silica product manufacturing facilities
- bulk boron product handling facilities
- two lime silos
- hydrochloric acid offloading and storage tanks
- a reverse osmosis water treatment facility

The two lime silos will be up to 60 feet tall. The evaporator support structure will be up to 80 feet tall and the cooling towers up to 50 feet tall. The crystallizers will be 80 to 110 feet tall. The electrical power line and transmission structures will be up to 120 feet tall. All other buildings and structures will be single-story with a maximum height of 35 feet. The buildings will be an earth-tone color. The Project would require a variance for the increase in height above 35 feet.

HKP1 Facilities

Production and Injection Wells

The Project will use Well Pad 1 and a well pad adjacent and south of the Q Drain for geothermal fluid production and injection. The Project may also use Well Pad 4 for geothermal fluid production or injection. Well Pad 1 was previously approved for geothermal exploration drilling and was constructed in 2021. The geothermal production wells will be drilled at Well Pad 1, and one or two injection wells will also be drilled at Well Pad 1. The existing footprint of Well Pad 1 will be expanded during construction of the commercial facility by approximately 160 feet to the north to accommodate the wells required for commercial operation of the Project. Well Pad 4 was previously approved by the County for geothermal exploration drilling but was not constructed. The Project will include a total of seven wells for production and injection, including one well for injection of aerated fluids. The two previously drilled geothermal exploration wells will be used as commercial production wells for the Project. All production and injection wells will be operated in accordance with California Geologic Energy Management Division (CalGEM) regulations.

Well-Site Production and Injection Equipment

Production and injection wellhead dimensions are not expected to exceed a height of 15 feet above the ground surface or 4 feet in diameter. The wellhead will consist of control valves, warmup bypass valves, and isolation valves. The wellheads will be insulated, and the insulation cladding will be supplied with an appropriate color to blend with the area and minimize visibility.

The injection wells will be located to avoid geothermal fluid interference with the production wells. Each injection well will be remotely monitored for pressure, temperature, and flow rate. Injection pumps located at the power plant site will pump the geothermal injection fluid through the injection pipeline system, providing sufficient pressure to inject the geothermal brine back into the geothermal reservoir. Limited electrical equipment is required at the injection well sites. A flow meter will be integrated into the injection pipeline equipment at the injection well pad and remotely operated from the control room. Overhead lighting will be constructed on the injection well pads. The injection well pad will be fenced.

The geothermal production and injection wells will be drilled from the production and injection well pads using steel, titanium or titanium alloy, nickel alloy, duplex stainless steel, or equivalent as appropriate to the final well completion depth.

Geothermal Pipeline Systems

Above-ground pipelines will be constructed to interconnect the production and injection wells with the power plant site facilities. The pipelines will be constructed at ground level on pipeline supports on drilled foundations approximately every 20 to 40 feet along the pipeline routes. The pipelines will use a cattleguard type crossing at the Q and R Drains to avoid impacts on the irrigation drains, and the crossing will be constructed in collaboration with IID. Pipeline construction will be conducted concurrently with construction of the power plant.

The production wellheads will be located on Well Pad 1, south of the power plant site. An above-ground pipeline will be constructed from the production wells to the brine and steam-handling facilities on the power plant site. The production pipelines will be constructed from alloy or alloy-lined pipe designed, constructed, tested, and inspected pursuant to current industry standards for high temperature, high-pressure piping. Above-ground geothermal fluid pipelines, approximately 30-inches in diameter, will be covered with approximately 2 inches of insulation and a protective metal sheath appropriately colored to blend with the area.

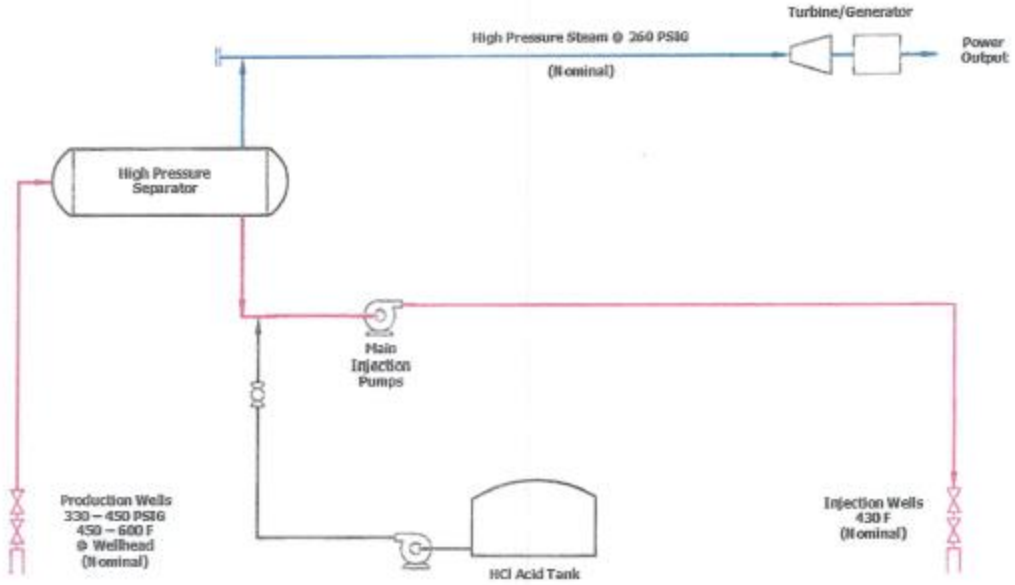
The brine injection pipeline will be either cement-lined carbon steel, alloy, or a combination of both. The brine injection pipeline will be approximately 24 inches in diameter and will be insulated then covered with a protective metal sheath appropriately colored to blend with the area.

Brine Processing Facility

The brine processing facility will prepare the geothermal fluid produced from the production wells for steam extraction. The geothermal fluid will be delivered through aboveground pipelines to the brine-processing facility. The spent brine will be injected back into the geothermal reservoir through injection wells (discussed below).

A pH-modification system will be installed should silica management be necessary to prevent scaling in either surface equipment or injection wellbores. The pH modification system will involve injection of dilute hydrochloric acid (HCl) into the brine stream exiting the high-pressure separator at a rate to establish a known bulk fluid pH value. The pH modification system consists of a concentrated acid storage tank, acid transfer pumps, a diluted acid storage tank, diluted acid injection pumps, and an injection nozzle to distribute the diluted acid into the brine injection pipeline. Concentrated HCl (approx. 32% by weight) will be delivered to the Project site by truck for storage. The concentrated acid will be mixed with service water to create a diluted acid solution (approx. 4% by weight). This diluted acid solution, should it be necessary for silica management, would then be injected into the brine pipeline between the high-pressure separator and the brine-injection pumps.

The brine processing facility would flow through the system as shown in Figure 6 below.



The expected brine composition is in Table 2 below.

Table 2: Expected Brine Composition

Mineral	Value (mg/L)
Ammonium, NH_4	250
Arsenic, As	10
Barium, Ba	250
Boron, B	350
Bromine, Br	100
Calcium, Ca	29,000
Cesium, C	15
Chloride, Cl	156,000
Cobalt, Co	<0.05
Copper, Cu	5
Iodide, I	10
Fluoride, F	25
Iron, Fe	1,600
Lead, Pb	100
Lithium, Li	250
Magnesium, Mg	50
Manganese, Mn	1,400
Potassium, K	17,000
Sodium, Na	54,000
Silica, SiO_2	350
Strontium, Sr	500

Mineral	Value (mg/L)
Sulphate, So_4	5
Zinc, Zn	500

Brine Pond

The brine pond will be cement-lined, with an underliner-leak detection system, and will allow for storage of brine during upset conditions and collection of brine during flow testing and plant start-up. The brine pond will be sized to accommodate two times the volume of the largest vessel and up to six hours of normal-brine-flow equivalent during system upset conditions plus two feet of freeboard. The brine pond will be constructed as a waste management unit (WMU) to meet Colorado River Regional Water Quality Control Board (CRRWQCB) surface-discharge requirements. Groundwater-monitoring wells will be constructed adjacent to the brine pond in conformance with CRRWQCB requirements.

Turbine Generator Facility

The Project will use flash-based power plant technology utilized in the Salton Sea geothermal field since 1982 to convert geothermal-based renewable steam energy into electricity. Steam from the high temperature geothermal fluid in the brine-handling facilities will be delivered to the turbine generator facility. The turbine generator facility will include a 49.9-MW (net) condensing turbine/generator set, a gas removal and emission abatement system, and a heat rejection system (i.e., condenser and cooling tower). The steam will be purified using a scrubber and demister before being admitted into the condensing steam turbine. The turbine will be directly coupled to a totally enclosed water and air-cooled (TEWAC) synchronous-type generator. The turbine-generator unit will be fully equipped with all the necessary auxiliary systems for turbine control and speed protection, lubricating oil, gland sealing, generator excitation, and cooling. Facilities associated with the turbine generator facility include a control building, a service water storage tank, lube oil skid, and other ancillary facilities.

One 3-MW diesel generator will be installed to provide black start[1] capability and emergency site power when the steam turbine generator is shut down. An 800-kW emergency generator will also be installed to provide backup for critical-instrument and equipment-control power. The diesel engines will meet California Air Resources Board (CARB) air pollutant emission limits. The generators are expected to operate fewer than 600 hours per year.

Heat Rejection and Non-Condensible Gas Removal Systems

The heat rejection system will be comprised of a shell-and-tube type condenser, a counterflow cooling tower, and a noncondensible gas (NCG) removal system. The cooling tower, NCG removal system, and condenser design will be similar to those employed at other geothermal power plants at the Salton Sea. The cooling tower will be up to 40 feet tall. Steam from the turbine will be condensed in the condenser. The geothermal steam condensate from the condenser will be collected in an aeration tank and used as a source of makeup water for the cooling tower. Gases that accumulate in the condenser will be evacuated by the NCG removal system. NCG will be pressurized and vented to a hydrogen sulfide (H_2S) abatement system during normal plant operation.

During plant start-up or load rejection (i.e., plant trip offline), steam to the turbine will be diverted to a rock muffler for safe venting as is currently the procedure at the existing geothermal power plants in the Salton Sea KGRA. During this time, H_2S and other NCG will be released to the atmosphere.

A combination of best available control technology, management practices, and process-monitoring equipment will be used to minimize air emissions from the power plant facilities. Permits to construct and operate the facility will be obtained from the Imperial County Air Pollution Control District (ICAPCD).

Hydrogen Sulfide Abatement System

[1] Blackstart service is the capability of generating units to start without an outside electrical supply or the demonstrated ability of a generating unit to automatically remain operating at reduced levels when disconnected from the grid (FERC-NERC, 2018).

H_2S gas is a naturally occurring compound found in Salton Sea geothermal brines. To minimize H2S from being released to the atmosphere and to meet permitted requirements during routine operations, the project will employ proven abatement systems. The H_2S abatement system effectively oxidizes the gas to a sulfate (SO_4^{2-}) that is highly soluble and then returns the sulfate product to injectate streams via the cooling tower blowdown process.

Non-condensable gases, including H_2S, are removed from the main condenser through a series of steam-powered air ejectors, vacuum pumps, and compressors. Once the gas stream is pressurized, it is sent to a sparging system located in the cooling tower basin, where the H_2S reacts with H_2S-abatement chemicals to oxidize the sulfide to sulfate. The sulfate product is injected into the reservoir with cooling tower blowdown.

Additionally, condensate flowing from the main condenser is routed to a tank where oxygen (sparged air) is introduced along with oxidizing chemicals. This process oxidizes any remaining H_2S gas to soluble sulfate. The treated condensate is then introduced to the cooling tower basin as a source of makeup water. As stated above, the sulfate product is subsequently injected into the reservoir as cooling tower blowdown.

Substation and Electrical Power Transmission
The electricity from the geothermal power plant will be converted to 230-kilovolts (kV) in the onsite substation. The output of the turbine generator facility is connected through a generator breaker to a (13.8-kV to 230-kV) main step-up transformer in the facility substation. The transformer will be set on a concrete pad within an oil containment system. The transformer will include gas-insulated switchgear. The high voltage side of the main step-up transformer will be connected to a new gen-tie line located within IID's transmission ROW to the IID interconnect station at HR1. The gen-tie line will be constructed as part of the power plant construction but turned over to IID for ownership and operation. The transmission line will be installed on steel structures that will support up to two 230-kV three-phase electrical circuits, including optical ground and static wire. The steel structures will consist of direct-bury steel poles approximately 120 feet tall and will span an average length of 800 feet.

HKL1 Facilities

Pipe Rack and Process Pipelines
A pipe rack will be constructed from the HKL1 Project's process area to the HKP1 site. A geothermal brine delivery pipeline from HKP1 will feed brine to the HKL1 Project's process area. Steam/steam-condensate pipelines will also be constructed on the pipe rack. After minerals processing, the depleted brine will be delivered to the HKP1 injection system for reinjection into the geothermal reservoir.

The geothermal brine delivery and return pipelines will be constructed with minimal usage of flanged connections to reduce the potential for pipeline leaks. Automatic valves will be integrated into the pipeline system that will close or divert the geothermal brine in the event of a pipeline issue to minimize the size of any potential spill. An Emergency Response Plan will be prepared and implemented should a fluid spill event occur.

Product Extraction Facilities
The lithium extraction areas will be constructed on concrete pads with a containment curb. The lithium extraction processing areas will consist of a series of interconnected tanks, pipelines, and control valves.

Security Fence and Landscaping
A security fence will be constructed around the Project site. The fence will be constructed to meet County standards for obscured fencing around processing areas.

Power Facilities
A power line will be installed for HKL1 on the transmission structures that are being constructed for HKP1. An electrical substation will be constructed on the site to obtain power from IID. Six electrical-control buildings will be located on the site, and each will house pad-mounted transformers and switchgear. An emergency standby diesel generator will provide emergency power supply in case of electrical outage.

HKP1 and HKL1 Shared Facilities and Design

Foundations

Buildings and equipment will be constructed on foundations consistent with the overall site plan. Deep foundations for all major equipment are expected to require subsurface improvements in the form of steel and or concrete pilings. Shallow foundations for buildings are not expecting to require piling supports.

Water Storage

A high-density polyethylene (HDPE)-lined freshwater pond will be constructed at the southern end of the Project site and just north of the Q Drain. The pond will store and provide fresh water for Project operations. The pond will be sized to provide sufficient storage capacity to meet Project demand during foreseeable periodic interruptions in IID canal water availability. A 100,000-gallon water storage tank will be located on site for fire water storage and 5 acre water storage pond for the facility to use would also be on site.

Stormwater Retention

Stormwater retention infrastructure will be constructed along the western boundary of the site. A berm/levee will run along the western boundary of the site to contain any stormwater runoff and prevent stormwater run on. Water accumulated in the stormwater retention basin will be allowed to evaporate or possibly used as a substitute for normal fresh water. The retention basin will be designed to meet State Water Resources Control Board requirements and will include an appropriate mosquito abatement per Imperial County guidelines.

The developed Project facility pad generally will be flat but will be designed to effectively drain to the stormwater retention basin. The stormwater drainage system will be size to accommodate 3 inches of precipitation in a 24-hour period (100 year storm event), and to the comply with applicable local codes and standards. Buildings and equipment will be constructed to provide protection from a 100-year storm event. Spill containment areas and sumps subject to spills of miscible chemicals will drain to an enclosed oil/water separator and collected in a waste oil tank for off-site recycling. The site will be graded and constructed so that any geothermal fluid spills will be collected in sumps that drain to the brine pond rather than the stormwater retention basin.

Generation Tie Line and Power Facilities

The 230-kV gen-tie structures constructed for the HKP1 project will be used to support the new power line for the HKL1 Project. The gen-tie line will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to Hudson Ranch. The gen-tie line will be located east of Davis Road and north of McDonald Road within Imperial Irrigation District's (IID) transmission right-of-way and within new right-of-way.

Parking and Site Access

Parking will be available in the administration and control building area. The Project will be accessed from Davis Road via new ingress/egress driveways. Davis Road will be upgraded with aggregate base during construction of the HKP1 Project. Project traffic will access the site from Highway 111 via McDonald Road and Davis Road. A bridge will be constructed across the R Drain to connect the northern and southern portions of the Project site. County road ingress/egress points will be constructed in conformance with Imperial County Public Works Department and Fire Department requirements. Road access will be restricted during construction, and appropriate traffic controls will be in place during construction of the Project. Davis Road will be paved from McDonald Road to Noffsinger Road at the completion of HKL1 Project construction. All structures within IID right-of-way (ROW), including the bridge over the R Drain, will require IID ROW and approval.

D. PROJECT CONSTRUCTION:

Site Preparation

Prior to construction of the power plant facility, the limits of the power plant site impact area will be staked and flagged. All vegetation within the power plant site impact area will be cleared. Vegetation will be removed using a

brush hog or functional equivalent. The removed vegetation will either be chipped on site for dust control, reused in landscaping, or composted. Sediment and erosion-control best management practices will be installed along the work areas as needed to protect water quality and control sedimentation and erosion during construction.

Shallow groundwater encountered in excavations (e.g., foundations, water storage pond) would be removed from the excavation via a submersible pump and would be either be applied as irrigation in upland areas via perforated pipe, discharged through a sediment filter bag, or pumped to a Baker Tank and removed from the site. The groundwater dewatering method would comply with all water quality standards. A Colorado River Regional Water Quality Control Board permit will be obtained prior to any groundwater discharge to land.

Approximately 400,000 cubic yards of engineered fill material will be imported and compacted within the Project site to construct the Project facilities. The geothermal power production facilities will be on a pad of compacted fill material approximately 2 to 3 feet in elevation over existing grade. The Project will be constructed to an elevation above the Imperial County designated special flood hazard for lands near the Salton Sea and will have a berm extended to the outer perimeter of the site as part of the stormwater infrastructure described above.

Well Pad 1 will be extended by approximately 160 feet to the north. The injection well pad and access road will be constructed on imported fill and compacted to finished grade. Grading will occur at the administration and warehouse area east of Davis Road, to provide a flat space for construction of the proposed buildings and foundations. Limited grading is proposed for the gen-tie line. A flat, approximately 100 foot by 100 foot pad will be constructed at each transmission structure location, to support the cranes and heavy equipment that will be required to install the transmission structures.

Material staging and laydown will occur within the Project area after site preparation. The area between Well Pad 1 and HKP1 facilities west of Davis Road will be available for material staging and laydown during construction.

Construction Workforce and Schedule

The construction phase of the Project is anticipated to last 25 months in total. CTR anticipates starting HKP1 construction of the power plant and developing the well field in November 2022 and ending September 2023, followed by HKL1 construction starting in February 2023 through December 2024.

Construction will generally be conducted Monday through Saturday from 7 a.m. to 6 p.m. over the 25-month construction period. Construction work will also occur during nighttime hours during periods of extreme heat in the summer.

The HKP1 Project construction is anticipated to span an approximately 10-month period and will commence November 2022. The HKP1 well drilling will be conducted 24 hours a day, seven days a week until the well depth is obtained and the wells are complete. Well drilling is anticipated to last approximately 8 weeks at each well and will involve a workforce of approximately 12 to 20 people, depending upon the activity. An average of 225 workers will be on site daily during construction of HKP1, with a maximum of up to 450 workers per day during peak construction.

The HKL1 Project construction will begin after the HKP1 construction has started and when all necessary permits are obtained. The HKL1 construction is expected span approximately 23 months and start in February 2023 and is expected to be complete in December 2024. Approximately 200 construction workers, on average, and 500 workers at peak construction periods are anticipated.

Trailers may be brought to the site to provide temporary worker housing for drilling staff who need to be on site 24 hours/day. The temporary housing will be located on site during the drilling process which would occur over approximately 6 months. Portable sanitary facilities will be housed on trailers, and sanitary waste from construction will be serviced regularly and removed from the site in compliance with all federal, State, and local regulations.

Construction Truck Trips

The HKP1 Project will require approximately 54,000 truck trips over the course of the project construction. The HKL1 Project is estimated to have an average of 25 trucks per day to and from the construction site, except during site grading, when about 250 trucks will travel to and from the Project construction site daily. Up to 500 workers will travel to the site per day at the peak of construction.

Construction Equipment

Below is a typical list of construction equipment anticipated to be required for the Project:

- Off-highway trucks
- Rollers
- Crawler tractors
- Excavators
- Graders
- Water trucks
- Compactors
- Rubber-tired loaders
- Scrapers
- Cranes
- Generator sets
- Concrete pump
- Plate compactors
- Rough terrain forklifts
- Skid steer loaders
- Tractor/Loader/Backhoe
- Aerial lifts
- Welders
- Air compressors
- Pavers
- Paving equipment

Construction Water Supply Source and Requirements

Water will be used during construction for dust control and compaction. Water for dust control and compaction will be obtained from IID and transported to the site via truck. It is estimated that up to 50,000 gallons per day would be needed. Water will be applied for dust control to meet Imperial County dust control requirements.

Construction Power Supply Source

A new electrical drop from IID's distribution line will be installed at the Project site to provide temporary construction power. Alternatively, a generator may be used to provide construction power where a power line is not practical. Any generator use will be permitted with the Imperial County Air Pollution Control District (ICAPCD).

E. PROJECT OPERATIONS

Routine operations and maintenance of the facility will include preventative maintenance and repairs of any damaged or otherwise inoperable equipment on an as-needed basis. The operation and maintenance staff will monitor the facility operations over the project life to ensure the power plant is operating to meet design standards.

The HKP1 facility will utilize geothermal brine to create geothermal energy which will be sold to IID through the gen-tie line. The HKL1 facility will utilize geothermal brine produced from the geothermal fluid management activities on the neighboring HKP1 power plant site for the commercial production of lithium hydroxide, silica, bulk sulfide, and polymetallic products. The production processing steps may be altered over time as production methods and efficiencies evolve and new or revised product lines are developed at the facility. The process includes the following steps:

- brine cooling
- silica, bulk sulfide and polymetallic product production
- lithium and metals extraction
- concentration of lithium extractant
- processing of lithium extractant to lithium hydroxide
- drying and packaging of lithium and polymetallic products
- offsite product shipping

Each of the general processing steps is discussed further below. After processing of the geothermal brine, the depleted brine will be returned to HKP1 for injection at the wells, developed for HKP1, south of the Q Drain.

Metal Recovery
Geothermal brine from the HKP1 will feed two parallel vacuum-flash brine cooling trains sized for the full operating flow of approximately 5 million lbs./hr. The cooled brine will be fed to the mineral extraction process. Silica, bulk sulfide, and polymetallic products will be extracted from the brine using proprietary technology. Silica, bulk sulfide, and polymetallic products will be filtered and shipped offsite in roll-off bins. A lithium chloride (LiCl) product stream will also be produced using a proprietary extraction process. The LiCl will be processed in the subsequent lithium process steps.

Lithium Production
The LiCl product stream will be concentrated and purified. The purified, concentrated LiCl will be transported via pipeline from the lithium purification/concentration operation to the lithium product production buildings. Proprietary technology will be used to convert the LiCl into a LiOH•H2O product.

The LiOH•H2O product stream will be crystallized and transported to a lithium product handling, production, and warehouse building, where the crystals will be separated from the lithium-rich process fluid in a filtration system. LiOH•H2O crystals will be dried and packaged in bulk bags. Packaging is expected to be into 20-kilogram (kg) bags or into 1,000-kg super sacks.

Product Shipping to Offsite Markets
The HKL1 plant will produce multiple products for offsite shipment to market by truck. The average annual amount of product shipped out of the plant operating at 5,000,000 lbs./hr brine flow capacity is estimated at approximately 5,100 lbs./hr dry lithium product (LiOH•H2O), 3,100 lbs./hr silica, 9,800 lbs./hr bulk sulfide and 60,000 lbs./hr polymetallic products. All products will be transported by freight truck on existing roadways to shipping distribution point(s).

Operational Workforce, Schedule, and Traffic
The HKP1 facility will require up to 22 full-time onsite employees during operation. Operational staff will include operators, management and supervisors, maintenance technicians, and lab technicians. On a typical day, the operators will assume a two-shift, 24-hour workday, and all other personnel will assume a standard 8-hour workday. Approximately 22 worker trips, 3 vendor trips, and 1 haul-truck trip will take place during daily operations.

The HKL1 facility is expected to require 90 full-time onsite employees during operation. Facility operations will continue 24 hours per day, 7-days per week. It is projected that up to 44 employees will be on site at any given time, with 28 day-staff employees and two rotating shifts of 16 additional employees overlapping the day staff and covering nights, weekends, and holidays. Approximately 48 trucks per day will travel in and out of the Project site during normal operations. Daily truck traffic includes up to 40 trucks for product shipping. All trucks used for product shipping will be electric. Truck traffic will also include approximately eight truck deliveries of reagent chemicals, cooling tower treatment chemicals, consumptive media, product-packaging materials, and fuel. Outgoing general waste generated on the site will be removed by truck as needed and is expected to require less than one truck per day.

Operational Water Supply and Requirements
The HKP1 will require up to approximately 200 acre-feet per year (AFY) of fresh water for normal operation, including supplemental cooling tower makeup and other plant uses when operating at full plant load. Average annual demand requirements will vary, depending on the capacity factor of the overall facility. It is anticipated that steam condensate will be utilized to offset fresh water requirements.

The primary source of fresh water for the facility is anticipated to be irrigation water made available under a supply contract and purchased through IID. Water will be obtained from the "Q," "R," or "S" lateral adjacent to the Project site. Water will be transferred to a water storage pond, with a capacity of approximately 18-acre feet, located

adjacent to the Q Drain. The water would then be transferred to 100,000-gallon aboveground water storage tank via an aboveground fresh-water pipeline. Additional pipelines will be constructed to transport the water from the water storage tank to the power plant facility. The water will be used for steam wash water, purged water for pump seals, and the reverse osmosis (RO) potable water system, process wash water, and, at times, cooling water makeup. The project is designed to minimize reliance on external sources of water supply for process needs as well by using condensed steam from the geothermal steam condensate to the greatest extent practical.

A filtration-based or reverse osmosis potable water system will be used to process IID fresh water for the non-drinking potable water needs at the site. A Nontransient-Noncommunity Water System Permit will be obtained from the Imperial County Public Health Department (ICPHD) for the onsite potable water system. Bottled drinking water will be purchased for consumption.

The HKL1 facility will require approximately 6,500 acre-feet per year (AFY) of water to be purchased from the IID for project cooling water makeup and additional process water. Approximately 3 AFY of the purchased water will be used for potable water purposes, including potable washbasin water, eyewash equipment water, water for showers and toilets in the administration and control buildings, and sink water in the sample laboratory.

Operational Energy Requirements
HKP1 would generate 49.9 MW of renewable energy which would be sold to IID. HKL1 would require approximately 35 MW of power and have a peak power demand of 40 MW, which would be obtained from IID. Overall, the power demand would be less than what is produced by HKP1. Additionally, HKP1 will require the use of generators for up to 600 hours per year for startups during black start situations. HKL1 generators will only be used in emergency situations and will be operated less than 50 hours per year.

Fire Protection and Safety
The fire protection system will consist of an underground fire main and surface distribution equipment, such as yard hydrants and hose houses, monitors around the perimeter of the cooling tower, automatic sprinklers for the turbine generator and auxiliary equipment, and a complete detection and alarm system. The firewater supply and pumping system will provide an adequate quantity of fire fighting water. The systems will be designed in accordance with federal, State, and local fire codes, occupational health and safety regulations and other jurisdictional codes, requirements and standard practices.

Spent Fluid and Wastewater
Under normal operation, the spent brine will be pumped via the main injection system. Spent geothermal brine will be injected into the subsurface geothermal reservoir via the primary injection wells. Geothermal brine will be discharged into the bring pond during upset conditions or maintenance activities (start up and shut down). The fluids from the brine pond also will be injected into the subsurface geothermal reservoir via the dedicated aerated brine injection well. All subsurface fluid injection will conform with CalGEM requirements.

Wastewater including non-process wash water and sanitary waste, will be generated during operations. Sanitary drains will collect all sanitary waste and non-process wash water and discharge to an approximately sized and County-approved septic system. The septic system will be engineered and operated to meet County Environmental Health requirements.

Hazardous Materials and Waste

<u>Hazardous Material Management</u>
The Project will develop and implement a Hazardous Materials Business Plan (HMBP), in compliance with California Health and Safety Code, Division 20, Chapter 6.95, Sections 25500-25519 and California Code of Regulations, Title 19, Division 2, Chapter 4. The HMBP will be provided to the California Office of Emergency Services, the Imperial County Fire Department, and the Certified Unified Program Agency for Imperial County (the local California Department of Toxic Substances Control office), for review and approval before plant operation. The HMBP will

include, at a minimum, procedures for:

- Hazardous materials handling, use and storage;
- Emergency response;
- Spill control and prevention;
- Employee training, and
- Reporting and record keeping.

Portable bins or other storage containers will be on site for storage of maintenance lube oils, chemicals, paints, and other construction materials, as needed. Secondary containment will be provided in all petroleum hydrocarbon and hazardous material storage areas, and all brine processing areas. Safety showers and eyewash stations will be provided in or adjacent to chemical storage and use areas. Safety equipment will be provided for staff use if required during chemical containment and cleanup activities. All staff working with chemicals will be trained in proper handling and emergency response to chemical spills or accidental releases. Water hose connections will be provided near the chemical storage and feed areas, to flush spills and leaks, and absorbent materials will be stored on site for spill cleanup.

The HKP1 facility may include transformer oil for transformer operation, lube oil for the turbine generator operation, diesel for generator fueling, and HCl (32% by weight). The transformer oil will be contained within the transformers; the lube oil will be stored on a skid. Diesel will be stored in a diesel storage tank with a capacity of approximately 3,000 gallons. Two polymer or fiber-reinforced plastic HCl tanks, with capacities of approximately 20,000 and 75,000 gallons, will store the HCI for the acid modification process. The HCI tanks will be fitted with scrubbers. All chemicals will be stored outdoors on impervious surfaces in above-ground storage tanks with secondary containment. The secondary containment areas for the bulk storage tanks will not have drains. Any chemical spill occurring in these areas will be removed with portable equipment and re-used or disposed properly. Other chemicals will be stored and used in their delivery containers.

Hazardous materials that are expected to be used during construction of HKL1 will include:

- Unleaded gasoline
- Diesel fuel
- Oil
- Hydraulic fluids
- Lubricants
- Solvents
- Adhesives
- Paint material

Hazardous materials that are expected to be used during operation of HKL1 will include:

- Unleaded gasoline
- Diesel fuel
- Transformer Oil
- Hydraulic fluid
- Hydrochloric acid (32% by weight)
- Calcium oxide
- Sodium sulfide
- Sodium hydroxide
- Manganese

No feasible alternatives exist to avoid use of these materials for construction or operation of construction vehicles and equipment, or for painting and caulking buildings and equipment. Hydrochloric acid, calcium oxide, sodium

hydroxide, and sodium sulfide will be required for the mineral extraction process. Manganese will be produced for commercial sale. Manganese will be stored in indestructible containers for shipping.

Hazardous Materials Transportation

Hazardous material carriers and hazardous waste transporters are required by law to adhere to applicable local, State, and federal regulations regarding proper truck signage, indicating the materials being transported, carrying a shipping/waste manifest of the types and concentrations of materials being transported, and other appropriate measures. Hazardous material carriers also are responsible for their loads, reporting spills, and initiating appropriate emergency response to releases of any transported hazardous materials, from the point of origin up to the destination of the hazardous material delivery.

HKL1 will communicate with the locally responsible emergency response agencies before shipment of any bulk hazardous materials to or from the Project site. Continuing coordination and communications with these agencies relevant to hazardous material shipments will be undertaken as required by the agencies. HKL1 will also develop an Emergency Action Plan for responding to spills or releases of hazardous substances by hazardous material carriers in the Project area. This plan will conform to all applicable federal, State, and local requirements for notifications, reporting, and emergency response of hazardous substance release incidents. The plan also will describe cleanup of spilled substances and site reclamation, if required. In the unlikely event of a hazardous materials spill during transportation of materials to or from the plant site, HKL1 will cooperate with the responsible agencies and provide all available information and knowledge about the materials to facilitate the spill response cleanup and spill site remediation.

Solid Waste

Construction and operation of the facility will generate both nonhazardous and hazardous wastes as follows.

Nonhazardous Wastes

Solid waste from construction activities may include lumber, excess concrete, metal, glass scrap, empty nonhazardous containers, and waste generated by workers. Management of these wastes will be the responsibility of the construction contractor(s). Typical management practices required for nonhazardous waste management will include recycling when possible, proper storage of waste and debris to prevent wind dispersion, and weekly pickup and disposal of wastes to local Class III landfills.

The primary source of solid waste during operation will be office waste and other waste generated by workers. Non-hazardous waste will be collected in appropriate on-site storage receptacles, designated for waste and recycling. Recyclable materials will be brought to a recycling center, and non-recyclable waste will be removed and taken to a Class III landfill.

Hazardous Wastes

Hazardous wastes may be generated over the course of construction from spills of hazardous materials used during construction, empty hazardous material containers, or spill cleanup wastes. Hazardous materials that are expected to be used during construction include paints, oil and lubricants, solvents, and welding materials. Used oil will be recycled, and oil or heavy metal contaminated materials (e.g., filters) requiring disposal will be transported to an off-site waste disposal facility that is authorized to accept such wastes. Scale from pipe and equipment cleaning operations will be disposed in a similar manner.

All hazardous wastes generated during construction and operation will be handled and disposed in accordance with applicable laws, ordinances, regulations, and standards. Any hazardous wastes generated during construction will be collected in hazardous waste accumulation containers near the point of generation and moved daily to the contractor's 90- day hazardous waste storage area on site. The accumulated wastes subsequently will be delivered to an authorized waste management facility, which may be as far as Yuma, Arizona. Hazardous wastes will be managed and disposed properly in a licensed Class I waste disposal facility that is authorized to accept the waste.

F. PROJECT DECOMMISSIONING AND ABANDONMENT

The projected life of the Project is 50 years. At the end of operations, a Site Abandonment Plan will be prepared and implemented in conformance with Imperial County and CalGEM requirements, for consideration by the Planning Commission prior to Project approval. The Plan will describe the proposed equipment dismantling and site restoration program in conformance with the wishes of the respective landowners/lessors and requirements in effect at the time of abandonment and would be implemented at the end of Project operations.

The geothermal wells will be abandoned in conformance with the well abandonment requirements of CalGEM. Abandonment of a geothermal well involves plugging the well bore with clean drilling mud and cement sufficient to ensure that fluids will not move across into different aquifers. The wellhead (and any other equipment) will be removed, the casing cut off below grade, and the well site reclaimed. Prior to Project approval, HKL1 will provide the County with a bond, letter of credit, or other acceptable surety which guarantees restoration of the land at the HKL1 plant site to its condition prior to development.

G. REQUIRED PERMITS AND APPROVALS

Lead Agency Approval
Imperial County Planning Department is the lead agency for the proposed Project. The following permits would be required from the lead agency:

- Imperial County Planning Department – Conditional Use Permit
- Imperial County Planning Department – Zoning Variance
- Imperial County Planning Department – Development Agreement (if required)
- Imperial County Building Department – Building and Grading Permits
- Imperial County Public Works Department – Encroachment Permit(s)

Reviewing Agencies
Federal Agencies:

- United States Fish and Wildlife (USFWS) – Incidental Take Permit (ITP; if needed)
- United State Army Corps of Engineers (USACE) – Individual Permit under Section 404 of the Clean Water Act

State Agencies:

- California Department of Transportation (Caltrans) – Encroachment Permit
- California Department of Fish and Wildlife (CDFW) – Lake or Streambed Alteration Agreement and Incidental Take Permit (if needed)
- California Department of Toxic Substances/Certified Unified Program Agency (CUPA) – Hazardous Materials / Environmental Protection Agency Approvals and Permits
- California Geologic Energy Management Division (CalGEM) – Permit(s) to drill

Regional Agencies:

- Regional Water Quality Control Board – Waste Discharge Requirement and 401 Water Quality Certification
- Imperial Irrigation District – Encroachment Permit
- Imperial County Air Pollution Control District – Permit to Construct and Permit to Operate; Use of Generators (if needed)
- Imperial County Public Health Department – Nontransient-Noncommunity Water System Permit
- Imperial County Building Department – Building and Grading Permits

- Imperial County Public Works Department – Encroachment Permit(s)
- Imperial County Fire Department and Office of Emergency Services

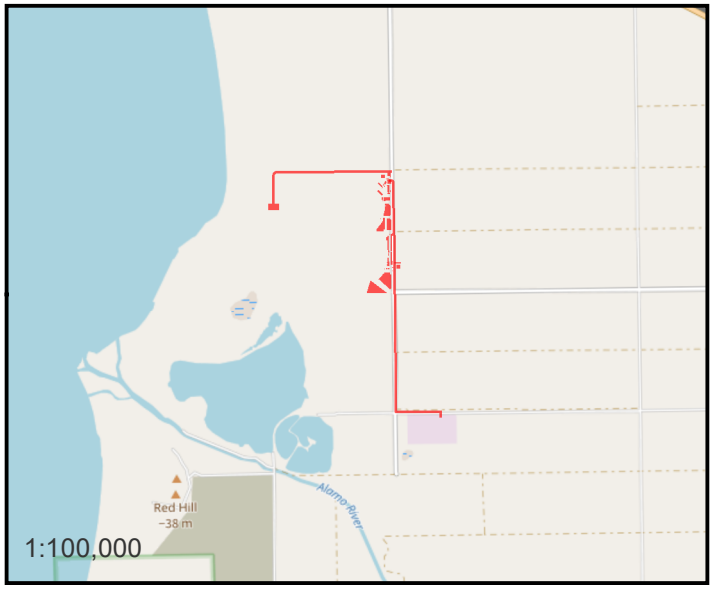
H. OBJECTIVES

The HKP1 objectives include the following:

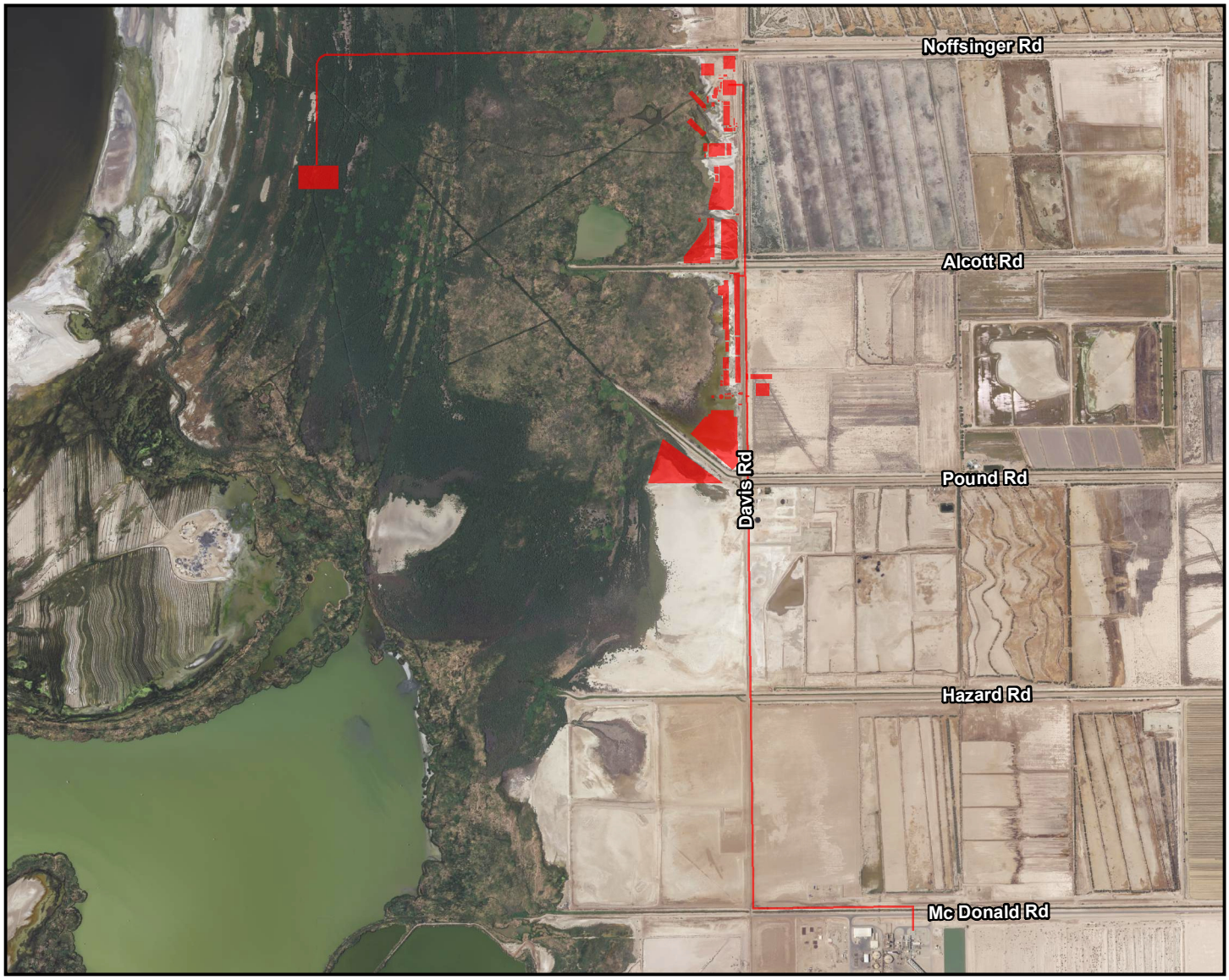
- To produce 49.9MW (net) of geothermal power from within CTR's geothermal lease area.
- To provide power to the Imperial Irrigation District.
- To minimize and mitigate potential impacts to sensitive environmental resources while producing renewable energy and creating jobs.

The HKL1 objectives include the following:

- To provide a sustainable domestic source of lithium, a designated critical material identified by the U.S. Department of Energy.
- To extract and produce lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale from the geothermal brine within the Hell's Kitchen lease area
- To minimize the distance between the geothermal power plant and lithium extraction plant for production efficiency and to reduce the extent of pipeline required to convey brine and steam to and from the geothermal power facility to the mineral extraction plant, therefore minimizing the overall industrial footprint of the combined power and mineral operations
- To minimize and mitigate potential impacts to sensitive environmental resources within the Project area.







Project Location

N

0 750 1,500 3,000

Feet

Figure 1
Hell's Kitchen Power
Project Location and Vicinity

Name: 21344 PLAN Fig 1 Project Location and Vicinity.Mxd
Print Date: 3/9/2022 7:33:33 PM Author: pcarlos

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Hell's Kitchen PowerCo 1 Facility
Hell's Kitchen LithiumCo 1 Facility
Shared PowerCo 1 and Lithium Co 1 Facility
Gen-tie/Powerline
S-Berm Extension Road

N

0 500 1,000 2,000
Feet

Figure 2
Hell's Kitchen Power
Project Site Plan

Name: 21344 PLAN Fig 2 Project Site Plan.Mxd
Print Date: 3/9/2022 7:58:50 PM Author: pcarlos

CHAMBERS GROUP

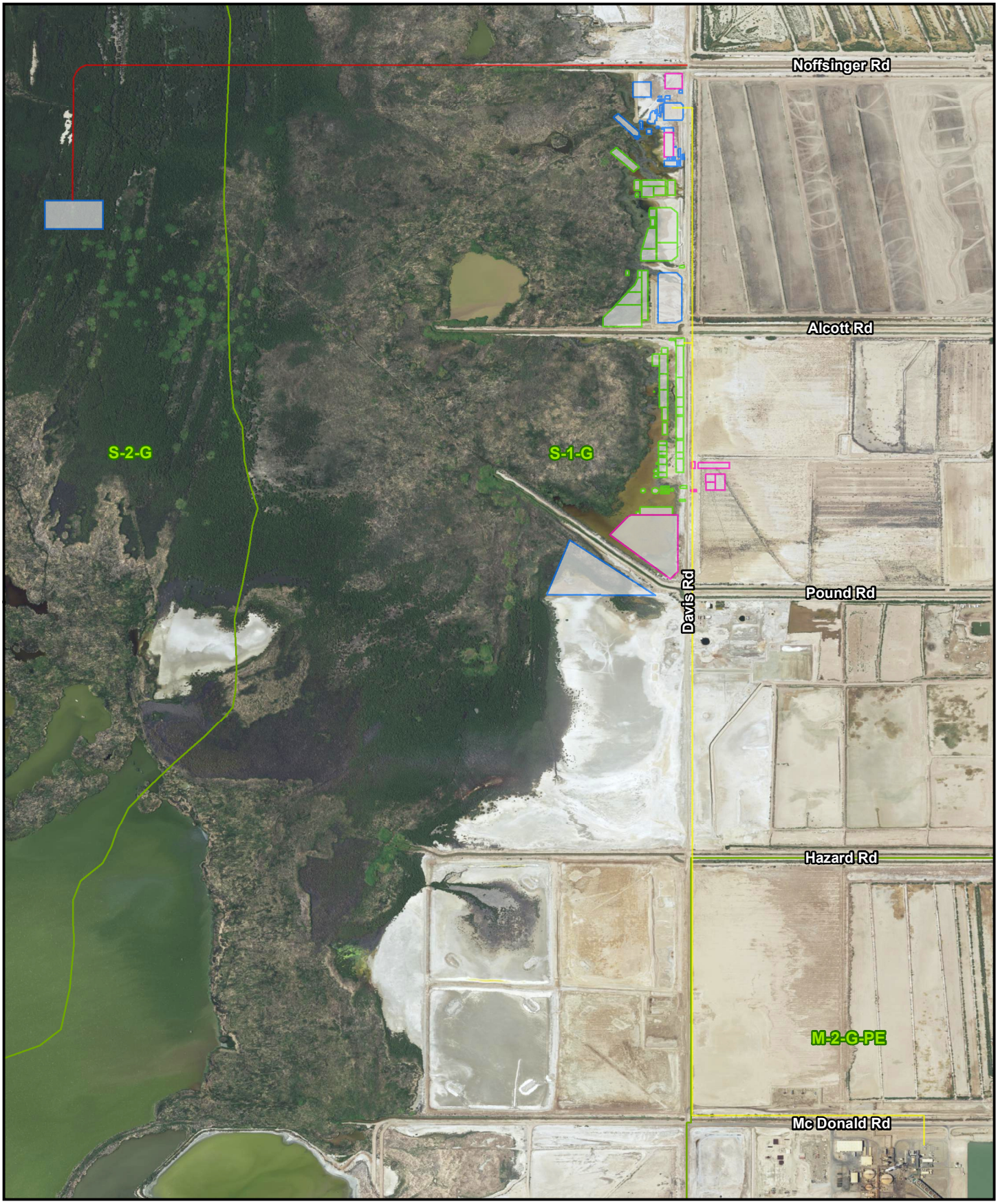
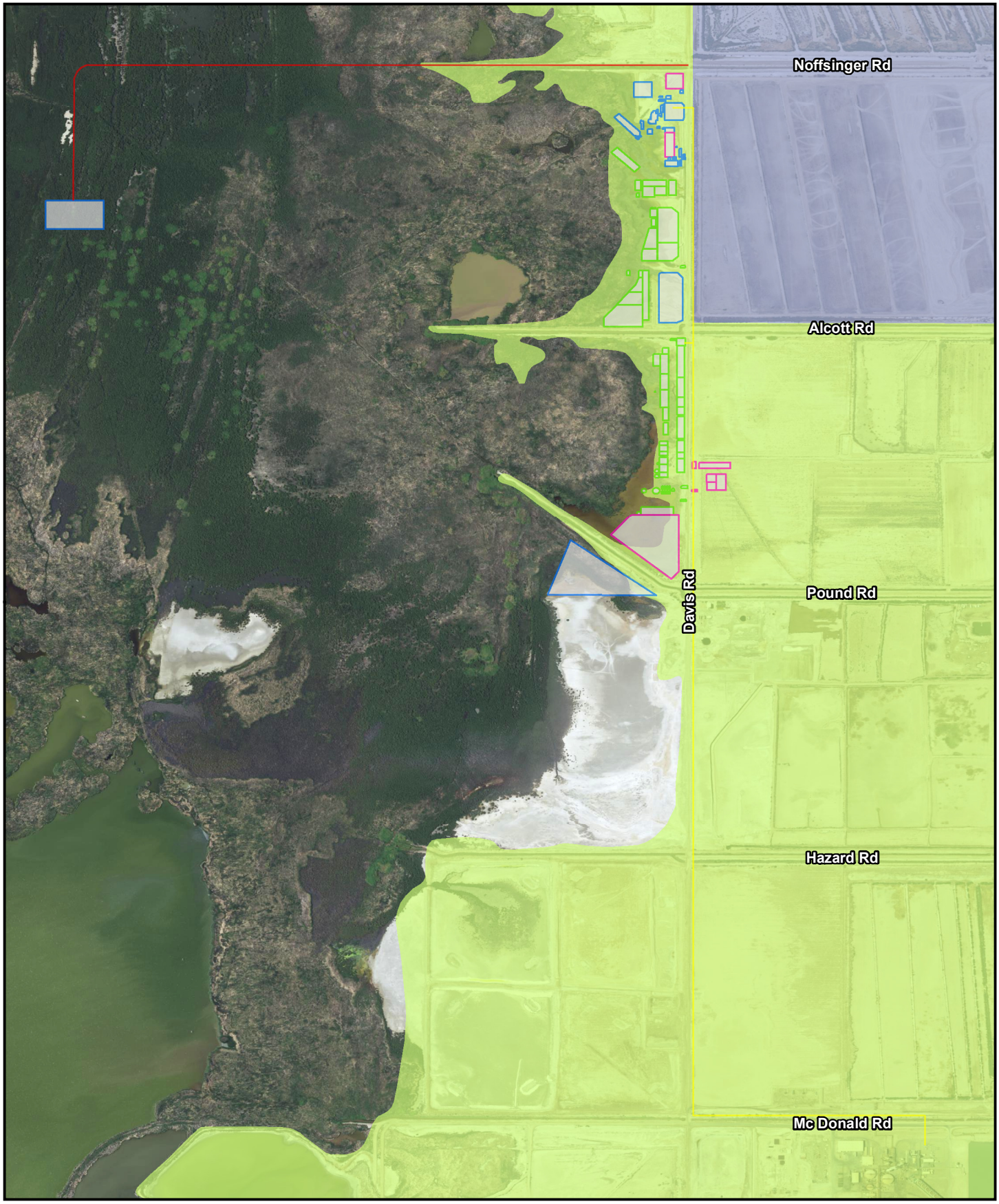


Figure 3
Hell's Kitchen Power
Zoning

Name: 21344 PLAN Fig 3 Zoning.Mxd
Print Date: 3/10/2022 8:28:28 AM Author: pcarlos

CHAMBERS GROUP



Hell's Kitchen PowerCo 1 Facility
Hell's Kitchen LithiumCo 1 Facility
Shared PowerCo 1 and Lithium Co 1 Facility
Gen-tie/Powerline
S-Berm Extension Road

Land Use Designation

Agriculture
Government/Special Public

N

0 500 1,000 2,000

Feet

Figure 4
Hell's Kitchen Power
Land Use Designation

Name: 21344 PLAN Fig 4 Land Use Designation.Mxd
Print Date: 3/9/2022 7:58:54 PM Author: pcarlos

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EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

    a) the significance criteria or threshold, if any, used to evaluate each question; and
    b) the mitigation measure identified, if any, to reduce the impact to less than significance

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

I. *AESTHETICS*

Except as provided in Public Resources Code Section 21099, would the project:

a) Have a substantial adverse effect on a scenic vista or scenic highway? ☒ ☐ ☐ ☐

a) Potentially Significant Impact. The closest scenic viewpoint is an observation deck located within the Sonny Bono Salton Sea National Wildlife Refuge, approximately 4 miles southwest of the Project site (USFWS 2019). Although the area is relatively flat, an extensive shrub-covered marsh and the Alamo River separate the viewpoint from the Project site. Nonetheless, the Project would require a zoning variance to increase some of the heights of the proposed structures from the allowed 35 feet, including two lime silos up to 60 feet tall, the evaporator support structure up to 80 feet tall and the cooling towers up to 50 feet tall, the crystallizers which will be 80 to 110 feet tall and the electrical power line and transmission structures up to 120 feet tall. Based on the height of these proposed structures and proximity to a scenic viewpoint, there is the potential for significant impacts to a scenic vista. A visual impact analysis will be prepared for the Project and this issue will be addressed in the EIR.

b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway? ☐ ☐ ☐ ☒

b) No Impact. The Project is not located within the viewshed of any officially designated State scenic highways. HWY 111, which is approximately 3 miles east of the Project site, is listed by Caltrans as eligible for State scenic highway designation. However, the eligible section of HWY 111 is from Bombay Beach to the Imperial County–Riverside County line, approximately 13 miles northwest of the Project site at the closest point (Caltrans 2018), and the Project site is not visible from the eligible scenic-designated highway segment. Further, the Project site is void of any trees, rock outcrops, or historic buildings and, therefore, no scenic resources would be damaged as a result of the Project. No impacts would occur to scenic resources along a State scenic highway, and no further analysis is required.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surrounding? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? ☒ ☐ ☐ ☐

c) Potentially Significant Impact. The Project is located on a vacant, non-urbanized area characterized by agricultural and open space uses, near the Salton Sea. Public viewers of the Project site would be limited to workers at the Project site and limited passersby on nearby roads. There is one residence approximately 0.50 miles east of the site, however, there are no recreation areas in proximity of the Project site. Views of Project operations will be consistent with current views of the area, which include the nearby HR1 power plant and other power plants within the Salton Sea Known Geothermal Resource Area. The Project would require zoning variances for the structures above 35 feet including two lime silos up to 60 feet tall, the evaporator support structure up to 80 feet tall and the cooling towers up to 50 feet tall, the crystallizers which will be 80 to 110 feet tall and the electrical power line and transmission structures up to 120 feet tall. A visual impact analysis will be prepared for the Project and this issue will be addressed in the EIR.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? ☐ ☐ ☒ ☐

d) Less Than Significant Impact. As part of the Project design, industrial grade lighting sources would be required for Project operations and safety purposes. Lighting would be covered and directed downward (down shielded) or towards the proposed facility to avoid backscatter. Nighttime illumination features for the Project would be controlled with sensors or switches operated such that lighting would only be activated when needed. During construction of the Project, nighttime lighting would be required during the period of temporary nighttime construction. Nighttime construction would be temporarily required during the drilling of the HKP1 geothermal wells as well as times of extreme daytime heat, in which it would be safer to work during cooler nighttime hours. The Project will introduce new structures built with metallic materials including transmission poles and conductors that could produce glare. However, the steel and metal alloy pipelines and vessels within the HKP1 and HKL1 will be painted and will not be a major source of glare. The Project is in a rural area of the County, with the closest residence approximately 1 mile east of the Project site on Pound Road. Davis Road is an unpaved road that typically does not experience through traffic. Therefore, workers and individuals visiting the Project would be the majority viewers of the glare or new light. Impacts related to increased light and glare from construction and operation of the proposed Project would be less than significant, and no further analysis is required.

II. *AGRICULTURE AND FOREST RESOURCES*

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. --Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? ☐ ☐ ☐ ☒

a) No Impact. According to the California Department of Conservation's Farmland Mapping and Monitoring Program, the Project site is designated as "Other Land" (DOC 2022a). No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is located within or in proximity to the Project site. The County General Plan designates the Project site as Agriculture land use; however, according to the General Plan Land Use Element, a non-agricultural land use may be permitted within General Plan-designated agricultural land if the use does not conflict with agricultural operations and will not result in the premature elimination of agricultural operations (County 1993). There is no existing agricultural land on the Project site, thus the Project would not conflict with or eliminate agricultural operations. No impacts would occur and no further analysis is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract? ☐ ☐ ☐ ☒

b) No Impact. The Project site is zoned S-1, S-2, and M-2 and is located within the geothermal overlay zone (G) and pre-existing allowed/restricted overlay zone (PE). No land within the Project site is zoned for agricultural use. The Project site is not subject to the provisions of a Williamson Act contract (DOC 2018). No impacts would occur and no further analysis is required.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? ☐ ☐ ☐ ☒

d) Result in the loss of forest land or conversion of forest land to non-forest use? ☐ ☐ ☐ ☒

c) and d) No Impact. As previously mentioned, the Project site is zoned S-1-G, S-2-G, and M-2-G-PE. No land within the Project site is zoned forest land or timberland and there is no existing forest land on the Project site or in the immediate vicinity. The Project would not result in the loss of forest land or the conversion of forest land to non-forest use; no impacts would occur and no further analysis is required.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? ☐ ☐ ☐ ☒

e) No Impact. The Project site is zoned S-1-G, S-2-G, and M-2-G-PE and does not contain agricultural land or forest land. The Project would not result in the conversion of agricultural land or forest land. No impacts would occur and no further analysis is required.

III. *AIR QUALITY*

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to the following determinations. Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan? ☒ ☐ ☐ ☐

a) Potentially Significant Impact. The Project is located within the Salton Sea Air Basin (SSAB) and is subject to the jurisdiction of the Imperial County Air Pollution Control District (ICAPCD) Rules and Regulations (CARB 1999). The ICAPCD is charged with upholding ambient air quality standards set forth by the state and federal government for the area within its jurisdictional limits. The ICAPCD also serves as a regional authority to legally enforce air pollution regulations related to the release of toxic and hazardous emissions.

The Project has potential to create emissions during construction and operation including dust, fumes, equipment exhaust, and other air contaminates that could conflict with the ICAPCD Rules and Regulations as well as the County's Air Quality Attainment Plan. To limit impacts during site construction, the Project will implement a dust control plan consisting of dust-reducing Best Management Practices (BMPs). Some of these BMPs include frequent watering of the Project site during construction activities and limiting vehicle traffic to 15 miles per hour on unpaved onsite access roads. In addition, the Project would comply with the applicable ICAPCD regulations, including but not limited to Rule 801, Rule 803, Rule 804, and Rule 805 (Imperial County Air Pollution Control District, 2020).

During Project operations, criteria air pollutants, criteria air pollutant precursors, and hazardous air pollutants would be released during

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

extraction, processing, material transport and packaging activities. Additionally, the Project will utilize a backup diesel generator for black starts of the power plant. A Permit to Construct and a Permit to Operate would be obtained, as required by ICAPCD, for the facility's stationary air pollutant emission sources and air pollutant control equipment.

Although Project emissions may be reduced through the use of pollution control devices and dust control measures, Imperial County is currently designated as a serious nonattainment area for PM10 (US EPA 2022), and therefore potentially significant impacts may still result and impacts will be further addressed in the EIR.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? ☒ ☐ ☐ ☐

b) Potentially Significant Impact. Currently, the SSAB is either in attainment or unclassified for all State air pollutant standards except for PM10 and ozone (O3) (CARB, 2022). The SSAB is either in attainment or unclassified for all federal air pollutants standards except for O3 and PM10 (US EPA, 2022). As mentioned above, both Project construction and operations have the potential to create emissions that could result in a cumulatively considerable net increase of a criteria pollutant for which the Project region is in nonattainment for O3 and PM10. The impact is considered potentially significant and will be addressed in the EIR.

c) Expose sensitive receptors to substantial pollutants concentrations? ☒ ☐ ☐ ☐

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)? ☒ ☐ ☐ ☐

c and d) Potentially Significant Impact. The Project is located in a rural area of the County and is not in close proximity to any sensitive receptors such as residences, hospitals, or schools. The closest residence is over a half mile southeast of the Project site along Pound Road. The closest school is approximately 3 miles east of the Project site in Niland, and the closest hospital is approximately 18 miles south of the Project site in Brawley (Google, 2022). Approximately 112 full-time employees are expected to be working onsite, for both the HKP1 and HKL1, but these employees will be provided the proper personal protective equipment (PPE) and training in accordance with Occupational Safety and Health Administration (OSHA) regulations to protect them from substantial pollutant concentrations. Any odors onsite are expected to only affect employees and are not anticipated to affect a substantial amount of people or sensitive receptors. A less-than-significant impact is expected to result, however further analysis is required and these issues will be evaluated in the EIR.

IV. *BIOLOGICAL RESOURCES* *Would the project:*

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? ☒ ☐ ☐ ☐

a) Potentially Significant Impact. The Project site is approximately one mile east of the Salton Sea, which serves as an important wintering and staging site for migratory birds and several endangered species populations. Biological surveys were conducted by biologists at Panorama Environmental, Inc. in the spring and fall of 2021.A Biological Technical Report will be prepared for the Project to identify the potential for endangered, threatened, sensitive or species of concern within the Project area; map habitats; and ascertain the probability of the presence of sensitive species onsite. Special-status species were found to occur within the project area and adjacent habitats. The impacts from the Project on special-status species are considered potentially significant and will be further addressed in the EIR.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? ☒ ☐ ☐ ☐

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ☒ ☐ ☐ ☐

b) and c) Potentially Significant Impact. The Project site contains wetlands and riparian habitats that are potentially subject to RWQCB, CDFW, and USACE jurisdiction. The Project site also contains iodine bush scrub habitat, which is defined as a sensitive natural community by the CDFW. The removal of sensitive vegetation communities and discharge of fill to these wetland and riparian resources from temporary construction activities, and permanent conversion to a developed land use during operation of the proposed Project, could be a significant impact. To prevent significant impacts to the nearby wetland and riparian habitat due to increased runoff

at the Project site during operations, a stormwater retention basin will be developed on site. HKP1 and HKL1 will obtain all required USACE, CDFW, and RWQCB permits for impacts to wetlands and riparian areas prior to construction in any jurisdictional wetland or riparian area. The Project site is north of IID canals and agricultural drains that flow into these wetlands and the Salton Sea; however, to prevent offsite impacts to nearby wetlands resulting from stormwater runoff during construction the Project would be required to obtain coverage under a Construction General Permit to comply with National Pollutant Discharge Elimination System (NPDES) requirements. Compliance with the Construction General Permit would require the development and implementation of a Stormwater Pollution Prevent Plan (SWPPP) and associated BMPs. These BMPs will include measures that would be implemented to prevent discharges into adjacent wetland and riparian habitat from the Project site during construction activities. However, the impacts from the Project construction and operation on wetlands and riparian areas are potentially significant and will be further addressed in the EIR.

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐

d) Potentially Significant Impact. The Project site is approximately 1 mile east of the Salton Sea, which serves as an important wintering and staging site for migratory birds and several endangered species populations. The Project site would be fenced but would not create a barrier to wildlife corridors because the surrounding areas are undeveloped and flat. Additionally, the Project includes installation of a gen-tie line that could affect migratory birds. The habitats within the Project site and adjacent to the Project include wildlife breeding areas. A Biological Technical Report will be prepared for the Project to identify the potential for native or migratory wildlife within the Project area; map habitats; and ascertain the probability of the presence of sensitive species onsite. The impacts from the Project could be potentially significant and will be addressed in the EIR

e) Conflict with any local policies or ordinance protecting biological resource, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

e) and f) Potentially Significant Impact. The County General Plan Conservation and Open Space Element policies require conservation of native habitat of sensitive plants and animals through the dedication of open space easements or through other means that will ensure their long-term protection and survival. Impacts to native habitat of sensitive plants and animals resulting from the Project could cause a potentially significant impact from conflict with the County plans or policies. This impact will be addressed in the EIR.

V. *CULTURAL RESOURCES Would the project:*

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐

a) and b) Potentially Significant Impact. Unrecorded subsurface archaeological and historical resources may be impacted, if present, by minor grading of the Project site and installation of foundations below the ground surface. A Cultural Resources Report will be prepared for the Project detailing the results of an archaeological literature review, records search, and intensive pedestrian survey of the Project site. Further analysis of the historical and archaeological resources is required and will be addressed in the EIR.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☒	☐	☐	☐

c) Potentially Significant Impact. The Project is not expected to disturb any human remains. However, with grading involved, a potential to find human remains exists. A Cultural Resources Report will be prepared for the Project detailing the results of an archaeological literature review, records search, and intensive pedestrian survey of the Project site. Further analysis of potential impacts to human remains is required and will be addressed in the EIR.

VI. *ENERGY Would the project:*

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy	☒	☐	☐	☐

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

resources, during project construction or operation?

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? ☒ ☐ ☐ ☐

a) and b) Potentially Significant Impact. Both Project construction and operational activities would require energy consumption. Construction activities consume energy temporarily through the use of heavy construction equipment as well as truck and worker traffic. The Project is estimated to require approximately 54,000 truck trips during grading and facility construction. Construction equipment anticipated for the Project is listed in Section 2D above. The Project will use energy-conserving construction equipment to the extent possible, including standard mitigation measures for construction combustion equipment recommended in the Imperial County Air Pollution Control District (ICAPCD) CEQA Air Quality Handbook. The use of better engine technology, in conjunction with the ICAPCD's standard mitigation measures will reduce the amount of energy used for Project construction.

The HKP1 Project operations will produce 49.9 MW net of clean renewable energy. Operation of the HKL1 Project will require approximately 35 MW of power, and peak power demand of 40 MW. Power for HKL1 operation will be obtained from IID, and the power demand will be less than the amount of power that will be supplied by HKP1 operation. HKP1 operation will require use of generators for up to 600 hours per year for startups during black-start situations. HKL1 generators will only be used in emergencies and will be operated less than 50 hours per year.

Buildings onsite will be designed in accordance with the California Energy Commission's 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings and the California Green Building Standards (CCR, Title 24, Part 11). Additionally, an energy analysis will be prepared for the Project to quantify energy consumption. Further analysis of the Project's energy consumption and consistency with applicable plans, policies, and regulations for reducing wasteful, inefficient, and unnecessary energy usage. Impacts will be analyzed further in the EIR.

VII. *GEOLOGY AND SOILS Would the project:*

a) Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:

1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? ☒ ☐ ☐ ☐

1) Less Than Significant Impact. The Project site is not located within an Alquist-Priolo (AP) fault zone and the closest AP fault zone is the San Andreas fault zone approximately 12 miles northwest (DOC 2022b). While the County General Plan shows that the potentially active Calipatria Fault runs underneath the Project site (County 1993), this is not an AP designated fault. Construction of HKP1 will include deep drilling of geothermal well and no fracking would occur as part of the geothermal drilling operation. While there has been significant study of geothermal drilling and correlation with earthquakes, drilling activities are not known to cause earthquakes or fault rupture. Nonetheless, potential impacts will be analyzed further in the EIR.

2) Strong Seismic ground shaking? ☒ ☐ ☐ ☐

2) Potentially Significant Impact. As mentioned above, the Project site is not located within an Alquist-Priolo fault zone and the closest fault zone is the San Andreas fault zone approximately 12 miles northwest (DOC 2022b). However, the Project site is located within a seismically active area of Southern California and the County General Plan shows that the potentially active Calipatria Fault is underlying the Project site (County 1993). Additionally, approximately 112 full-time employees are expected to be working on site, for both the HKP1 and HKL1, 24 hours per day, 7 days a week. The construction phase will also employ up to 500 workers at the peak of construction. Construction and operational employees could be exposed to strong seismic ground shaking because the Project is in a seismically active region. To lessen potential hazards related to seismic ground shaking, Project structures would be analyzed for earthquake loading during design, and would be designed in accordance with the 2019 seismic requirements provided in the California Building Code. A registered professional civil/geotechnical engineer will also prepare a geotechnical investigation of the Project site that includes comprehensive subsurface exploration, appropriate laboratory testing, and detailed evaluation of potential constraints to critical project structures. The geotechnical investigation and proposed site measures may prevent Project activities from exacerbating the risk of loss, injury, or death involving rupture of a known earthquake fault or seismic ground shaking; however, further analysis is required and these issues will be addressed in the EIR.

3) Seismic-related ground failure, including liquefaction and seiche/tsunami? ☒ ☐ ☐ ☐

3) Potentially Significant Impact. The Project site is not located within a Department of Conservation identified liquefaction zone, but the County General Plan identifies that liquefaction is a common hazard in the County due to geologically young,

unconsolidated sediments of the Salton Trough (DOC 2022b; County 1993). Soils on the Project site are also majority wet Imperial silty clay and Imperial-Glenbar silt clay loams, which may be susceptible to ground failure (USDA 2022). Approximately 112 full-time employees are expected to be working on site, for both the HKP1 and HKL1, 24 hours per day, 7 days a week. The construction phase will also employ up to 500 employees at peak construction. Construction and operational employees could be exposed to impacts of seismic-related ground failure, including liquefaction. The impact will be addressed in the EIR.

4) Landslides? ☐ ☐ ☐ ☒

4) No Impact. The Project site is flat and is not located within an identified landslide zone (DOC 2022b). According to the County General Plan, the closest area of landslide activity is on the border of San Diego and Imperial Counties approximately 30 miles west of the Project site (County 1993). The Project would not exacerbate the risk of loss, injury, or death involving landslides. No impacts would occur and no further analysis is required.

b) Result in substantial soil erosion or the loss of topsoil? ☐ ☐ ☒ ☐

b) Less Than Significant Impact. Project construction and operations have the potential to result in soil erosion and loss of topsoil mainly through grading. Approximately 400,000 cubic yards of soil will be brought on site to raise the elevation of the Project site. Existing soil will be covered with aggregate and other materials that will be compacted to achieve final stabilization. The imported materials will be stabilized and will not be subject to erosion. Underlying topsoil would be covered with the aggregate and would not be subject to erosion. Additionally, the Project would implement standard industry methods, such as BMPs, to prevent surface runoff and erosion where applicable. These BMPs would comply with the County Building & Grading Regulations and the SWPPP developed for the Project. Moreover, a Drainage and Grading Plan will be submitted to the County to ensure implementation of all required BMPs. Impacts related to soil erosion would be less than significant and no further analysis is required.

c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse? ☒ ☐ ☐ ☐

d) Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property? ☒ ☐ ☐ ☐

c) and d) Potentially Significant Impact. As previously discussed, the Project site is flat and is not located within a Department of Conservation identified liquefaction or landslide zone (DOC 2022b). However, the County General Plan identifies that liquefaction is a common hazard in the County (County 1993). Soils on the Project site are also majority wet Imperial silty clay and Imperial-Glenbar silt clay loams, which may be susceptible to soil instabilities causing subsidence, liquefaction, and expansion (USDA 2022). A registered professional civil/geotechnical engineer will prepare a geotechnical investigation of the Project site that includes comprehensive subsurface exploration, appropriate laboratory testing, and detailed evaluation of potential constraints to critical project structures, including liquefaction, subsidence, and expansive soils. Impacts involving geologic unit or soil instability require further analysis and will be addressed in the EIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? ☒ ☐ ☐ ☐

e) Potentially Significant Impact. During construction of the Project, portable toilets would be provided for construction workers, and waste would be transported offsite to a sanitary water treatment plant. A septic system would be constructed to handle wastewater generated during Project operation. The Project is located on areas with clay soils and shallow groundwater, which may not be capable of adequately supporting a septic system. The suitability of the site for the proposed septic system requires further analysis, and the impact will be addressed in the EIR

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ☒ ☐ ☐ ☐

f) Potentially Significant Impact. Paleontological resources are typically impacted when earthwork activities, such as mass excavation cut into geological deposits (formations) with buried fossils. The Project construction would require excavation, grading, and installation of concrete foundations and steel and/or concrete pilings. The Project also involves drilling of geothermal wells. No unique paleontological resources or unique geologic features are known to occur in the area. However, the potential to disturb previously undiscovered resources exists as many paleontological fossil sites have been recorded in Imperial County and have been discovered during construction activities. Further analysis is required and will be addressed in the EIR.

VIII. *GREENHOUSE GAS EMISSION* *Would the project:*

a) Generate greenhouse gas emissions, either directly or ☒ ☐ ☐ ☐

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? ☒ ☐ ☐ ☐

a) and b) Potentially Significant Impact. The primary climate change legislation in California is Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing greenhouse gas (GHG) emissions in California, and AB 32 required that GHGs emitted in California be reduced to 1990 levels by the year 2020. In addition to AB 32, Executive Order B-30-15 was issued on April 29, 2015 that aims to reduce California's GHG emissions 40 percent below 1990 levels by 2030. In September 2016, AB 197 and Senate Bill (SB) 32 codified into statute the GHG emission reduction targets provided in Executive Order B-20-15.

Project construction activities are expected to emit GHGs, including carbon dioxide (CO2), nitrogen oxides (NOx), and methane (CH4), from the combustion of fossil fuels during the operation of gasoline and diesel-fueled construction equipment and vehicles. A list of anticipated construction equipment for the Project can be found in Section D of the Project Description above. Project operations would create new sources of particulate matter from drying, transfer, and packing lithium products; operation of the cooling tower; and maintenance, testing, and emergency operations of the diesel-engine generators. The diesel-engine generators would also generate NOx, carbon monoxide (CO), PM, and sulfur dioxide (SO2). The Project will produce 49.9 MW of clean renewable energy and will require use of 35 MW of energy, resulting in net production of clean renewable energy. While the Project generation of renewable energy would be consistent with State goals, additional analysis is required to evaluate GHG emissions for Project construction and operation. Further analysis of potential impacts related to GHG emissions generated by the Project, will be quantified and assessed in the EIR.

IX. *HAZARDS AND HAZARDOUS MATERIALS Would the project:*

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ☒ ☐ ☐ ☐

b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment? ☒ ☐ ☐ ☐

a) and b) Potentially Significant Impact. Construction of the Project would require the limited transport and temporary use of materials deemed to be hazardous, including unleaded gasoline, diesel fuel, oil, lubricants (i.e., motor oil, transmission fluid, and hydraulic fluid), solvents, adhesives, and paint materials. However, any potentially hazardous materials used or found onsite during construction would be handled in accordance with state and federal regulations regarding the transport, use, and storage of hazardous materials.

Project operations would create new sources of particulate matter from drying, transfer, and packing lithium products; operation of the cooling tower; and maintenance, testing, and emergency operations of the diesel-engine generators. Hazardous material would be transported for sale and waste would be transported to an approved hazardous waste landfill.

To prevent accidental release of hazardous materials, spill containment areas and sumps subject to spills of immiscible chemicals would be drained to a dilution water tank. Any oil contamination spills would be collected with absorbent pads and disposed as required by law.

Additionally, a Hazardous Materials Business Plan (HMBP) would be prepared and implemented, which will identify proper hazardous materials handling, use, and storage; emergency response; spill control and prevention; employee training; and reporting and record keeping. This would help to limit human risk and environmental risk associated with exposure to hazardous materials. Nonetheless, impacts from hazardous materials may occur and further analysis would be required. This issue will be addressed in the EIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ☐ ☐ ☒ ☐

c) Less Than Significant Impact. Although the Project has the potential to emit hazardous emissions and/or handle hazardous substances, the Project site is not within one-quarter mile of an existing or proposed school. The closest school to the Project site is Grace Smith Elementary School, approximately 3 miles northeast in Niland, CA. Additionally, the ERP that would be prepared and implemented for the Project will limit human risk associated with exposure to hazardous materials, with special consideration of the schools in the area. Impacts would be less than significant and no further analysis is required.

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
d) Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

d) Potentially Significant Impact. According to the Department of Toxic Substance Control's EnviroStor Database and the State Water Resources Control Board's GeoTracker Database, there are no recorded hazardous material sites within a mile of the Project site (DTSC 2022; SWRCB 2022). The site is currently and has been, vacant undeveloped land. Therefore there is no impact and no further analysis is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒

e) No Impact. The Project site is not located within two miles of a public airport or public use airport or within the boundaries of an airport land use plan. The closest airport is Calipatria Municipal Airport approximately 7 miles southeast of the Project site. Therefore, the Project would not expose people working in the Project area to safety hazards or excessive noise. No impact would occur and no further analysis is required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

f) Less Than Significant Impact. Temporary or single-lane closure of Davis Road may occur during the transport of oversized equipment or construction activities. Road closures would be coordinated with County Public Works, the County Sheriff, and Imperial County Fire Department prior to closure. The Project is not located within an emergency evacuation route. Davis Road is currently impassible beyond the Project, and the road is not used for emergency evacuation. The Project's construction and operational activities would be in compliance with the Imperial County Emergency Operations Plan (EOP) and Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) and would not physically interfere with the execution of the policies and procedures in these plans (County 2016 and 2021). Therefore, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant, and no further analysis is required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☒	☐	☐	☐

g) Less Than Significant Impact. The Seismic and Public Safety Element of the County General Plan states that the potential for a major fire in the unincorporated areas of the County is generally low (County 1993). According to the California Department of Forestry and Fire Protection's (CALFIRE) Fire Hazard Severity Zone Viewer, there are no very high, high, or moderate fire hazard severity zones in the local or state responsibility areas within 30 miles of the Project site (CALFIRE 2022). Additionally, the Project will include fire suppression systems designed in accordance with federal, state, and local fire codes; occupational health and safety regulations; and other jurisdictional codes, requirements, and standard practices. Included in the fire suppression system is a 100,000 gallon above-ground water tank to be installed onsite, serving as the primary water supply for the joint fire suppression system. In addition, during construction the Project site and access road will be cleared of all vegetation and cleared areas will be maintained throughout construction. Fire extinguishers will be available around the construction site as well. During operations, a brush control program will be prepared and implemented on those portions of the Project site that will not be developed. The Imperial County Fire District (ICFD) will be consulted to review and approve any and all proposed fire equipment, apparatus, and related fire prevention plans. Nonetheless, the Project would introduce people and structures to the area that could increase the risk of wildfire ignition within the vegetated areas adjacent to the Project. Due to the increased risk of wildfire ignition and risk of wildfire impacts to Project structures, the impact is potentially significant and will be analyzed further in the EIR.

X. *HYDROLOGY AND WATER QUALITY Would the project:*

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

a) Less Than Significant Impact. The Project site is located within the California Regional Water Quality Control Board's Colorado River Basin Region (RWQCB, 2019). The Project is therefore subject to standards set forth in the Colorado River Basin's (Basin) Water Quality Control Plan. The Project will require dewatering of shallow groundwater and surface water and will discharge fill to waters of the State. The dewatering and discharge of fill will require permits from RWQCB to comply with waste discharge requirements. The Project also includes construction of a brine pond for emergency and maintenance discharge of geothermal brine. The brine pond will also require a permit from RWQCB. The Project construction and operation involves activities that would discharge water and soil, which could violate water quality standards or waste discharge requirements. The impact will be addressed in the EIR

		Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

b) Less Than Significant Impact. The Project will not use groundwater as a source of water supply for construction or operation. The Project would involve dewatering of shallow groundwater during excavation and foundation construction. The short-term and localized dewatering of the areas of excavation and building foundations during construction would not decrease groundwater supplies or interfere substantially with groundwater management. The Project would convert an area that is currently undeveloped to a developed land use and would create approximately 50 acres of impervious surfaces. The increase in impervious surface would result in a small reduction of groundwater recharge; however, the limited rainfall on the area would flow to an unlined retention basin where the groundwater would be allowed to infiltrate into the soil. The impact on groundwater supplies and recharge would therefore be less than significant, and no further analysis is required.

c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
	(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
	(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or;	☐	☐	☒	☐
	(iv) impede or redirect flood flows?	☐	☐	☒	☐

c) i) through iv) Less Than Significant Impact. No rivers or streams travel through the Project site or are directly adjacent to the Project site. The Alamo River is approximately 2 miles southwest of the Project site and drains to the Salton Sea.. Although Project construction and operations would have the potential to result in soil erosion and runoff on and offsite due to grading and increased impervious surfaces, through implementation of a SWPPP and a Drainage and Grading Plan, the Project would implement standard industry BMPs and relevant Basin BMPs to control off-site discharges. Additionally, a stormwater retention basin would be developed on the site. In order to prevent substantial erosion resulting from high winds in the area, a Fugitive Dust Suppression Plan will be prepared and the Project site will be watered as necessary. The site will be permanently stabilized during operation through use of aggregate, gravel, concrete, or other stabilizing materials.

The Project site is not located within a Federal Emergency Management Agency (FEMA) Flood Hazard Zone (FEMA, 2022; FIRM Map Number 06025C0725C). Additionally, a berm/levee will run along the western boundary of the site to contain any stormwater runoff and prevent stormwater run on.

With implementation of BMPs and construction of a new retention basin, substantial erosion and runoff on and offsite is not expected. Less than significant impacts would occur and no further analysis is required.

d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐

d) Less Than Significant Impact. As mentioned above, the Project site is not within a FEMA Flood Hazard Zone. The Project site is one mile east of the Salton Sea, which is a potential source of seiche. According to the County General Plan's Seismic and Public Safety Element, a seiche at the Salton Sea could occur under the appropriate seismic conditions, but there have been a number of seismic events with no significant seiches occurring to date (County 1993); therefore, a seiche is not expected to impact the Project site and cause discharge of pollutants. Further, all dams within the County are approximately 65 miles east of the Project site, and the Project site is approximately 100 miles from the coast of the Pacific Ocean. Thus, there is no risk of dam inundation or tsunami within the Project site. The impact from a seiche would be less than significant, and no further analysis is required.

e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

e) Potentially Significant Impact. As discussed above, implementation of a SWPPP and a Drainage and Grading Plan would ensure the Project would implement standard industry BMPs and relevant Basin BMPs to control off-site discharges. Additionally, a stormwater retention basin would be developed on the site. The Project will not allow any offsite discharges that could violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality. Additionally, all water required for the Project would be purchased from the IID, and IID operates no water wells or groundwater recharge areas (IID 2018).

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

Impacts would be considered less than significant and no further analysis is required.

I. *LAND USE AND PLANNING Would the project:*

a) Physically divide an established community? ☐ ☐ ☐ ☒

a) No Impact. The Project is located in a rural area approximately 3.6 miles west of Niland, CA, which is the closest nearby community. The gen-tie line required by the Project would utilize existing transmission ROW, and traverse the existing area but would not physically divide the area for approximately 2.3 miles southeast. There are no residences in close proximity to the Project site; thus, the Project would not physically divide an established community and no impacts would occur and no further analysis is required.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? ☐ ☐ ☒ ☐

b) Less than Significant Impact. The power and lithium production facilities are located in an area that is zoned S-1-G (open space / geothermal overlay), S-2-G (open space/preservation/geothermal overly) (S-1-G) and M-2-G-PE (medium industrial/geothermal overlay) and has an Agricultural land use. S-1-G, S-2-G, and M-2-G-PE allow geothermal exploration with a conditional use permit (CUP). Although S-2-G is for preservation only a well pad would be on the site along with a portion of the S-Berm/Extension Road which are allowed uses. The County Land Use Ordinance, Division 17, includes the Renewable Energy (RE) Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved conditional use permit (CUP). According to the General Plan Land Use Element, a non-agricultural land use may be permitted within General Plan-designated agricultural land if the use does not conflict with agricultural operations and will not result in the premature elimination of agricultural operations (County 1993). As analyzed in Section II, Agriculture and Forest Resources above, there is no existing agricultural land on the Project site and the land is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the Department of Conservation. The mineral extraction is associated with the geothermal extraction and would be compatible with the geothermal overlay. Implementation of the Project would require the approval of a CUP by the County to allow for the construction and operation of the proposed geothermal and mineral extraction facility on land designated as agriculture. With obtaining a CUP, the Project would be consistent with the land use plan; therefore, impacts would be less than significant and no further analysis is required.

II. *MINERAL RESOURCES Would the project:*

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? ☐ ☐ ☐ ☒

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? ☐ ☐ ☐ ☒

a) and b) No Impact. Although there are geothermal resources and minerals underlying the Project, there are no designated mineral resource zones or mineral resource recovery sites within the vicinity of the Project site (DOC 2022c). There are a number of mines along the Chocolate Mountain Range to the east, but the closest is approximately 5.3 miles from the Project site (DOC 2022d). Additionally, a part of this Project is a geothermal brine processing plant that would produce commercial-grade lithium hydroxide, silica, bulk sulfide, and polymetallic products, increasing the availability of these mineral resources. In utilizing the waste stream to produce these mineral resources, the Project actually represents a gain in the availability of these resources. The Project would be in alignment with the County General Plan's Renewable Energy and Transmission Element, Objective 3.2, which states that the County should "encourage the continued development of the mineral extraction/production industry for job development using geothermal brines from the existing and future geothermal flash power plants" (County, 1993). No known mineral resources or mineral resource recovery sites would be lost as a result of the Project; thus, no impacts would occur and no further analysis is required.

III. *NOISE Would the project result in:*

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? ☒ ☐ ☐ ☐

a) Potentially Significant Impact. The Imperial County Municipal Code Title 9 Land Use Code, Division 7, Chapter 2, Section 90702.00 - Sound level limits, establishes one-hour average sound level limits for the County's land use zones. Industrial operations are required to comply with the noise levels prescribed under the general industrial zones. Therefore, the Project is required to maintain noise levels below 75 decibels (dB) (averaged over one hour) during any time of day. The Project would also be expected to comply with the Noise Element of the General Plan, which states that construction noise from a single piece of equipment or a combination of

equipment shall not exceed 75 dB when averaged over an eight-hour period and measured at the nearest sensitive receptor. The County Noise Element also requires construction equipment operation to be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. on Saturdays (County 1993). Construction is anticipated to take 25 months, with work being conducted Monday through Saturday 7a.m. to 6p.m. Approximately 90% of Project construction would occur during daylight hours, but the remaining 10% of work would occur during nighttime hours to avoid extreme summer temperatures. Although the closest sensitive receptor is a residence over a half mile southeast on Pound Road, construction would occur outside the allowable construction noise hours set within the County Noise Element. Impacts would therefore be potentially significant and will be analyzed in the EIR.

b) Generation of excessive groundborne vibration or groundborne noise levels? ☐ ☐ ☒ ☐

b) Less Than Significant Impact. Groundborne vibration and groundborne noise could originate from earth movement during the construction phase of the Project and during pile-driving for foundation installation. There are no structures or sensitive receptors in proximity to the Project site with the nearest residence being half mile southeast of the Project site, and vibration attenuates rapidly with distance. Due to the distance between the Project and the nearest structure, the Project would not generate vibration that would be a nuisance or cause damage to any structures. The Project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise to ensure that the Project would not expose persons or structures to excessive groundborne vibration. The impact from vibration would be less than significant, and no further analysis is required.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? ☐ ☐ ☐ ☒

c) No Impact. The Project site is not located within two miles of a public airport or public use airport. The closest airport is Calipatria Municipal Airport, approximately 7 miles southeast of the Project site. Therefore, the Project would not expose people working in the Project area to excessive noise levels. No impact would occur, and no further analysis is required.

IV. *POPULATION AND HOUSING* *Would the project:*

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)? ☐ ☐ ☒ ☐

a) Less Than Significant Impact. The Project involves construction and operation of a geothermal power plant and a geothermal brine processing plant and does not propose the development of any permanent housing on site. Temporary housing will be provided on site for the well drilling crew that will be working 24 hours a day for approximately 6 months; however, the temporary housing will be removed once the well-drilling phase is complete. The Project operation would require approximately 112 full-time employees who are expected to live in and commute from the local surrounding communities. Therefore, the Project is not anticipated to induce population growth directly or indirectly; thus, impacts would be less than significant, and no further analysis is required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? ☐ ☐ ☐ ☒

b) No Impact. The Project development site is approximately 65 acres and is not zoned for housing. There are no residences within the Project site or and the closest residence is a single residence more than half mile away; thus, no existing people or housing would be displaced as a result of the Project. No impacts would occur, and no further analysis is required.

V. *PUBLIC SERVICES*

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1) Fire Protection? ☐ ☐ ☒ ☐

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

1) Less Than Significant Impact. Fire protection and emergency medical services in the Project area are provided by the Imperial County Fire Department (ICFD). The closest station to the Project site is the Niland Station, approximately 4 miles east, or an approximately 9-minute drive (Google, 2022). During construction, the Project site will be cleared of all vegetation and cleared areas will be maintained throughout construction. Fire extinguishers will also be available around the construction site. In case of emergency response during operations, Project access from Davis Road would have turnaround areas to allow clearance for fire trucks per fire department standards. In addition, a 100,000-gallon water storage tank will be located on site for fire-water storage. The fire protection system will consist of a fire main and surface distribution equipment such as yard hydrants and hose houses, monitors around the perimeter of the cooling tower, automatic sprinklers for the turbine generator and auxiliary equipment, and a complete detection and alarm system. The firewater supply and pumping system will provide an adequate quantity of fire-fighting water.

All fire suppression systems will be designed in accordance with federal, State, and local fire codes; OSHA regulations; and other jurisdictional codes, requirements, and standard practices. The ICFD will be consulted to review and approve any and all proposed fire equipment, apparatus, and related fire prevention plans. Acceptable service ratios and response times for fire protection will be maintained following Project implementation through consultation with the ICFD and the County. Impacts would be less than significant, and no further analysis is required.

2) Police Protection? ☐ ☐ ☒ ☐

2) Less Than Significant Impact. Police protection services in the area are provided by the Imperial County Sheriff's Department. The closest police station to the Project site is the Imperial County Sheriff's office in Niland, approximately 4 miles east, or an approximately 10-minute drive (Google, 2022). The increase in construction related traffic is not anticipated to significantly increase demand on law enforcement services due to the rural nature of the Project vicinity. Additionally, the Project site would have a security fence around the Project site and include obscured fencing around processing areas. In addition, approximately 112 full-time employees will be on site 24 hours a day, 7 days a week during operations of the Project, thereby minimizing the need for police surveillance. The workforce for the Project would come from surrounding areas, and the Project workforce would not create a new demand for police protection. Impacts would be less than significant, and no further analysis is required.

3) Schools? ☐ ☐ ☐ ☒

4) Parks? ☐ ☐ ☐ ☒

5) Other Public Facilities? ☐ ☐ ☐ ☒

3) through 5) No Impact. It is estimated that there will be up to 500 workers traveling to the Project site during peak construction and approximately 112 full-time employees during operations. It is expected that most of these workers/employees will commute to the Project site from surrounding communities. Therefore, substantial increases in population that will adversely affect local schools, parks, or other public facilities are not anticipated. No impacts would occur, and no further analysis is required.

VI. *RECREATION*

a) Would the project increase the use of the existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ☐ ☐ ☐ ☒

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment? ☐ ☐ ☐ ☒

a) and b) No Impact. There are no parks or other developed federal, State, or County recreational facilities in the Project area or immediate vicinity. Further, the Project involves the construction of a geothermal power plant and brine processing plant and would not construct any recreational facilities. It is estimated that there will be up to 500 workers at the Project site during peak construction and approximately 112 full-time employees during operations. These construction workers and employees are expected to come from existing populations that live in and commute from the surrounding local communities. Therefore, the Project would not cause an increase in population that would result in physical deterioration of existing recreational facilities. No impacts would occur, and no further analysis is required.

VII. *TRANSPORTATION* *Would the project:*

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ☒ ☐ ☐ ☐

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**
b) Would the project conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐

a) and b) Potentially Significant Impact. Primary access to the Project site would be located off of Davis Road. According to the County General Plan's Circulation Element, Davis Road is a Major Collector (County 2008).

HKP1 and HKL1 construction are estimated to have approximately 54,000 trucks trips during the construction and a maximum of 500 construction workers per day on site during peak construction. During normal operations, approximately 112 full-time staff would be commuting to and from the Project site. In addition, approximately 22 worker trips, 3 vendor trips, and 1 haul-truck trip per day to and from the HKP1 Project facilities would occur, while approximately 48 truck trips per day to and from the HKL1 project facilities would occur. The Project would result in permanent generation of vehicle miles traveled (VMT) due to the new worker vehicle trips generated during operation. Further analysis is required to evaluate whether the project would conflict with a program or plan for the transit system or result in significant VMT. The impacts will be addressed in the EIR.

c) Substantially increases hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

c) and d) Less than Significant Impact. The Project would not increase hazards due to a design feature nor impact emergency access. For emergency response, the Project access road on Davis Road would have turnaround areas to allow clearance for fire trucks per fire department standards: approximately 70 feet by 70 feet, and 20-foot-wide. The County Department of Public Works, the County Sheriff, and ICFD will be consulted as necessary to ensure that any potential impacts to the public or emergency services traveling on Davis Road during Project construction or operations would be minimized. Impacts would be less than significant, and no further analysis is required.

VIII. *TRIBAL CULTURAL RESOURCES*

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is:				
(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as define in Public Resources Code Section 5020.1(k), or	☒	☐	☐	☐
(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth is subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☒	☐	☐	☐

(i) and (ii) Potentially Significant Impact. Unrecorded subsurface Tribal cultural resources may be impacted, if present, by minor grading of the Project site and installation of foundations below the ground surface. In accordance with California Assembly Bill (AB) 52, Native American tribes with potential resources in the area will be notified of the Project and offered the opportunity for consultation. The AB 52 consultation process along with the Cultural Resources Report will assist in determining the possible Tribal cultural resource significance on the Project site. The Cultural Resources Report being prepared for the Project will include the results of an archaeological literature review, records search, and intensive pedestrian survey of the Project site. Further analysis of the potential impact to Tribal cultural resources is required and will be addressed in the EIR.

IX. *UTILITIES AND SERVICE SYSTEMS Would the project:*

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater	☒	☐	☐	☐

	Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?

a) Potentially Significant Impact. The proposed Project includes the development of a geothermal power plant and a mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale. As part of the Project facilities, there would be a reverse osmosis treatment facility and a freshwater storage pond for water to be used on site. A stormwater retention facility would be constructed on the western boundary of the site for accumulated stormwater on site. The Project would not require or result in relocation or construction of any other utilities, including new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunication facilities, other than what is already a part of the Project and the subject of this environmental review. Therefore, the impacts would be considered potentially significant, and further analysis is required in the EIR.

b) Have sufficient water supplies available to serve the project from existing and reasonably foreseeable future development during normal, dry and multiple dry years? ☒ ☐ ☐ ☐

b) Potentially Significant Impact. As described in Section X Hydrology and Water Quality, it is estimated that the Project would require up to 50,000 gallons of water per day during construction for fugitive dust control and approximately and approximately 6,700 acre-feet per year (200 afy for HKP1 and 6,500 afy for HKL1) of fresh water for normal operation. All water required for the Project would be purchased from the IID, whose only source of water is the Colorado River. Climate change scenarios predict a decrease in annual runoff to the Basin from the Colorado River of about 400,000 acre-feet of water 40 percent of the time by 2025 (IID 2012). Therefore, a Water Supply Assessment will be prepared for the Project to analyze potential impacts to the available water supply. Further analysis is required, and potential impacts to water will be analyzed in the EIR.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? ☐ ☐ ☒ ☐

c) Less than Significant Impact. Wastewater, including non-process wash water and sanitary waste, will be generated during facility operations. Sanitary drains will collect all sanitary waste and non-process wash water and discharge to an appropriately sized and County-approved septic system. The septic system will be engineered and operated to meet County Environmental Health requirements. The project would not affect wastewater treatment capacity. A less than significant impact would occur, and no further analysis is required.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? ☒ ☐ ☐ ☐

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? ☒ ☐ ☐ ☐

d) and e) Potentially Significant Impact. All non-hazardous and hazardous wastes generated during Project construction and operation would be handled and disposed of in accordance with applicable laws, ordinances, regulations, and standards. Nonhazardous solid waste would be disposed of using a locally licensed waste hauling service, most likely Allied Waste. Nonhazardous solid waste would likely be hauled to the Niland Solid Waste Site located in Niland. The Niland Solid Waste Site has approximately 211,439 cubic yards of remaining capacity and is estimated to remain in operation through 2046 (CalRecycle, 2022). Therefore, there is sufficient capacity in the County to receive the non-hazardous solid waste generated by construction and operation of the Project.

Hazardous materials/waste generated by the Project would not be left on site and would be transported to an approved hazardous waste landfill. The outgoing hazardous waste generated on site would be processed at a facility that is certified to handle hazardous waste that would be identified in further analysis. The Project is not expected to generate a significant amount of waste or hazardous waste since materials extracted from the brine would be put to commercial use. However, further analysis of potential impacts to solid waste is required and would be addressed in the EIR.

X. *WILDFIRE*

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan? ☐ ☐ ☒ ☐

a) Less Than Significant Impact. As mentioned in Section IX Hazards and Hazardous Materials above, CALFIRE's Fire Hazard Severity Zone Viewer identifies no very high, high, or moderate fire hazard severity zones in the local or state responsibility areas within 30 miles of the Project site (CALFIRE 2022). Additionally, as mentioned in Section XV Public Services, all fire suppression systems will be designed in accordance with federal, state, and local fire codes; occupational health and safety regulations; and other

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

jurisdictional codes, requirements, and standard practices. The ICFD will also be consulted to review and approve any and all proposed fire equipment, apparatus, and related fire prevention plans. Compliance with local emergency response and evacuation plans, including the EOP and MJHMP, will be maintained through consultation with the ICFD and the County. Impacts would be less than significant and no further analysis is required.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? ☐ ☐ ☒ ☐

b) Less Than Significant Impact. As mentioned above, CALFIRE does not have any designated very high, high, or moderate fire hazard severity zones in the local or state responsibility areas within 30 miles of the Project site (CALFIRE 2022). The Seismic and Public Safety Element of the County General Plan also states that the potential for a major fire in the unincorporated areas of the County is generally low (County 1993). Moreover, the Project site is flat and is not within an area of risk due to slope. Although the County has experienced damage from heavy winds in the past, hazards in the County are managed by the MJHMP which is reviewed and updated every 5 years (County 2021). Further, during construction the Project site and access road will be cleared of all vegetation and cleared areas will be maintained throughout construction. Fire extinguishers will be available around the construction site as well. During operations, a brush control program will be prepared and implemented on those portions of the Project site that will not be developed. Hazardous materials onsite during operations may be flammable, but fire suppression systems will be installed and the ICFD will be consulted to review and approve any and all proposed fire equipment, apparatus, and related fire prevention plans. Thus, employees onsite would not be exposed to pollutant concentrations from a wildfire. Impacts would be less than significant and no further analysis is required.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? ☒ ☐ ☐ ☐

c) Potentially Significant Impact. To prevent fire-related impacts on the Project site, Project access from Davis Road would be constructed with turnaround areas; a 100,000-gallon fire water storage tank will be constructed, and a fire protection system will be installed. These features would help fire suppression efforts; however, the Project includes installation of new power and transmission lines and infrastructure that is known to increase wildfire risk into undeveloped areas that contain vegetation that are susceptible to wildfires. This impact is potentially significant and will be addressed further in the EIR.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? ☐ ☐ ☒ ☐

d) Less than Significant Impact. The Project site is flat and is not located within an identified landslide zone (DOC 2022b). According to the County General Plan, the closest area of landslide activity is on the border of San Diego and Imperial Counties, approximately 30 miles west of the Project site (County 1993). As described in Section X Hydrology and Water Quality, flooding on site would be prevented by the flood protection berm on the western sides of the Project site. The Project would not expose people or structures to significant risks as a result of runoff, post fire instability, or drainage changes. Impacts would be less than significant, and no further analysis is required.

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino,(1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

Revised 2009- CEQA
Revised 2011- ICPDS
Revised 2016 – ICPDS
Revised 2017 – ICPDS
Revised 2019 – ICPDS

	Potentially Significant Impact **(PSI)**	Potentially Significant Unless Mitigation Incorporated **(PSUMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

SECTION 3
III. MANDATORY FINDINGS OF SIGNIFICANCE

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, eliminate tribal cultural resources or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐

a) Potentially Significant Impact. As discussed in Sections IV Biological Resources and V Cultural Resources, implementation of the Project has the potential to impact sensitive biological resources and cultural/paleontological resources. A Biological Technical Report and Cultural Resources Assessment will be prepared for the Project. Further analysis is required, and potential impacts will be addressed in the EIR.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐

b) Potentially Significant Impact. The Project has the potential to result in significant impacts, and when combined with existing conditions or related projects, may result in a cumulatively considerable impact. Specifically, the Project has the potential to result in a cumulatively considerable net increase in one or more criteria pollutants for which the Project region is in non-attainment under applicable federal and state ambient air quality standards. Therefore, further analysis is required and will be analyzed in the EIR.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

c) Potentially Significant Impact. The Project has the potential to result in significant environmental effects, which could directly or indirectly cause adverse effects on human beings. As demonstrated in this Initial Study, the Project has the potential to result in significant impacts to aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gasses, hazards and hazardous materials, hydrology and water quality, noise, transportation, Tribal cultural resources, utilities and services systems, and wildfire. These impact areas could result in direct or indirect adverse effects on human beings. Further analysis is required, and these issues will be discussed in the EIR.

IV. PERSONS AND ORGANIZATIONS CONSULTED

This section identifies those persons who prepared or contributed to preparation of this document. This section is prepared in accordance with Section 15129 of the CEQA Guidelines.

A. COUNTY OF IMPERIAL

- Jim Minnick, Director of Planning & Development Services
- Michael Abraham, AICP, Assistant Director of Planning & Development Services
- David Black, Project Planner

B. CHAMBERS GROUP

- Corinne Lytle-Bonine, Principal In Charge
- Victoria Boyd, Project Manager
- Patrick Macpherson, Environmental Planner
- Phillip Carlos, GIS Specialist

V. REFERENCES

California Air Resources Board (CARB)

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Imperial County
Planning & Development Services Department

NOTICE OF PREPARATION OF DRAFT EIR FOR HELL'S KITCHEN POWERCO 1 AND LITHIUMCO 1 PROJECT AND NOTICE OF PUBLIC EIR SCOPING MEETING

The Imperial County Planning & Development Services Department intends to prepare an Environmental Impact Report (EIR) for the proposed Hell's Kitchen PowerCo 1 and LithiumCo 1 Project as described below. A public scoping meeting for the proposed EIR will be held by the Imperial County Planning & Development Services Department on April 28, 2022 at 6:00 PM. The scoping meeting will be held in person in the County's Conference Room at 801 Main Street, El Centro, California 92243 and virtually via the Zoom platform. Comments regarding the scope of the EIR will be accepted at this meeting.

SUBJECT: Hell's Kitchen PowerCo 1 and LithiumCo 1 Project EIR

BOARD OF SUPERVISORS CONSIDERATION: To Be Determined.

PROJECT LOCATION: The Project's plant and facilities will be located on undeveloped land owned by Imperial Irrigation District (IID), and Niland, California which is approximately 3.6 miles southwest of the community of Niland on sixteen parcels owned by IID in the County: APNs 020-010-012, -013, 020-070-060, 020-010-031, -032, -035, -042, -044, 020-060-001, -002, -039, -040, 020-070-025, -026, -029, -055 (Figure 1). The Project's plant facilities would be built on an approximately 65-acre area including a gen-tie line that would connect to the existing HR1 facility. The layout of the Project is shown in the Project Site Plan (Figure 2).

PROJECT DESCRIPTION: Controlled Thermal Resources (Applicant) is proposing to construct and operate a geothermal power facility (HKP1) and commercial lithium hydroxide production plant (HKL1) within the Salton Sea geothermal field in Imperial County (County), California (Project). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale.

The Project would consist of the following activities:

- Construction and operation of a 49.9-MW geothermal power plant;
- Construction of well pads with geothermal production and injection wells;
- Construction of pipelines between HKP1 and HKL1 to facilitate the movement of brine between the facilities;
- Construction and operation of a mineral-extraction facility to extract lithium hydroxide, silica, bulk sulfide, and polymetallic products from the geothermal brine;
- Construction and operation of minerals handling and packaging facilities;
- Construction of ingress and egress to the Project site from Davis Road;
- Paving of Davis Road from McDonald Road to Noffsinger Road (approximately 2 miles);
- Construction and operation of a 230-kv gen-tie line and collocated power line (approximately 2 miles south and 0.3 miles east); and
- Construction of shared administrative facilities, offices, repair facilities, shipping and receiving facilities, and other infrastructure components.

Implementation of these project(s) requires an approval of Conditional Use Permit(s) and Variance(s) to allow for the construction and operation of the proposed 49.9MW geothermal power plant and mineral extraction and processing facility.

Project Applicant: Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC, both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR)

URBAN AREA PLAN: None, located in unincorporated area of County of Imperial

BOARD OF SUPERVISORS DISTRICT: District 4, Supervisor Ryan E. Kelley

ANTICIPATED SIGNIFICANT EFFECTS: The EIR will analyze potential impacts associated with the following: Aesthetics; Air Quality; Biological Resources; Cultural Resources; Energy; Geology and Soils; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise; Transportation; Tribal Cultural Resources; Utilities and Service Systems; and Wildfire.

COMMENTS REQUESTED: The Imperial County Planning & Development Services Department would like to know your ideas about the potential effects this project might have on the environment and your suggestions as to mitigation or ways the project may be revised to reduce or avoid any potentially significant environmental impacts. Your comments will guide the scope and content of potential environmental issues to be examined in the EIR. Your comments may be submitted in writing to David Black, Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA 92243. Available project information may be reviewed at this location.

NOTICE OF PREPARATION REVIEW PERIOD: March 31, 2022 through May 13, 2022.

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (442) 265-1800
FAX: (442) 265-1799

AIR POLLUTION CONTROL DISTRICT

May 10, 2022

Jim Minnick, Director
Imperial County Planning & Development Services
801 Main Street
El Centro, CA 92243

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report for Hell's Kitchen Powerco 1 and Lithiumco 1 Project

Dear Mr. Minnick:

The Imperial County Air Pollution Control District (Air District) received the Notice of Preparation of a Draft Environmental Impact Report for Hell's Kitchen Powerco 1 and Lithiumco 1 Project and has the following general comments on the scope of the review for the proposed project.

The Air District reviews all projects for potential impacts to air quality. The programs, rules and regulations of the Air District, in conjunction with the California Environmental Quality Act (CEQA), the most current CEQA Air Quality Handbook for Imperial County (Handbook), and the Air District's State Implementation Plans (SIP's) for Ozone, $PM_{2.5}$ and PM_{10}, work together to ensure air quality improves or does not degrade. Currently, the non-attainment status of marginal for ozone, moderate for $PM_{2.5}$, and the maintenance requirements for PM_{10} are the driving criteria in establishing the thresholds for NOx, ROG, PM_{10}, SO_x and CO as found in the Handbook. These thresholds and their significance are explained under Section 6 of the Handbook, which describes the preparation of an Air Quality Analysis for an Environmental Impact Report (EIR).

The following is a synopsis of the information pertinent to the development of an Air Quality analysis. A **comprehensive Air Quality Analysis** of the construction and operational impacts of the project is required. A thorough analysis should include a description, impacts and health consequences of all air quality and associated emissions. The analysis must be conducted using the Air Districts approved modeling factors.[1] The analysis should include short- and long-term

[1]The most current modeling tool recently adopted is CalEEMod.

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emissions as well as daily and yearly emission calculations. Project alternatives should be included along with a thorough emissions analysis per alternative. A description of the Air District attainment status, State and Federal, is required as is describing any regulatory restrictions to the project. All temporary construction and grading impacts should quantify fugitive dust and combustion emissions and propose mitigation measures.

A health risk assessment such as a diesel exhaust screening level should be included for projects anticipating the use of heavy-duty diesel equipment.[2] A health risk assessment should also be conducted for projects locating near already existing facilities with a potential to emit toxics. Typically, these health risk assessments are of a quantitative nature but can be a mixed qualitative and quantitative analysis. In any case, the relative human exposure, location of the project, distance to sensitive receptors all should be considered when developing the risk assessment. Projects anticipating heavy volumes of traffic should conduct hot spot modeling.[3] Hot spot modeling will help determine compliance with the state CO standard at intersections and roadway links as determined by traffic impact analysis.

Existing and proposed projects must have a cumulative impact analysis. For each sub-analysis and risk assessment mitigation measures should be identified, quantified for effectiveness and incorporated into the environmental document (i.e. Environmental Impact Report EIR or Environmental Impact Statement EIS). All mitigation measures must follow District Rules and Regulations including the most current CEQA Imperial County Air Quality Handbook. Consultation with the most recent Clean Air Plans (SIP's), District Rules and Regulations and other Air District approved programs is recommended to achieve effective applicability of standards. When it becomes apparent that on-site mitigation is insufficient to reduce the impacts to insignificance then off-site mitigation should be discussed and appropriately applied.

Finally, in accordance with Assembly Bill 32 known as the Global Warming Solutions Act of 2006 and the most recent amendments to the CEQA Guidelines dated March of 2010, a discussion of the impacts from Green House Gas emissions and its relation to Climate Change is required.

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[2] Guidelines and procedures as approved by the California Air Resources Board and the Office of Environmental Health Hazard Assessment (OEHHA)

[3] Using APCD approved hot spot modeling such as CALINE4, developed by and available through the California Department of Transportation.

Air District rules and regulations can be found on our website at https://apcd.imperialcounty.org under the Rules & Regulations. If any questions arise, please feel free to contact our office at (442) 265-1800.

Sincerely,

Curtis Blondell

Curtis Blondell
Environmental Coordinator

Reviewed by,
Monica Soucier
APC Division Manager

CalEnergy Operating Corporation
7030 Gentry Road
Calipatria, CA 92233

Jon Trujillo
Geothermal Development Director
jon.trujillo@calenergy.com

April 26, 2022

Via email – davidblack@co.imperial.ca.us

Mr. David Black
Planner IV
Imperial County Planning & Development Services Department
County Administration Center
940 Main Street
El Centro, California 92243

RE: Comments filed in Objection to Hell's Kitchen Power & Lithium Project(s) – CUP #20-0020 and CUP #20-0021 and V 21-0004 and 21-0005

Dear Mr. Black:

CalEnergy Operating Corporation, on behalf of its subsidiary, Magma Power Company (Magma), files this objection and accompanying comments with the Environmental Evaluation Committee (Committee) to be incorporated into the formal record at the Committee hearing scheduled for 1:30 p.m. PT, April 28, 2022.

Magma is the owner of record of Assessor Parcel Numbers (APN) 020-010-032 and 020-010-035 (collectively the Parcels), which were identified in the Notice of Public Hearing and Scheduled Hearing Date dated April 14, 2022. As the owner of the real property interests, Magma is directly impacted by the matters under review by the Committee and any subsequent determinations and decisions made by the Committee.

As an interested party and the owner of the Parcels, which lie within the Project Location Map submitted by Controlled Thermal Resources (Applicant) for the Hell's Kitchen Power and Lithium Project (Project), Magma objects to the application pending before the Committee in this matter (Application). The Application indicates that the Project will involve the " . . . construction and operation of a 230-kv gen-tie line and collocated power line . . . " on the Parcels. To date, Applicant has not contacted Magma concerning the Project or communicated any information regarding its specific plans, nor about acquiring any necessary right-of-way from Magma for the gen-tie line it seeks to construct on the Parcels. Accordingly, Magma has not had the opportunity to assess the impacts—environmental or otherwise—that such construction will have on the Parcels.

Moreover, Magma lacks the necessary information regarding Applicant's proposed design and planned construction activities of the gen-tie line, which Magma needs to assess the environmental and other impacts the gen-tie line could have on the Parcels, including Magma's proposed future use. Accordingly, Magma must object to the Application at this time and requests the Committee defer taking any action at this time pending Applicant engaging with Magma to define the potential impact of its proposed Application further.

If you have any questions or seek any additional information regarding Magma's objection and these filed comments, I am available to discuss and can be reached at jon.trujillo@calenergy.com.

Sincerely,

Jon Trujillo
Geothermal Development Director

DocuSign Envelope ID: 72E3723C-EE2C-45B0-8879-57ABBCC2A5BC

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

May 10, 2022
Sent via email

David Black, Planner IV
Imperial County Planning and Development Services
801 Main Street
El Centro, CA 92243
davidblack@co.imperial.ca.us

Notice of Preparation of a Draft Environmental Impact Report
Hell's Kitchen PowerCo 9 and LithiumCo 1 Project (Project)
State Clearinghouse No. 2022030704

Dear Mr. Black:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation of a Draft Environmental Impact Report (DEIR) from Imperial County (Lead Agency) for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

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

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

PROJECT DESCRIPTION SUMMARY

Proponent: Controlled Thermal Resources (CTR)

Objective:

- To produce 49.9 megawatts (MW) of geothermal power from within CTR's geothermal lease area;
- To provide power to the Imperial Irrigation District (IID);
- To minimize and mitigate potential impacts to sensitive environmental resources while producing renewable energy and creating jobs;

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

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- To provide a sustainable domestic source of lithium;
- To extract and produce lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale from the geothermal brine within the Hell's Kitchen geothermal lease area;
- To minimize the distance between the geothermal power plant and lithium extraction plant for production efficiency and to reduce the extent of pipeline required to convey brine and steam to and from the geothermal power facility to the mineral extraction plant, therefore minimizing the overall industrial footprint of the combined power and mineral operations; and
- To minimize and mitigate potential impacts to sensitive environmental resources within the Project area.

Location: The proposed Project would be located within Imperial County, California, approximately 3.6 miles west from the town of Niland near the eastern shore of the Salton Sea. The Project would be adjacent to Davis Road and south of Noffsinger Road, within the CTR geothermal lease area and on lands owned by IID. The gen-tie line will run from Nofffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to Hudson Ranch. The gen-tie line will be located east of Davis Road and north of McDonald Road within IID's transmission right-of-way and within new right-of-way. The geothermal development area and lithium facilities would be within Sections 11 and 12 of Township 11 South, Range 13 East, San Bernardino Base Meridian, and the gen-tie/power line ROW corridor is located within Sections 12, 13, and 14 of Township 11 South, Range 13 East.

Timeframe: The construction phase of the Project is anticipated to last 25 months in total. CTR anticipates starting Hell's Kitchen PowerCo 1 construction of the power plant and developing the well field in November 2022 and ending September 2023, followed by Hell's Kitchen LithiumCo 1 construction starting in February 2023 through December 2024.

Description: Hell's Kitchen PowerCo 1 LLC is proposing the Hell's Kitchen PowerCo 1 (HKP1), and Hell's Kitchen LithiumCo 1 LLC is proposing the Hell's Kitchen LithiumCo 1 (HKL1). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 MW net of geothermal power. HKL1 involves development of mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale. HKP1 and HKL1 (together referred to as the proposed Project) will be constructed and operated by Hell's Kitchen PowerCo1 LLC and Hell's Kitchen LithiumCo 1 LLC respectively, both subsidiaries of CTR, and will have shared facilities.

The development area for the Project would be approximately 65 acres, and would consist of the following activities:

- Construction and operation of a 49.9 MW geothermal power plant;
- Construction of well pads with geothermal production and injection wells;
- Construction of pipelines between HKP1 and HKL1 to facilitate the movement of brine between the facilities;
- Construction and operation of a mineral-extraction facility to extract lithium hydroxide, silica, bulk sulfide, and polymetallic products from the geothermal brine;
- Construction and operation of mineral handling and packaging facilities;
- Construction of ingress and egress to the Project site from Davis Road;
- Paving of Davis Road from McDonald Road to Noffsinger Road (approximately 2 miles);
- Construction and operation of a 230 kV gen-tie line and collocated power line; and
- Construction of shared administrative facilities, offices, repair facilities, shipping and receiving facilities, and other infrastructure components.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the Lead Agency in adequately identifying and/or mitigating the Project's significant, or potentially significant,

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direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

CDFW recommends that the forthcoming DEIR address the following:

Assessment of Biological Resources

Section 15125(c) of the CEQA Guidelines states that knowledge of the regional setting of a project is critical to the assessment of environmental impacts and that special emphasis should be placed on environmental resources that are rare or unique to the region. To enable CDFW staff to adequately review and comment on the project, the DEIR should include a complete assessment of the flora and fauna within and adjacent to the Project footprint, with particular emphasis on identifying rare, threatened, endangered, and other sensitive species and their associated habitats.

CDFW recommends that the DEIR specifically include:

1. An assessment of the various habitat types located within the project footprint, and a map that identifies the location of each habitat type. CDFW recommends that floristic, alliance- and/or association-based mapping and assessment be completed following *The Manual of California Vegetation*, second edition (Sawyer et al. 2009[2]). Adjoining habitat areas should also be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

2. A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected by the project. CDFW's California Natural Diversity Database (CNDDB) in Sacramento should be contacted at (916) 322-2493 or CNDDB@wildlife.ca.gov to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the proposed Project.

   Please note that CDFW's CNDDB is not exhaustive in terms of the data it houses, nor is it an absence database. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the project site.

3. A complete, *recent* inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern (CSSC) and California Fully Protected Species (Fish & G. Code, § 3511). Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. Focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Note that CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought.

4. A thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to*

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[2] Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A manual of California Vegetation, 2nd ed. California Native Plant Society Press, Sacramento, California. http://vegetation.cnps.org/

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Special Status Native Plant Populations and Natural Communities (CDFW 2018[3]).

5. Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region (CEQA Guidelines § 15125[c]).

6. A full accounting of all open space and mitigation/conservation lands within and adjacent to the Project.

Analysis of Direct, Indirect, and Cumulative Impacts to Biological Resources

The DEIR should provide a thorough discussion of the direct, indirect, and cumulative impacts expected to adversely affect biological resources as a result of the Project. To ensure that Project impacts to biological resources are fully analyzed, the following information should be included in the DEIR:

1. A discussion of potential impacts from lighting, noise, human activity (e.g., recreation), defensible space, and wildlife-human interactions created by zoning of development projects or other project activities adjacent to natural areas, exotic and/or invasive species, and drainage. The latter subject should address Project-related changes on drainage patterns and water quality within, upstream, and downstream of the Project site, including: volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-Project fate of runoff from the Project site.

2. A discussion of potential indirect Project impacts on biological resources, including resources in areas adjacent to the project footprint, such as nearby public lands (e.g., Sonny Bono National Wildlife Refuge, Salton Sea National Wildlife Refuge, Imperial National Wildlife Refuge) , open space, adjacent natural habitats, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or mitigation lands (e.g., preserved lands associated with a Natural Community Conservation Plan, or other conserved lands).

3. An evaluation of impacts to adjacent open space lands from both the construction of the Project and any long-term operational and maintenance needs.

4. A cumulative effects analysis developed as described under CEQA Guidelines section 15130. Please include all potential direct and indirect Project related impacts to riparian areas, wetlands, vernal pools, alluvial fan habitats, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and other sensitive habitats, open lands, open space, and adjacent natural habitats in the cumulative effects analysis. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

Alternatives Analysis

CDFW recommends the DEIR describe and analyze a range of reasonable alternatives to the Project that are potentially feasible, would "feasibly attain most of the basic objectives of the Project," and would avoid or substantially lessen any of the Project's significant effects (CEQA Guidelines § 15126.6[a]). The alternatives analysis should also evaluate a "no project" alternative (CEQA Guidelines § 15126.6[e]).

Mitigation Measures for Project Impacts to Biological Resources

The DEIR should identify mitigation measures and alternatives that are appropriate and adequate to avoid or minimize potential impacts, to the extent feasible. The Lead Agency should assess all direct, indirect, and cumulative impacts that are expected to occur as a

[3] California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plan Populations and Sensitive Natural Communities. State of California, Natural Resources Agency. Available for download at: https://wildlife.ca.gov/Conservation/Plants

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result of the implementation of the Project and its long-term operation and maintenance. When proposing measures to avoid, minimize, or mitigate impacts, CDFW recommends consideration of the following:

1. *Fully Protected Species*: Fully protected species may not be taken or possessed at any time. Project activities described in the DEIR should be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to the Project area. CDFW also recommends that the DEIR fully analyze potential adverse impacts to fully protected species due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends that the Lead Agency include in the analysis how appropriate avoidance, minimization, and mitigation measures will reduce indirect impacts to fully protected species.

2. *Sensitive Plant Communities*: CDFW considers sensitive plant communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3, and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDB and are included in *The Manual of California Vegetation* (Sawyer et al. 2009). The DEIR should include measures to fully avoid and otherwise protect sensitive plant communities from project-related direct and indirect impacts.

3. *California Species of Special Concern* (CSSC): CSSC status applies to animals generally not listed under the federal Endangered Species Act or the CESA, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. CSSCs should be considered during the environmental review process. CSSC that have the potential or have been documented to occur within or adjacent to the project area, including, but not limited to: burrowing owl (*Athene cunicularia*), yellow warbler (*Setophaga petechia*), Le Conte's thrasher (*Toxostoma lecontei*), yellow-breasted chat (*Icteria virens*), and mountain plover (*Charadrius montanus*)

4. *Mitigation*: CDFW considers adverse project-related impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the DEIR should include mitigation measures for adverse project-related impacts to these resources. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, onsite habitat restoration and/or enhancement, and preservation should be evaluated and discussed in detail. Where habitat preservation is not available onsite, offsite land acquisition, management, and preservation should be evaluated and discussed in detail.

   The DEIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset project-induced qualitative and quantitative losses of biological values. Specific issues that should be addressed include restrictions on access, proposed land dedications, long-term monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

   If sensitive species and/or their habitat may be impacted from the Project, CDFW recommends the inclusion of specific mitigation in the DEIR. CEQA Guidelines section 15126.4, subdivision (a)(1)(8) states that formulation of feasible mitigation measures should not be deferred until some future date. The Court of Appeal in *San Joaquin Raptor Rescue Center* v. *County* of *Merced* (2007) 149 Cal.App.4th 645 struck down mitigation measures which required formulating management plans developed in consultation with State and Federal wildlife agencies after Project approval. Courts have also repeatedly not supported conclusions that impacts are mitigable when essential studies, and therefore impact assessments, are incomplete *(Sundstrom* v. *County* of *Mendocino* (1988) 202 Cal. App. 3d. 296; *Gentry* v. *City* of *Murrieta (1995)* 36 Cal. App. 4th 1359; *Endangered Habitat League, Inc.* v. *County* of *Orange* (2005) 131 Cal. App. 4th 777).

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CDFW recommends that the DEIR specify mitigation that is roughly proportional to the level of impacts, in accordance with the provisions of CEQA (CEQA Guidelines, §§ 15126.4(a)(4)(B), 15064, 15065, and 16355). The mitigation should provide long-term conservation value for the suite of species and habitat being impacted by the Project. Furthermore, for mitigation measures to be effective, they need to be specific, enforceable, and feasible actions that will improve environmental conditions.

5. *Habitat Revegetation/Restoration Plans*: Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

   CDFW recommends that local onsite propagules from the Project area and nearby vicinity be collected and used for restoration purposes. Onsite seed collection should be initiated in the near future in order to accumulate sufficient propagule material for subsequent use in future years. Onsite vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various project components as appropriate.

   Restoration objectives should include protecting special habitat elements or re-creating them in areas affected by the Project; examples could include retention of woody material, logs, snags, rocks, and brush piles.

6. *Nesting Birds and Migratory Bird Treaty Act:* Please note that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: Fish and Game Code section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.

   CDFW recommends that the DEIR include the results of avian surveys, as well as specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. Project-specific avoidance and minimization measures may include, but not be limited to: project phasing and timing, monitoring of project-related noise (where applicable), sound walls, and buffers, where appropriate. The DEIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the project site. If pre-construction surveys are proposed in the DEIR, the CDFW recommends that they be required no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted sooner.

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7. *Moving out of Harm's Way:* To avoid direct mortality, CDFW recommends that the lead agency condition the DEIR to require that a CDFW-approved qualified biologist be retained to be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way special status species or other wildlife of low or limited mobility that would otherwise be injured or killed from project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise by injured or killed, and individuals should be moved only as far a necessary to ensure their safety (i.e., CDFW does not recommend relocation to other areas). Furthermore, it should be noted that the temporary relocation of onsite wildlife does not constitute effective mitigation for the purposes of offsetting project impacts associated with habitat loss.

8. *Translocation of Species*: CDFW generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species as studies have shown that these efforts are experimental in nature and largely unsuccessful.

California Endangered Species Act

The NOP has identified a potential need for a CESA Incidental Take Permit (ITP). CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to CESA. CDFW recommends that a CESA ITP be obtained if the Project has the potential to result in "take" (Fish & G. Code, § 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of State-listed CESA species, either through construction or over the life of the project. CESA ITPs are issued to conserve, protect, enhance, and restore State-listed CESA species and their habitats.

CDFW encourages early consultation, as significant modification to the proposed Project and avoidance, minimization, and mitigation measures may be necessary to obtain a CESA ITP. The California Fish and Game Code requires that CDFW comply with CEQA for issuance of a CESA ITP. CDFW therefore recommends that the DEIR addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of CESA.

Based on knowledge of the project site and general area, CDFW is aware that the following CESA-listed species have the potential to occur onsite/have previously been reported onsite: desert pupfish (*Cyprinodon maculariusI*), California black rail (*Laterallus jamaicensis coturniculus*), and Yuma Ridgway's rail (*Rallus obsoletus yumanensis*). Note that California black rail and Yuma Ridgway's rail are also designated as a Fully Protected Species; as such, they may not be taken or possessed at any time and Project activities should be designed to completely avoid any impacts (refer to Mitigation Measures, item #1 above).

Lake and Streambed Alteration Program

The NOP has identified that the Project may require a Lake or Streambed Alteration Agreement. Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following: Substantially divert or obstruct the natural flow of any river, stream or lake; Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or Deposit debris, waste or other materials that could pass into any river, stream or lake. Please note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.

Upon receipt of a complete notification, CDFW determines if the proposed Project activities may substantially adversely affect existing fish and wildlife resources and whether a Lake and Streambed Alteration (LSA) Agreement is required. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest

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ways to modify your Project that would eliminate or reduce harmful impacts to fish and wildlife resources.

CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code § 21065). To facilitate issuance of an LSA Agreement, if necessary, the DEIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended, since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources. To obtain a Lake or Streambed Alteration notification package, please go to https://www.wildlife.ca.gov/Conservation/LSA/Forms.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP of a DEIR to assist Imperial County in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Rose Banks, Senior Environmental Scientist (Specialist) at (760) 218-0022 or Rose.Banks@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Alisa Ellsworth
84FBB8273E4C480...

Alisa Ellsworth
Environmental Program Manager

ec: State ClearingHouse
State.Clearinghouse@opr.ca.gov

Rose Banks
Senior Environmental Scientist (Specialist)
California Department of Fish and Wildlife
Rose.Banks@wildlife.ca.gov

COMITE CIVICO DEL VALLE, INC.
INFORMED PEOPLE BUILD HEALTHY COMMUNITIES
www.ccvhealth.org

4/28/2022

David Black
Imperial County Planning & Development Services
801 Main Street
El Centro, CA 92243
DavidBlack@co.imperial.ca.us

RE: NOP Comments; Initial Study & Environmental Analysis for Hell's Kitchen PowerCo 1 & LithiumCo 1 Project

Dear Mr. Black:

On behalf of Comite Civico del Valle ("**CCV**"), this office respectfully requests all notices concerning any environmental and/or land use actions involving the Hell's Kitchen PowerCo 1 and LithiumCo 1 Projects located 3.6 miles west of Niland, CA. As indicated in the Notice of Preparation ("**NOP**"), the Project includes various Project approvals, including but not limited to:

i. The forthcoming environmental impact report ("**EIR**") for purposes of review under the California Environmental Quality Act ("**CEQA**");
ii. Numerous land use entitlements, such as Building and Grading Permits, Main Conditional Use Permit, Encroachment Permit(s) and Zoning Variance.
iii. Development Agreement between the applicant and the Imperial County Planning Department.

This office *requests all notices concerning any CEQA/land use actions* involving the Project and above project approvals, as required under applicable law. (See Pub. Res. Code §§ 21092.2, 21167(f) and Gov. Code § 65092) We also ask the County of Imperial ("**County**") and Imperial County Planning & Development Services ("**ICPD**") to place this office on the *notification list* for the above referenced project. Please send notice by *regular and electronic mail*. (luis@ccvhealth.org)

Thank you for consideration of these comments. We ask that this letter be placed in the Project's administrative record.

Sincerely,

Executive Director

Comite Civico del Valle

LAW OFFICE OF JORDAN R. SISSON
P.O. Box 569, Riverside, CA 92502

Direct Dial: 951-542-2735 Email: jordan@jrsissonlaw.com

May 12, 2022

VIA EMAIL:

David Black, Planner
Imperial County Planning & Development Services Department
801 Main Street
El Centro CA, 92243
DavidBlack@co.imperial.ca.us

RE: NOP COMMENTS FOR HELL'S KITCHEN POWERCO I AND LITHIUMCO I PROJECT EIR (SCH # 2022030704)

Dear Mr. Black:

On behalf of Comité Civico del Valle ("**CCV**"), this office respectfully requests from the County of Imperial ("**County**") all notices concerning any environmental and/or land use actions involving the Hell's Kitchen PowerCo I and LithiumCo I projects involving the development of a geothermal power plant that will produce up to 49.9 megawatts net of geothermal power and develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale ("**Projects**") located within Imperial County, California, approximately 3.6 miles west from the town of Niland ("**Site**"). According to Projects' Notice of Preparation ("**NOP**") and Initial Study ("**IS**") the Projects include the following project approvals from the County:

- The forthcoming Environmental Impact Report (SCH # 2022030704) ("**EIR**") for purposes of review under the California Environmental Quality Act ("**CEQA**");

- Various zoning/land use approvals (i.e., Conditional Use Permit, Zoning Variance, Building and Grading Permits, Encroachment Permit(s)); and

- Potential Development Agreement between the County and applicant.

This office requests all notices concerning any CEQA/land use actions involving the Projects and above-referenced project approvals, as required under applicable law. (See Pub. Res. Code §§ 21092.2, 21167(f), Gov. Code § 65092.) Please send notice by electronic and regular mail.

Thank you for consideration of these comments. Please place this in the Project's administrative record.

Sincerely,

Jordan R. Sisson, Esq.
Attorney for Comité Civico del Valle

COUNTY EXECUTIVE OFFICE

Miguel Figueroa
County Executive Officer
miguelfigueroa@co.imperial.ca.us
www.co.imperial.ca.us

County Administration Center
940 Main Street, Suite 208
El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-1010

April 19, 2022

TO: David Black, Planning and Development Services Department

FROM: Rosa Lopez, Executive Office

SUBJECT: Request for Comments – Conditional Use Permit #21-0020 & #21-0021 Hell's Kitchen Geothermal & Lithium Project

The County of Imperial Executive Office is responding to a Request for Comments Conditional Use Permit #21-0020 & #21-0021 Hell's Kitchen Geothermal & Lithium Project. The Executive Office would like to inform the developer of conditions and responsibilities should the applicant seek a Conditional Use Permit (CUP). The conditions commence prior to the approval of an initial grading permit and subsequently continue throughout the permitting process. This includes, but not limited to:

- Sales Tax Guarantee. The permittee is required to have a Construction Site Permit reflecting the project site address, allowing all eligible sales tax payments are allocated to the County of Imperial, Jurisdictional Code 13998. The permittee will provide the County of Imperial a copy of the CDTFA account number and sub-permit for its contractor and subcontractors (if any) related to the jobsite. Permittee shall provide in written verification to the County Executive Office that the necessary sales and use tax permits have been obtained, prior to the issuance of any grading permits.
- Construction/Material Budget: The permittee will provide the County Executive Office a construction materials budget: an official construction materials budget or detailed budget outlining the construction and materials cost for the processing facility on permittee letterhead.

Should there be any concerns and/or questions, do not hesitate to contact me.

Victoria Boyd

From: David Black <DavidBlack@co.imperial.ca.us>
Sent: Thursday, April 28, 2022 8:10 AM
To: Victoria Boyd
Cc: Corinne Lytle-Bonine
Subject: FW: Hell's Kitchen Power and Lithium Project

I received email last night

Dave Black

From: Craig Van Dam <avfarming@yahoo.com>
Sent: Wednesday, April 27, 2022 5:11 PM
To: David Black <DavidBlack@co.imperial.ca.us>
Cc: planninginfo <planninginfo@co.imperial.ca.us>
Subject: Hell's Kitchen Power and Lithium Project

CAUTION: This email originated outside our organization; please use caution.

To whomever it may concern,

I received a hearing letter for the Hell's Kitchen Power and Lithium Project and contacted David Black but never received a call back on the concerns I have for this project. I am a homeowner, and my property sits on the total west boundary line of the projected project. I am concerned for the future traffic, noise and pollution this project may bring to the community. I would like to be informed of the plans of eliminating these future issues that this project may bring and resolutions if these issues do occur.

Thank you

Craig Van Dam

Cyrq energy

RECEIVED
MAY 26 2022
IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

May 20, 2022

Imperial County Planning & Development Services Dept.
801 W. Main St.
El Centro, Ca. 92243

ATTN: David Black, Planner IV
RE: Response to NOP for CUP 20-0020, 20-0021 Variance 21-0004 & 21-0005

Mr. Black:

Cyrq Energy Inc., LLC, (Cyrq) acquired the Hudson Ranch Power 1 geothermal facility (Hudson Ranch) and is providing these comments on the NOP for the Hell's Kitchen Power and Lithium projects. Cyrq is not opposed to the projects but appreciates the opportunity to raise issues that need to be considered during the preparation of the environmental and project reviews.

TRAFFIC:

- Hudson Ranch was required to pave approximately two miles of McDonald Road as part of its permit approval. This requirement included provisions for reimbursements by other projects that may use McDonald Road as their access. To determine the fair share contribution for the respective parties, a comprehensive traffic analysis needs to be done to determine not only potential traffic safety issues that are likely to result from the significant amount of projected traffic, but also the reimbursement to Hudson Ranch for prior and current expenditures on this road.
- Similar or associated improvements are required on HWY 111 and McDonald Road, such as structural improvements to IID structures. The traffic analysis needs to carefully analyze those impacts and mitigation measures.
- The scheduling of this project's construction phases should be spelled out early on, even before a draft EIR is released. If roads are unavailable due to construction activities, alternate routes will need to be identified. If construction impacts transmission facilities, impacts to revenue will need to be addressed.
- Given the amount of construction traffic and the extreme amount of operational traffic on this road by Hell's Kitchen, consideration needs to be given on routine maintenance requirements.

INTERCONNECTION:

- Given that this project intends to connect at the substation located at Hudson Ranch, the gen-tie line location, scheduling and associated potential impacts need to be clearly addressed. Any work associated with the gen-tie line cannot interfere with the operations of Hudson Ranch.

15 W South Temple
(p) 801.875.4200
Suite 1900
info@cyrqenergy.com
Salt Lake City, UT 84101
(f) 801.875.4299

- Tie-ins to the substation typically require the IID to take the 230 KV line out of service for a period of time. This will have an adverse effect on Hudson Ranch's ability to fulfill contractual obligations to deliver energy to its offtaker. This, in turn, will have a direct impact on Hudson Ranch revenue and this project should be responsible for interruption and associated cost. In addition, the scheduling needs to be closely coordinated.

AIR QUALITY & GHG:

- Given the ever-increasing scrutiny and regulatory requirements in California, the cumulative impacts to air quality could have a negative impact on Hudson Ranch. If the Air Quality assessment identifies cumulative impacts, these must be disclosed as early as possible.
- Given the proximity of the two projects, the Health Risk Assessment is of concern.

COMMUNICATION:

- Given the lack of high-speed communication services in this area it is suggested that this be analyzed and a proposed improvement to this communication system(s) be considered as a shared responsibility for multiple operators in the area.

Respectfully submitted,

Joseph F. Bannon
Vice President, Environmental & Utility Relations

Cc: Nick Goodman, CEO Cyrq Energy
Jim Minnick, Imperial County Planning & Development Services Director

15 W South Temple
(p) 801.875.4200

Suite 1900
info@cyrqenergy.com

Salt Lake City, UT 84101
(f) 801.875.4299

Victoria Boyd

From: David Black <DavidBlack@co.imperial.ca.us>
Sent: Thursday, August 4, 2022 5:17 PM
To: Victoria Boyd
Subject: FW: comments provided for NOP - Hell's Kitchen

From: Victoria Boyd <vboyd@chambersgroupinc.com>
Sent: Tuesday, June 21, 2022 7:48 AM
To: David Black <DavidBlack@co.imperial.ca.us>
Subject: RE: comments provided for NOP - Hell's Kitchen

CAUTION: This email originated outside our organization; please use caution.

Thanks Dave! I hope it was a vacation that you got, and got to enjoy it! Do we want to include these comments since it's well outside the NOP comment period?

Victoria Boyd | Project Manager/Environmental Planner
(she/her)
CHAMBERS GROUP
t | 949.261.5414 x7220 f | 866.261.3100 m | 760.685.4838
vboyd@chambersgroupinc.com www.chambersgroupinc.com

From: David Black <DavidBlack@co.imperial.ca.us>
Sent: Tuesday, June 21, 2022 8:21 AM
To: Victoria Boyd <vboyd@chambersgroupinc.com>
Subject: FW: comments provided for NOP - Hell's Kitchen

Please see below email. I was out of the office last week.

Dave Black
ICPdS

From: Linda Hunt <LindaHunt@co.imperial.ca.us>
Sent: Tuesday, June 14, 2022 5:04 PM
To: David Black <DavidBlack@co.imperial.ca.us>
Cc: Rosa Soto <RosaSoto@co.imperial.ca.us>
Subject: comments provided for NOP - Hell's Kitchen

FYI

From: no-reply@mg.icpds.com <no-reply@mg.icpds.com>
Sent: Friday, May 20, 2022 6:50 AM
To: planninginfo <planninginfo@co.imperial.ca.us>
Subject: ICPDS.com Contact Submission

CAUTION: This email originated outside our organization; please use caution.

Recipient: Planning
Name: Joe Bannon
Phone: 801-875-4212
Email: joe.bannon@cyrqenergy.com
Message: Attn: Mr. David Black Cyrq Energy Inc., LLC, (Cyrq) acquired the Hudson Ranch Power 1 geothermal facility (Hudson Ranch) and is providing these comments on the NOP for the Hell's Kitchen Power and Lithium projects. Cyrq is not opposed to the projects but appreciates the opportunity to raise issues that need to be considered during the preparation of the environmental and project reviews. TRAFFIC: • Hudson Ranch was required to pave approximately two miles of McDonald Road as part of its permit approval. This requirement included provisions for reimbursements by other projects that may use McDonald Road as their access. To determine the fair share contribution for the respective parties, a comprehensive traffic analysis needs to be done to determine not only potential traffic safety issues that are likely to result from the significant amount of projected traffic, but also the reimbursement to Hudson Ranch for prior and current expenditures on this road. • Similar or associated improvements are required on HWY 111 and McDonald Road, such as structural improvements to IID structures. The traffic analysis needs to carefully analyze those impacts and mitigation measures. • The scheduling of this project's construction phases should be spelled out early on, even before a draft EIR is released. If roads are unavailable due to construction activities, alternate routes will need to be identified. If construction impacts transmission facilities, impacts to revenue will need to be addressed. • Given the amount of construction traffic and the extreme amount of operational traffic on this road by Hell's Kitchen, consideration needs to be given on routine maintenance requirements. INTERCONNECTION: • Given that this project intends to connect at the substation located at Hudson Ranch, the gen-tie line location, scheduling and associated potential impacts need to be clearly addressed. Any work associated with the gen-tie line cannot interfere with the operations of Hudson Ranch. • Tie-ins to the substation typically require the IID to take the 230 KV line out of service for a period of time. This will have an adverse effect on Hudson Ranch's ability to fulfill contractual obligations to deliver energy to its offtaker. This, in turn, will have a direct impact on Hudson Ranch revenue and this project should be responsible for interruption and associated cost. In addition, the scheduling needs to be closely coordinated. AIR QUALITY & GHG: • Given the ever-increasing scrutiny and regulatory requirements in California, the cumulative impacts to air quality could have a negative impact on Hudson Ranch. If the Air Quality assessment identifies cumulative impacts, these must be disclosed as early as possible. • Given the proximity of the two projects, the Health Risk Assessment is of concern. COMMUNICATION: • Given the lack of high-speed communication services in this area it is suggested that this be analyzed and a proposed improvement to this communication system(s) be considered as a shared responsibility for multiple operators in the area. A hard copy of these comments is being sent as well. Respectfully submitted, Joseph F. Bannon Vice President, Environmental & Utility Relations

EnergySource Minerals, llc
12544 High Bluff Dr., Suite 320
San Diego, Cal. 92130

May 10, 2022

Imperial County Planning & Development Services Dept.
801 W. Main St.
El Centro, Ca. 92243

ATTN: David Black, Sr. Planner

RE: Response to NOP for CUP 20-0020, 20-0021 Variance 21-0004 & 21-0005 (Response deadline May 13, 2022)

Mr. Black:

EnergySource Minerals llc (ESM), appreciates receiving the notice on the NOP for the Hell' Kitchen Power and Lithium projects and the opportunity to provide comments.

Please consider the following comments not as an opposition to the project rather issues that we feel need to be addressed during the preparation of the environmental and project reviews.

TRAFFIC:

- As you know Hudson Ranch Power I, llc was as part of its permit approval required to pave approximately two miles of McDonald Rd. Likewise ESM was required to pave the remaining two miles of McDonald Rd. Both of these requirements included provisions for "reimbursements" by other "projects" that may use McDonald Rd as their access. To determine the fair share contribution for the respective parties, a comprehensive traffic analysis needs to be done on this project to determine not only the traffic safety issues that could arise given the massive amount of traffic projected, but also the reimbursement to EnergySource llc for prior and current expenditures on this road.
- In addition to McDonald Rd improvement, similar or rather associated improvements are required on HWY 111 and McDonald Rd. These also include structural improvements to IID structures at those locations. Again, the traffic analysis needs to carefully analyze those impacts and mitigation measures.
- The scheduling of this project's construction phases should be spelled out early on, even before a draft EIR is released and shared with EESM. This is critical insofar that ESM is currently completing engineering and permitting for the above road improvement, which also includes a traffic management plan. While we do not expect Hell's Kitchen to be under construction in the near future there will be times that these roads may not be available and is critical that both companies understand the potential curtailments.
- Given the amount of construction traffic and the extreme amount of operational traffic on this road by Hell's Kitchen, consideration needs to be given on routine maintenance requirements.

INTERCONNECTION:

- Given that this project intends to connect at the substation located at Hudson Ranch, the gentie line location, scheduling and associated potential impacts need to be clearly addressed. The gentie line cannot interfere with the operations of HR1 or ESM Minerals both of which will be in operation at the time this line is built and connected.

- Tie-ins to the substation typically require the IID to take the 230 KV line out of service for a period of time. This will have an adverse effect on the HR1 poser? transmission side and on the operation of the ESM project and this project should be responsible for interruption and associated cost. In addition, the scheduling needs to be closely coordinated.

AIR QUALITY & GHG:

- Given the ever-increasing scrutiny and regulatory requirements in CA, the cumulative impacts of this project could have an impact on both HR 1 and ESM. The Air Quality analysis including the GHG and PM 10 and PM2.5 among others need to be closely analyzed and the cumulative impacts if any disclosed particularly if they have the potential to change the operations of HR1 or ESM.
- Given the proximity of the two projects, the Health Risk assessment is of concern to ESM and HR1.

COMMUNICATION:

- Given the lack of high-speed communication services in this area it is suggested that this be analyzed and a proposed improvement to this communication system(s) be considered as a shared responsibility for multiple operators in the area.

Respectfully submitted

jurg heuberger
SVP Permitting & Compliance

760.996.0313 Mobile
409 W. McDonald Rd.
Calipatria, Ca. 92233

ENERGY SOURCE
Delivering Renewable Power

jheuberger@energysource.us.com
www.energysource.us.com

CC:

Eric Spomer, CEO
Derek Benson, COO
Jim Minnick, Planning Director

Monday, April 25, 2022

RE: Notice to Property Owner (mailing April 14, 2022)

Regarding: Hell's Kitchen Power and Lithium Project(s) for the purpose of a proposed geothermal and lithium extraction project west of Niland near the Salt & Sea.

Hearing date: April 28, 2022 @ 1:30 pm.

County Administration Center (Board Room) 940 Main St., El Centro, CA.

Dear Mr. David Black,

Thank you so much for our phone conversation on Wednesday, April 20, 2022, regarding the proposed Hell's Kitchen Project in relation to my 10- acre parcel, number 020 – 010 – 031, located on the corner of Davis and Pound, that was posted on the Notice of Public Hearing (mailed out April 14, 2022).

Due to the distance and a previous commitment, I am unable to attend the hearing in person that is scheduled for Thursday, April 28, 2022, at 1:30 PM. If there are ZOOM arrangements for this meeting; will you kindly forward me the Meeting ID and Password.

As you had explained to me, my parcel number was listed on this notice because the Hell's Kitchen Power and Lithium Project developers are seeking to build a power plant within one (or ½) mile vicinity of my parcel; and that this project will also include a transmission line as an energy source.

I am requesting that the project managers of Hell's Kitchen provide a more "specific" boundary map of their project, because the map on the backside of the notice is not clear.

As mentioned during our conversation; my family has been the owners of this 10 - acre parcel for approximately 50 years. It is also somewhat of a historical landmark, as it is the location of the "Old Dry Icehouse", which supplied dry ice for the trains carrying fruits, vegetables, and perishables, in order to preserve them for the transport up the California coast. Some of these CO2 Wells may still be active (see map below of Carbon Dioxide Wells, Pound and Davis).

Some years, ago we had installed two large identical "no trespassing "signs on the property (see 1st photo below). They were in good shape up until 2020; where it appears, someone cut both post-legs off one of the signs. Now the sign is facing down in the dirt (see 2nd photo). However, the other sign still appears to be in good shape and is still standing (see left side of 3rd photo).

I will investigate this further in the upcoming months.

Our parcel is also mentioned on WIKIMAPIA": "This former dry ice plant, surrounded by carbon dioxide wells, was established in the late 1930s. In the 1970s, it was modified into a mineral spa. A few rotted out buildings, the largest of which dates back to the early dry ice plant days, and other ruins remains. This site was featured on the History Channel's Life After People." Abandoned Dry Ice Manufacturing Plant / Spa (wikimapia.org)

With regards to the proposed Hell's Kitchen Project:

As long as my family's parcel will not be affected in any way, shape, or form; and that me and my family assume NO liability and NO responsibility, in, on, or around the boundaries of our parcel; and, if said project will not affect the possible future transfer of ownership; then, if the owners and project managers of Hell's Kitchen will meet these requirements "in writing"; then, we do not plan on contesting the moving forward with the environmental impact research report for the proposed construction of the power plant and transmission line.

As a former home developer, if it is feasible, perhaps any new transmission and/or power lines could be installed underground, below pavement, instead of overhead.

David, you have my authorization to forward this correspondence to the owners and/or project managers of Hell's Kitchen.

I hope that it will be a safe and successful project endeavor.

Thank you very much,

Gina Borgia

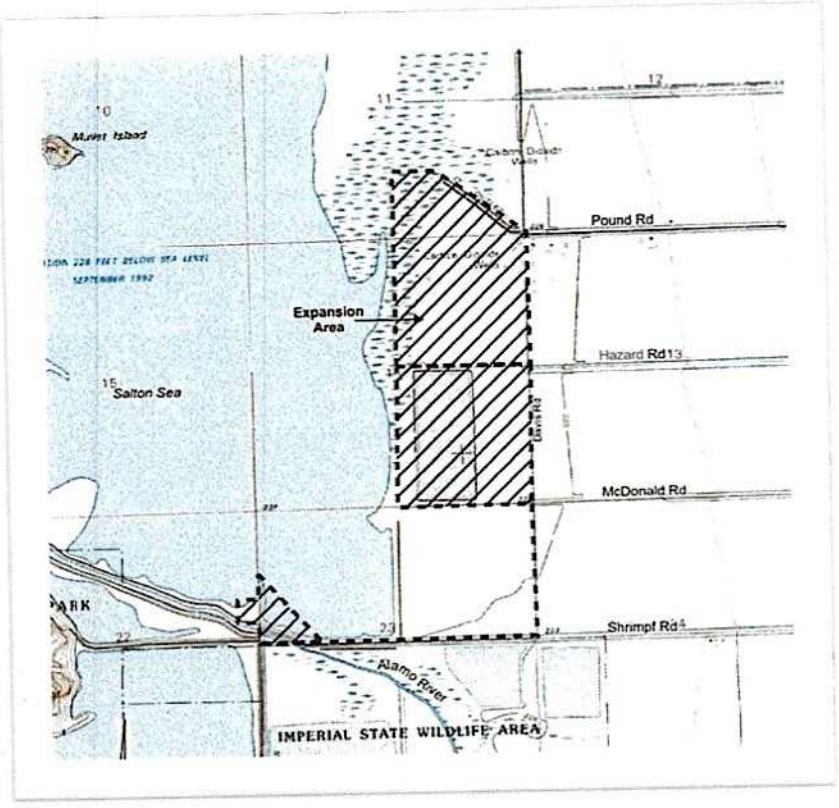
Gina Borgia

4327 Park Paloma

Calabasas, CA 91302

818: 970-7994

Email: victoriasvitamins@msn.com


Mullet Island
Pound Rd
Expansion Area
Hazard Rd
Salton Sea
McDonald Rd
Shrimp Rd
Alamo River
IMPERIAL STATE WILDLIFE AREA


NO TRESPASSING
PRIVATE PROPERTY
GEOTHERMAL AREA
DEEP WELLS
KEEP OUT





May 10, 2022

Mr. David Black
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: NOP of an EIR for the Hell's Kitchen Geothermal & Lithium Project; CUP21-0020 & CUP21-0021

Dear Mr. Black:

On March 31, 2022, the Imperial Irrigation District received from the Imperial County Planning & Development Services Department, a request for agency comments on the Notice of Preparation of an Environmental Impact Report for the Hell's Kitchen Geothermal & Lithium Project; Conditional Use Permit applications nos. 21-0020 and 21-0021. The applicant, Controlled Thermal Resources, proposes to develop a 49.9MW geothermal power facility and commercial lithium hydroxide plant on a 65-acre site (sixteen parcels owned by IID) located 3.6 miles southwest of Niland, CA. The project includes a 230kV generation tie line to interconnect to the Hudson Ranch substation.

The IID has reviewed the application and has the following comments:

1. To request temporary electrical service for construction, the applicant should be advised to contact Gabriel Ramirez, IID Service Planner, at (760) 339-9257or e-mail Mr. Ramirez at gramirez@iid.com to initiate the customer service application process. In addition to submitting a formal application (available for download at the district website http://www.iid.com/home/showdocument?id=12923), the applicant will be required submit, electrical plans, electrical panel size and location, operating voltage, electrical loads, an AutoCAD file of the site plan, construction schedule, and the applicable fees, permits, easements and environmental compliance documentation pertaining to the provision of electrical service to the project. The applicants shall be responsible for all costs and mitigation measures related to providing electrical service to the project.

2. Electrical capacity is limited in the project area. A circuit study may be required. Any system improvements or mitigation identified in the circuit study to enable the provision of electrical service to the project shall be the financial responsibility of the applicant.

3. IID water facilities that may be impacted include the L, M, O, Q, R, and Vail 3 Drains, Alamo River, and the L, M, O, Q, R Laterals.

4. The applicant should be advised to provide the appropriate engineering road design reports, prior to construction, to IID Water Department Engineering Services Section. The

designed road will require an IID encroachment permit. Road construction and maintenance will be the responsibility of the applicant. For further information on this matter, the applicant should be advised to contact IID WDES Section at 760 339-9265.

5. The applicant should be advised that the project must adhere to the desert pupfish mitigation measures contained in the IID Draft Habitat Conservation Plan. For information relating to this requirement, applicant should contact Jessica Humes, IID Environmental Project Manager Senior, at 760-339-9703 or e-mail Ms. Humes' at jllhumes@IID.com. IID Drains Q, R, and S west of Davis Road are known desert pupfish habitat. Any discharge into these drains, west of Davis Road, must meet all local, state or federal drainage/discharge requirements/permits. All necessary environmental permits must be issued before starting construction. As part of the EIR process biological surveys should be conducted for marsh birds and desert pupfish. Send copies of all CEQA/NEPA compliance documents and permits to Ms. Humes.

6. The vegetated area to the west of Davis Road has potential to be considered habitat for species of special concern, threatened or endangered species. Non-vegetated open areas adjacent to the Salton Sea are potential nesting areas for various shorebird species. IID requests that staff from California Department of Fish and Wildlife and/or or U.S. Fish and Wildlife Service address these habitat concerns.

7. To insure there are no impacts to IID water facilities, the project's plans, including grading & drainage and fencing plans, should be submitted to IID WDES Section for review prior to final project design. IID WDES Section should be contacted for additional information.

8. Should the project require drain extensions, the applicant should include these features in the EIR's project description. Any drainage analysis previously developed for the project site and any updated drainage analysis, should be included in the EIR if any level of discharge drainage is proposed. A copy of any drainage analyses for the site should be forwarded to IID WDES Section.

9. The projects may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, the project may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

10. For underground electrical crossings of canals and drains: (1) The crossings shall be designed and constructed in accordance with IID utility crossing standard details drawing L-3086 (attached); (2) high visibility markers identifying locations of the underground electric lines are to be placed near every location the lines cross IID right-of-way boundary, high visibility markers shall not be placed where they are likely to be damaged by IID operation and maintenance activity, final locations shall be reviewed and approved by IID; and (3) boring and receiving pits for horizontal directional drill installations shall not encroach within IID ROW.

11. For overhead electric crossings of canals and drains: (1) overhead electric lines crossing canal and drain facilities are to be constructed at minimum wire heights to provide clearance in accordance Cal OSHA Electrical Safety Orders Article 37 Section 2946 and

with IID's maintenance equipment requirements, minimum vertical clearance from maximum sag to highest ground point within any given span for 34.5kV lines is 53.0 feet and for 230kV lines is 55.0 feet, detailed cross sections showing the clearances must be submitted along with an encroachment permit application for any overhead crossings of IID facilities; and (2) overhead electric lines shall not cross within 100 feet of a canal or drain headwall structure.

12. In Section X (Hydrology and Water Quality), paragraph e) of the *Initial Study & Environmental Analysis*, the "less than significant impact" box is checked but the text starts off with "potentially significant impact", please correct and update as appropriate.

13. Section IX (Utilities and Service Systems) of the *Initial Study & Environmental Analysis*, indicates potentially significant impacts in all categories. Paragraph b) state "Climate change scenarios predict a decrease in annual runoff to the Basin from the Colorado River of about 400,000 acre-feet of water 40% of the time by 2025" as referenced by a 2012 document. The statement/analysis needs to be updated as it's a decade old and the data has changed. Any updated analysis should be included in the PSI criteria.

14. The applicant will need to submit a Temporary Water Account Application for construction water. The use of IID water during the project's construction phase will require an encroachment permit. Once the project moves forward an onsite reservoir will need to be designed and constructed by the applicant to ensure that the project has at least a six-day supply of water available in case of maintenance or construction projects on the supply canal. For additional information regarding construction water, the applicant should contact IID's Water Department North End Division at (760) 482-9900.

15. The project, as described in the *Initial Study & Environmental Analysis*, is subject to IID's Interim Water Supply Policy or whatever revised or new policy may be in effect at the time of water supply contracting. The applicant will need to submit a revised water supply request letter to IID for the proposed water use of 6,700 AFY. See attached letter template. In order to obtain a water supply from IID for a non-agricultural project, the applicant will be required to comply with all applicable IID policies and regulations and may be required to enter into a water supply agreement. Such policies and regulations require, among other things, that all potential environmental and water supply impacts of the project, including potential impacts to the Salton Sea as a result of reduced drainage flow, be adequately assessed, and appropriate mitigation developed, if warranted, including any necessary approval conditions adopted by the relevant land use and permitting agencies. If IID implements a water allocation or apportionment program pursuant to the IID Equitable Distribution Plan, or any amending or superseding policy for the same or similar purposes, during all or any part of the term of said water supply agreement, IID shall have the right to apportion the project's water as an industrial water user. More information on how to obtain a water supply agreement, is available at the district website https://www.iid.com/water/municipal-industrial-and-commercial-customers or by calling Justina Gamboa-Arce, IID Water Resources Planner, at (760) 339-9085 or by writing Ms. Gamboa-Arce at jgamboaarce@iid.com.

16. Due to changes in the state and federal Safe Drinking Water Acts, when developing a project, it is important to remember potable water regulations if access to a municipal

water system is not available. Since the IID is a regional supplier of raw water, please remember that its canal water is not suitable for drinking and cooking purposes. To comply with the SDWA and reinforce that its water supply is not intended for human consumption, the IID has implemented rules to ensure that its piped water customers also have an alternative water supply that achieves an equivalent level of public health protection for drinking and cooking purposes. The applicant must be in compliance with California's Safe Drinking Water Act and receive their potable water from one of the four approved water providers located in Imperial County if a permitted public water system is not required by Imperial County as a part of this project.

17. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions for its completion are available at the website https://www.iid.com/about-iid/department-directory/real-estate. The district Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements. No foundations or buildings will be allowed within IID's right of way.

18. An IID encroachment permit is needed to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID Standards. A construction storm-water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is needed for the operation of the proposed facility. Copies of these permits as well as the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

19. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.

20. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, water deliveries, canals, drains, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully analyzed. Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.

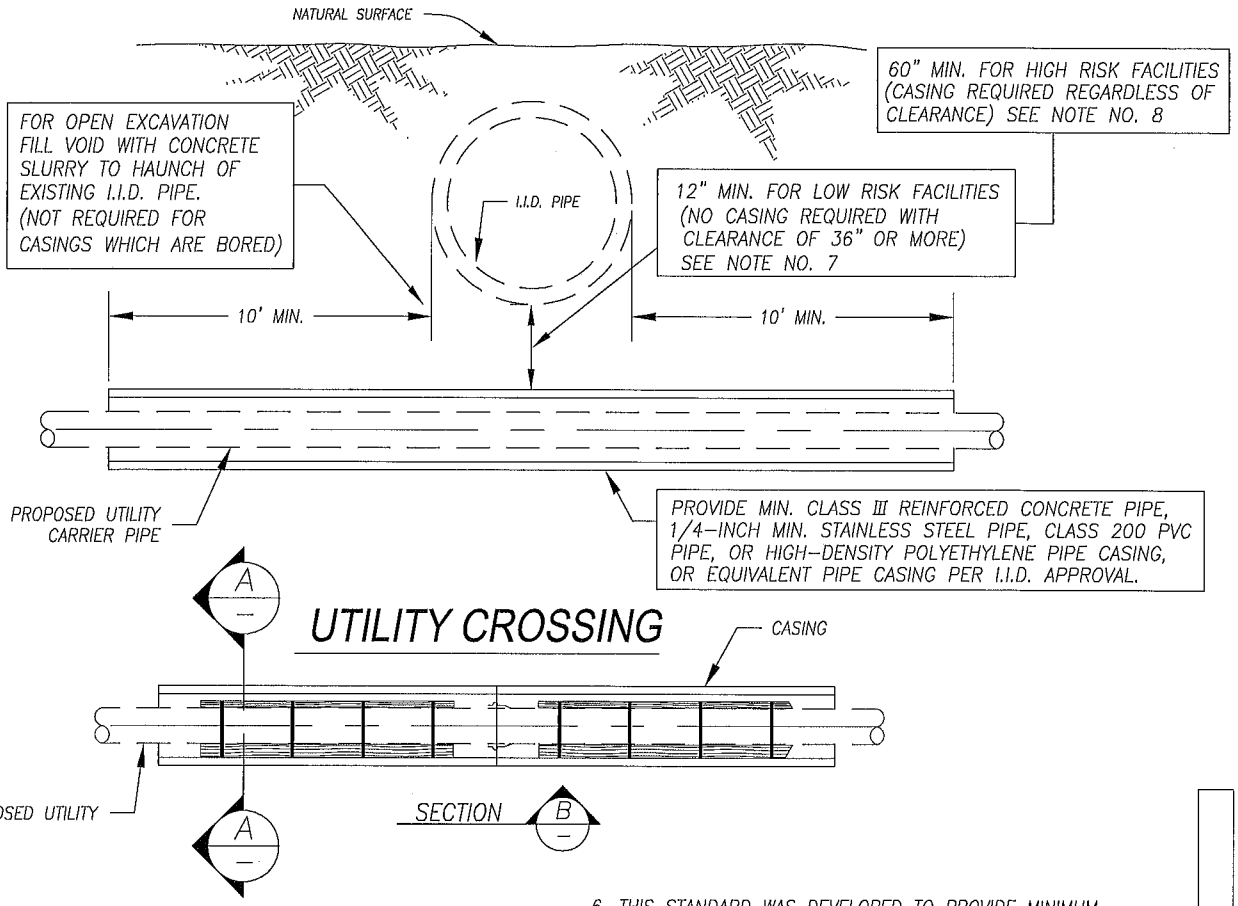
21. Dividing a project into two or more pieces and evaluating each piece in a separate environmental document (Piecemealing or Segmenting), rather than evaluating the whole of the project in one environmental document, is explicitly forbidden by CEQA, because dividing a project into a number of pieces would allow a Lead Agency to minimize the apparent environmental impacts of a project by evaluating individual pieces separately, each of which may have a less-than-significant impact on the environment, but which together may result in a significant impact. Segmenting a project may also hinder developing comprehensive mitigation strategies. In general, if an activity or facility is necessary for the operation of a project, or necessary to achieve the project objectives, or a reasonably foreseeable consequence of approving the project, then it should be considered an integral project component that should be analyzed within the environmental analysis. The project description should include all project components, including those that will have to be approved by responsible agencies. The State CEQA Guidelines define a project under CEQA as "the whole of the action" that may result either directly or indirectly in physical changes to the environment. This broad definition is intended to provide the maximum protection of the environment. CEQA case law has established general principles on project segmentation for different project types. For a project requiring construction of offsite infrastructure, the offsite infrastructure must be included in the project description. *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App. 4th 713.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Jamie Asbury – Manager, Energy Dept.
Constance Bergmark – Deputy Mgr. Energy Dept., Energy Business, Regulatory & Transactions Admin.
Wayne K. Strumpfer, General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

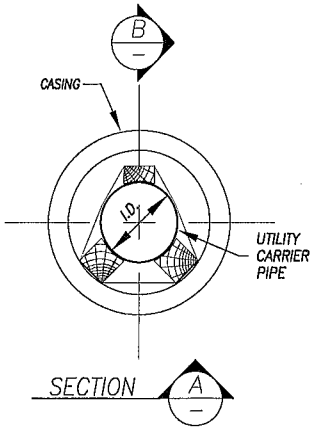


UTILITY CROSSING

NOTES:

1. PIPE BRACING SHALL BE PER UTILITY REQUIREMENTS.
2. WHEN OPEN EXCAVATION IS USED PROVIDE STRUCTURAL SUPPORT FOR I.I.D. PIPE (SEE REQUIREMENT ABOVE). REPAIR OF I.I.D. PIPE TO BE BY I.I.D. FORCES OR LICENSED CONTRACTORS WITH COSTS BORNE BY THE UTILITY COMPANY.
3. SOIL COMPACTION TO BE THE GREATER OF: MINIMUM 90% OF MAXIMUM DRY DENSITY OR ENCROAHING ENTITY REQUIREMENTS.
4. ENCROACHING ENTITY TO ENSURE THAT STATE DEPARTMENT OF HEALTH STANDARDS ARE MET WHEN APPLICABLE.
5. PRIOR TO FINALIZING THE CROSSING DETAIL THE I.I.D. SHOULD BE CONSULTED FOR FUTURE IMPROVEMENTS (PIPELINING, PIPE DIAMETER CHANGES, ETC.) TO MINIMIZE FUTURE IMPACTS TO ENCROACHING ENTITY FACILITIES.
6. THIS STANDARD WAS DEVELOPED TO PROVIDE MINIMUM CONSTRUCTION CLEARANCE ACROSS MOST I.I.D. FACILITIES. FOR MAIN CANAL SYSTEMS AND SPECIAL SYSTEMS CLEARANCE REQUIREMENTS WILL BE DETERMINED BY I.I.D ON A CASE-BY-CASE BASIS. THE UTILITY ENCROACHING UPON THE I.I.D.'S RIGHT-OF-WAY SHOULD ENSURE THAT ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES ARE MET FOR THE TYPE OF MATERIAL THEY PLAN TO TRANSPORT (ie HAZARDOUS AND NONHAZARDOUS MATERIALS).
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ACAD REV. 13 FILE: FILE L3086A



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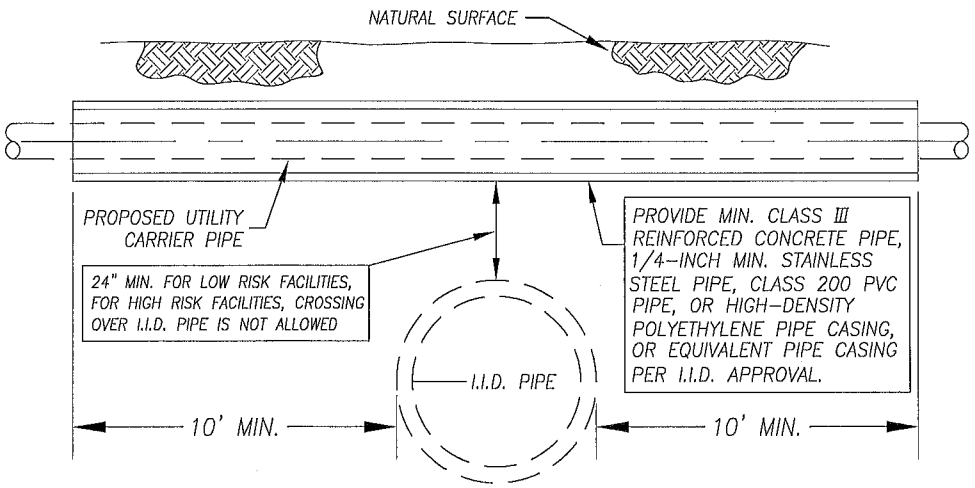
SH. 1 OF 4

ISSUE 8	5-18-2001	D.D.
ISSUE 7	5-23-2000	D.D.
ISSUE 6	9-2-97	A.J.
ISSUE 5	4-1-97	A.J.
ISSUE 4	10-26-94	D.D.
ISSUE 3	1-14-94	D.D.
ISSUE 2	0-08-93	D.D.
ISSUE 1	3-30-92	D.D.

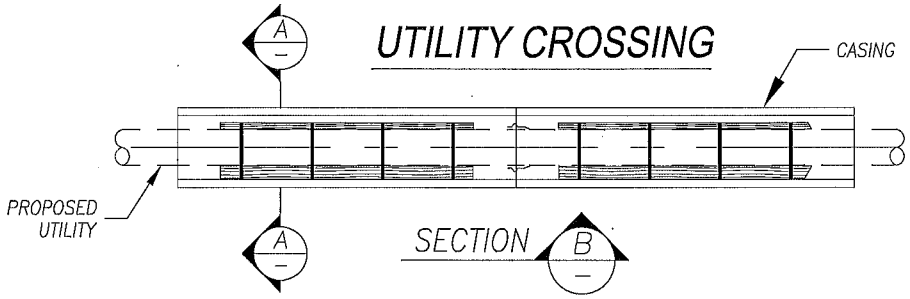
IMPERIAL IRRIGATION DISTRICT
IMPERIAL, CALIFORNIA
WATER DEPARTMENT

UTILITY CROSSING STANDARD DETAILS
UNDER IMPERIAL IRRIGATION DISTRICT (I.I.D.) PIPE

DATE 3-30-92 | SCALE NONE | APPROVED
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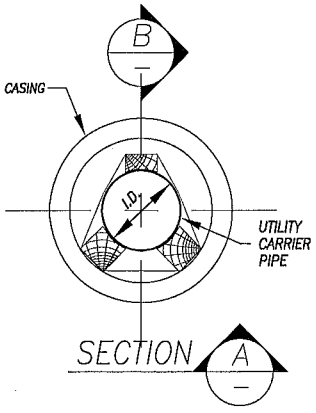


UTILITY CROSSING



NOTES:

1. PIPE BRACING SHALL BE PER UTILITY REQUIREMENTS.
2. SOIL COMPACTION TO BE THE GREATER OF: MINIMUM 90% OF MAXIMUM DRY DENSITY OR ENCROACHING ENTITY REQUIRMENTS.
3. ENCROACHING ENTITY TO ENSURE THAT STATE DEPARTMENT OF HEALTH STANDARDS ARE MET WHEN APPLICABLE.
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ACAD REV. 13 FILE: L3086B

REF. DWGS.

SH. 2 OF 4

ISSUE		
ISSUE 3	5-21-2001	D.D.
ISSUE 2	5-23-2000	D.D.
ISSUE 1	9-2-97	A.J.

IMPERIAL IRRIGATION DISTRICT
IMPERIAL, CALIFORNIA
WATER DEPARTMENT

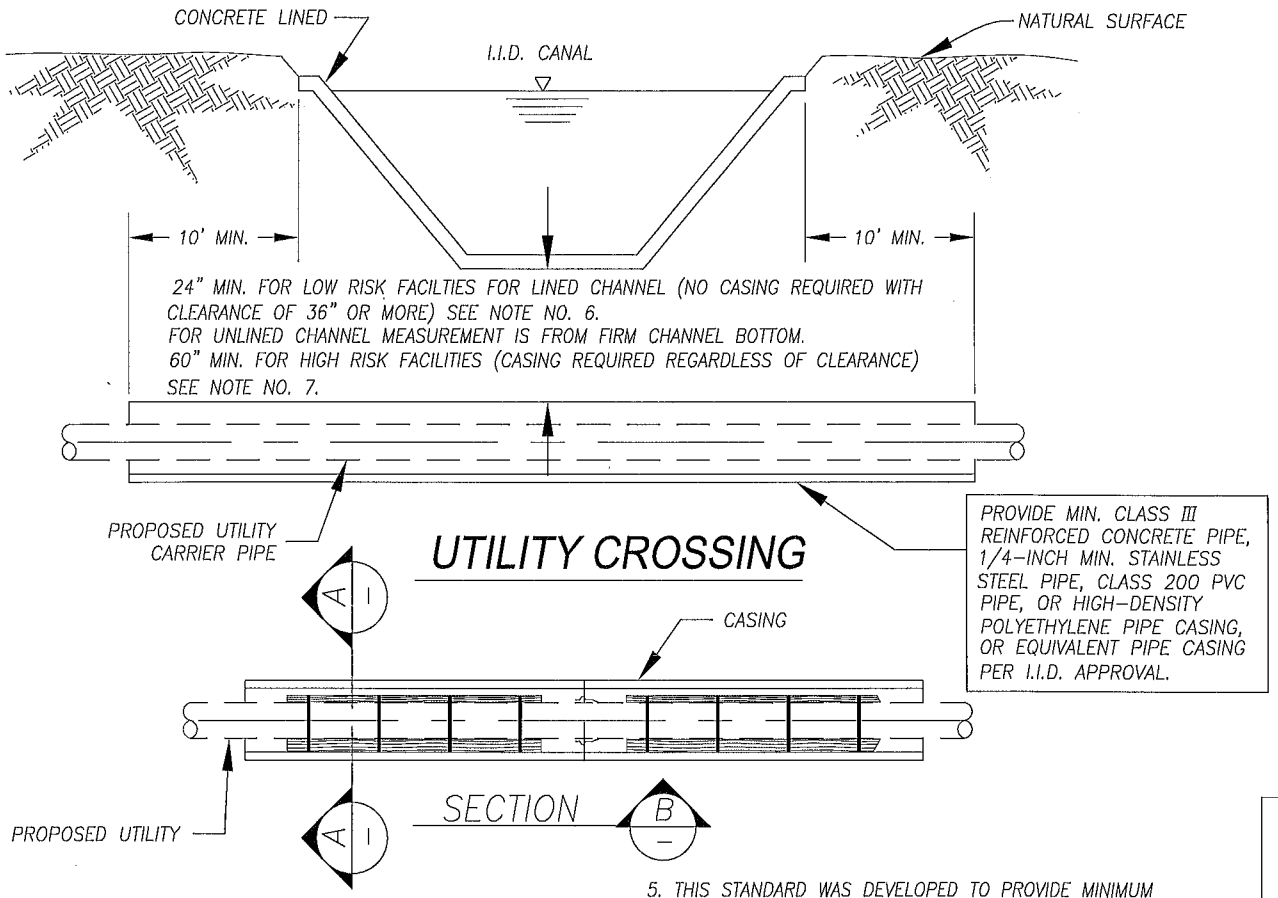
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OVER IMPERIAL IRRIGATION DISTRICT (I.I.D.) PIPE

DATE 9-2-97 | SCALE NONE | APPROVED

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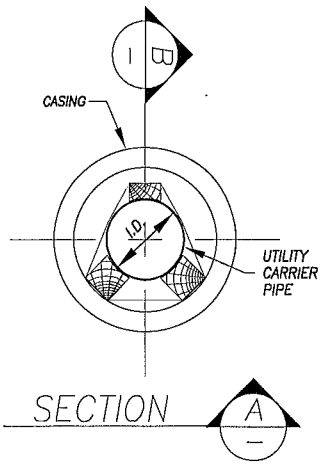
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UTILITY CROSSING

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ACAD REV. 13 FILE: L-3086C

REF. DWGS.

SH. 3 OF 4

ISSUE	DATE	
ISSUE 7	10-26-99	D.D.
ISSUE 6	9-2-97	A.J.
ISSUE 5	4-1-97	A.J.
ISSUE 4	10-27-94	D.D.
ISSUE 3	1-14-94	D.D.
ISSUE 2	3-8-93	D.D.
ISSUE 1	3-30-92	D.D.

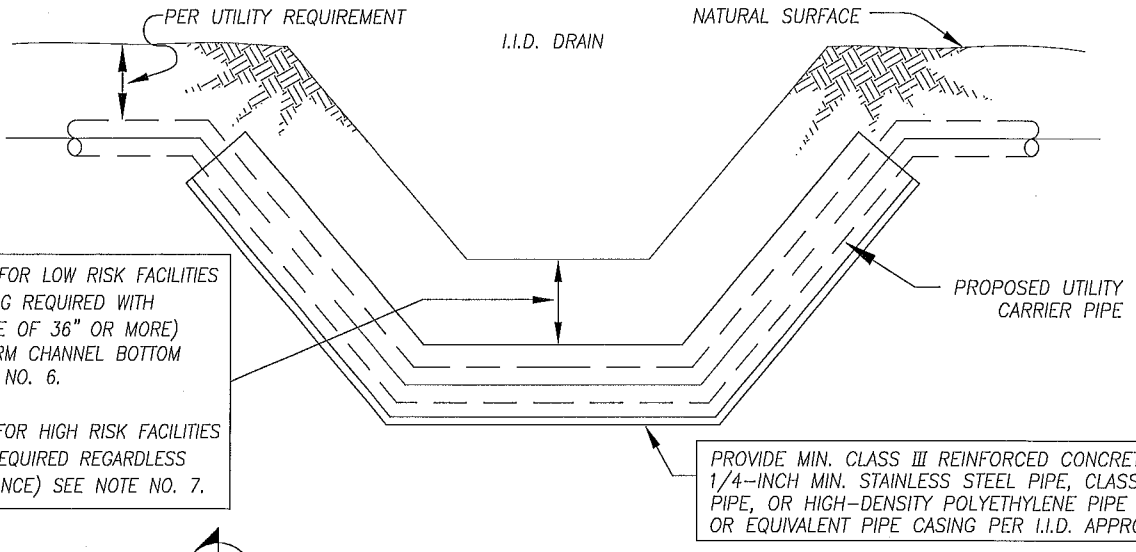
ISSUE 9	5-22-2001	D.D.
ISSUE 8	5-23-2000	D.D.

IMPERIAL IRRIGATION DISTRICT
IMPERIAL, CALIFORNIA
WATER DEPARTMENT

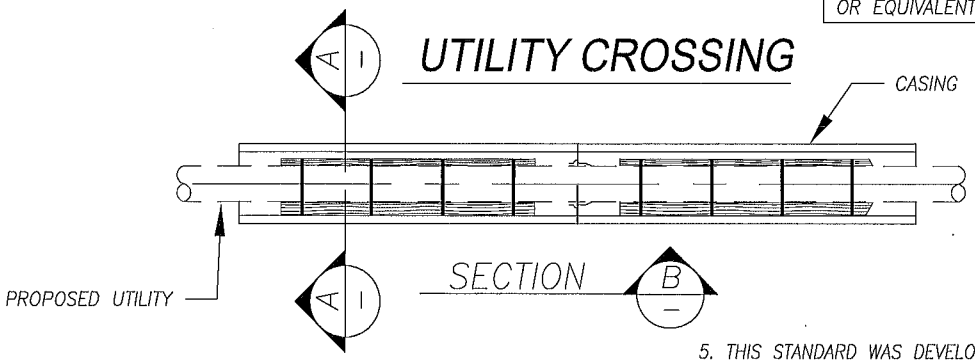
UTILITY CROSSING STANDARD DETAILS
UNDER IMPERIAL IRRIGATION DISTRICT (I.I.D.) CANAL

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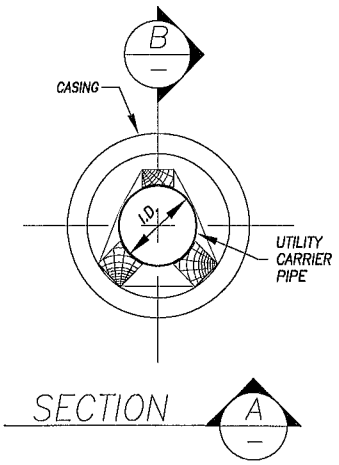


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ACAD REV. 13 FILE: L-3086D

REF. DWGS.

SH. 4 OF 4

ISSUE		
ISSUE 3		
ISSUE 2	5-22-2001	D.D.
ISSUE 1	12-17-99	D.D.

IMPERIAL IRRIGATION DISTRICT
IMPERIAL, CALIFORNIA
WATER DEPARTMENT

UTILITY CROSSING STANDARD DETAILS
UNDER IMPERIAL IRRIGATION DISTRICT(I.I.D.)
DRAIN

DATE 12-17-99 | SCALE NONE | APPROVED
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DWG.No. L-3086

On Project Owner Letterhead

Issuance Date

Imperial Irrigation District Water Department
Attn: Tina Anderholt Shields
333 East Barioni Boulevard
PO Box 937
Imperial, CA 92251

RE: Water Supply Request Letter for Name of Project

Dear Ms. Shields,

The purpose of this letter is to begin the process outlined in the District's Interim Water Supply Policy for Non-Agricultural Projects. In previous discussions with IID staff, a checklist and clarification of the steps in this process were provided. Please accept this letter as the Water Supply Request for the Name of Project. Please evaluate the information given below, and provide the Water Supply Request Response Letter which we will provide to Imperial County as part of the entitlement process.

Project Type: Solar Facility, Educational Facility, Etc
Canal and Gate: Rockwood Canal, Gate 1 D
Water Request Construction (acre-feet per year): 40 AFY
Water Request Operation (acre-feet per year): 40 AFY
Energy Production (if applicable): 40 MW or Not Applicable
Point of Contact: Mr. Jon Smith
123 Main Street
Any City, CA 90000
email@server.com
(000) 123-4567

The proposed water use is for X, Y, Z. Our anticipated construction start date is Month of 2022 which is anticipated to be over a 12-month period. I may also be contacted to discuss the project or answer any questions and can be reached at 000.123.4567. Please provide the response letter at the address listed above, or via email.

Best Regards,

First and Last Name
Title

cc: Justina Gamboa-Arce

Victoria Boyd

From: David Black <DavidBlack@co.imperial.ca.us>
Sent: Thursday, April 28, 2022 1:09 PM
To: Victoria Boyd
Cc: Sergio Cabanas
Subject: FW: QUESTIONS FOR ZOOM MEETING 4/28/22 HELL'S KITCHEN PROJECT

fyi

From: Rosa Soto <RosaSoto@co.imperial.ca.us>
Sent: Thursday, April 28, 2022 10:46 AM
To: David Black <DavidBlack@co.imperial.ca.us>
Cc: Valerie Grijalva <ValerieGrijalva@co.imperial.ca.us>
Subject: FW: QUESTIONS FOR ZOOM MEETING 4/28/22 HELL'S KITCHEN PROJECT

From: Janet Johnson <jjohnson310@verizon.net>
Sent: Thursday, April 28, 2022 10:36 AM
To: Rosa Soto <RosaSoto@co.imperial.ca.us>
Subject: Fwd: QUESTIONS FOR ZOOM MEETING 4/28/22 HELL'S KITCHEN PROJECT

CAUTION: This email originated outside our organization; please use caution.

4/28/2022
HELLO ROSA, I JUST SAW THAT MY EMAIL TO DAVE BLACK FAILED TO REACH HIM. PLEASE GIVE THESE QUESTIONS TO HIM AT THE MEETING!

HERE ARE THE QUESTIONS I SENT TO DAVE BLACK.

PLEASE FORWARD TO ME ANY PERTINENT INFORMATION ABOUT THIS MEETING OR THE PROJECT.

THANK YOU,

JANET JOHNSON

-----Original Message-----
From: Janet Johnson <jjohnson310@verizon.net>
To: daveblack@co.imperial.ca.us <daveblack@co.imperial.ca.us>
Sent: Thu, Apr 28, 2022 10:29 am
Subject: QUESTIONS FOR ZOOM MEETING 4/28/22 HELL'S KITCHEN PROJECT

4/28/2022
HELLO DAVE BLACK, PLANNER AT IMPERIAL COUNTY

MY 1.25 ACRE LOT IS #020-070-060-000. # 22 ON ASSESSOR'S MAP BK.20 PG. 07
IT IS EAST OF AND ADJACENT TO PROJECT OWNER'S PARCELS #60,25, 26,29,AND 55,

WHICH ALL BORDER ON DAVIS ROAD.

1.HOW WILL THE HELL'S KITCHEN PROJECT AFFECT MY PROPERTY? EASEMENTS, UNDER GROUND PIPING, TRUCK TRAFFIC ETC.?

2. ARE MY MINERAL RIGHTS AFFECTED IN ANY WAY?

3. WILL I BE AWARDED ANY ROYALTIES OR COMPENSATIONS FOR THE ACTIVITY NEARBY
WHEN PLANT IS OPERATIONAL?

4. IS THERE ANY ADVANTAGE TO MY PURCHASING ADDITIONAL PARCELS NEAR MINE?

5. WILL I EXPECT TO RECEIVE ANY FUTURE UPDATES FROM YOUR OFFICE--- OR THAT OF THE PROJECT OWNER?

6. HOW DO I LEARN MORE INFORMATION ABOUT THE PROJECT?

7. HOW DO I CONTACT YOUR OFFICE FOR FUTURE QUESTIONS OR CONCERNS?

8. HOW CAN I INVEST MY CAPITAL IN THE PROJECT FOR SHARES OR OTHER MEANS?

THANK YOU FOR YOUR ASSISTANCE.

JANET E. JOHNSON, LAND OWNER

From: Jordan R. Sisson
To: David Black
Subject: Re: Assessment #21-0037
Date: Thursday, April 28, 2022 2:06:38 PM

CAUTION: This email originated outside our organization; please use caution.

David—I tried to go on zoom and the meeting was already over. Was it continued or canceled?

-Jordan

(Dictated from mobile device, please excuse any typos)

> On Apr 28, 2022, at 9:00 AM, David Black <DavidBlack@co.imperial.ca.us> wrote:
>
> Below find zoom meeting information for today's 04 28 22 EEC.
>
> **We will be using Zoom for the upcoming EEC meeting in lieu of the in-person attendance for committee members.**
> **Due to COVID-19, we are requesting all members to attend virtually.**
>
> Below are the different ways to access the meeting via Zoom:
>
> - Simply go to zoom.us, click "Join A Meeting," and enter the following meeting ID and passcode:
>
> <!--[if !supportLists]-->o <!--[endif]-->**Zoom Meeting ID:** 844 5984 3106
> <!--[if !supportLists]-->o <!--[endif]-->**Zoom Passcode:** 923290
>
> - Access the meeting by clicking the link below:
> https://us06web.zoom.us/j/84459843106?pwd=dUdDVVoybnlzRWpTSHpDeURSVVJxQT09
>
> Dial in by calling 1 (669) 900 6833
>
> Thank you,
>
> ---
>
> **From:** jordan@jrsissonlaw.com <jordan@jrsissonlaw.com>
> **Sent:** Wednesday, April 27, 2022 5:00 PM
> **To:** David Black <DavidBlack@co.imperial.ca.us>

Subject: Assessment #21-0037

CAUTION: This email originated outside our organization; please use caution.

Mr. Black—as just discussed, please send me what ever CEQA documentation/application info you may have for the above referenced assessment. I look forward to participating during tomorrow's Zoom meeting. Again, thank you for your time over the phone. Best.

-JRS

JORDAN R. SISSON
Law Office of Jordan R. Sisson
P.O. Box 569
Riverside, CA 92502
Direct: 951-542-2735
jordan@jrsissonlaw.com

PRIVILEGED AND CONFIDENTIAL: This electronic message contains information from the Law Office of Jordan R. Sisson and is attorney work product confidential or privileged. The information is intended solely for the use of the individual(s)or entity(ies) named above. If you have received this transmission in error, please destroy the original transmission and its attachments without reading or saving in any manner.

May 13, 2022

David Black, Planner IV
Imperial County Planning and Development Services
801 Main Street
El Centro, CA 92243
Sent via email: davidblack@co.imperial.ca.us

RE: Notice of Preparation for Hell's Kitchen PowerCo 1 and LithiumCo 1 Project State Clearinghouse No. 2022030704

Dear Mr. Black,

On behalf of Leadership Counsel for Justice and Accountability, we respectfully submit the following comments on the scope and content of the environmental impact report (EIR) for the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project (Hell's Kitchen Project). In particular, we want to highlight specific areas of concern we would like to see included in the environmental review process of the Hell's Kitchen Project. We are also including a letter recently sent to the governor's office with further detail on our concerns related to the lithium extraction and processing procedures. This letter highlights our recommendation that projects must fully analyze impacts related to air and water quality, habitat, and other natural resources, including potential impacts.

Project Description: The Hell's Kitchen Project involves the development of a geothermal power plant that will produce up to 49.9 MW net of geothermal power. It also involves development of mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale. The project will be constructed and operated by Hell's Kitchen PowerCo1 LLC and Hell's Kitchen LithiumCo 1 LLC respectively, both subsidiaries of Controlled Thermal Resources (CTR), and will have shared facilities.

The development area for the Project would be approximately 65 acres, and would consist of the following activities:

- Construction and operation of a 49.9 MW geothermal power plant;
- Construction of well pads with geothermal production and injection wells;
- Construction of pipelines to facilitate the movement of brine between the facilities;
- Construction and operation of a mineral-extraction facility to extract lithium hydroxide, silica, bulk sulfide, and polymetallic products from the geothermal brine;
- Construction and operation of mineral handling and packaging facilities;
- Construction of ingress and egress to the Project site from Davis Road;

- Paving of Davis Road from McDonald Road to Noffsinger Road (approximately 2 miles);
- Construction and operation of a 230 kV gen-tie line and collocated power line; and
- Construction of shared administrative facilities, offices, repair facilities, shipping and receiving facilities, and other infrastructure components.

Affected Environment: We recommend that the Draft EIR include analysis of the following impacts of the affected environment. In addition, there must be robust analysis of direct, indirect and cumulative impacts. In particular, this project is one of three such lithium extraction projects and therefore should examine the cumulative impacts of lithium development on the environment and surrounding communities.

1. Biological Resources: We support the comments made by the Department of Fish and Wildlife in its May 10, 2022 letter.
2. Cultural Resources: We support the comments made by the Native American Heritage Commission in its April 14, 2022 letter.
3. Air Quality: The EIR must include a robust analysis of air quality impacts from the construction and operation of the project, including an analysis of criteria pollutants. In particular, this project must contribute to the remediation of air quality concerns from the playa at the Salton Sea. It is critical for this project to analyze air quality impacts given that this project will impact a region that already suffers from poor air quality.
4. Water Quality/Quantity: The EIR must include a robust analysis of impacts to water quality and water supply from both surface and groundwater from the construction and operation of the project. In particular, we urge an analysis of this project's impacts on the Imperial Irrigation District's (IID) nonagricultural water supply, including an analysis of the cumulative impacts from this project and the other reasonably foreseeable geothermal and lithium extraction projects within IID's service area.
5. Geology and Soils: The EIR must include an analysis of the impacts to the area's geology and soils, including any potential increases in seismic activity and liquefaction.
6. Greenhouse Gas Emissions: The EIR must include an analysis of any additional greenhouse gas emissions caused by the construction and operation of this and other existing and reasonably foreseeable projects.
7. Hazardous Materials/Solid Waste: The EIR must include an analysis of any hazardous materials and solid waste generated by the construction and operation of the project, including the movement and disposal of these materials both on and off-site and any threats to human health or the environment from these materials. This analysis should assess the capacity of the current hazardous materials dump site in Arizona and the risk and impacts of waste spills en route to identified receiving areas.
8. Transportation: The EIR must include an analysis of the impacts created by the project's transportation activity in the community, including impacts from increased truck traffic and an analysis of the cumulative traffic impacts from this project and the other existing

and reasonably foreseeable geothermal and lithium extraction projects within IID's service area.

9. Community/Housing: The EIR must also consider the impacts the Hell's Kitchen Project may have directly on the nearby communities and Salton Sea region as a whole, including indirect impacts to development, displacement, affordability, and housing, among others.

Alternatives: Alternatives to the Project will be especially important to avoid and/or minimize impacts to sensitive biological resources, cultural resources, air and water quality and other affected resources. Adverse impacts to environmental resources and public health should be fully mitigated under CEQA and any corresponding environmental and public health protection statutes. Alternatives may require modification of the Project footprint.

Community engagement: We strongly urge that the development of the EIR includes meaningful and extensive public outreach to and engagement of communities in the Salton Sea, including the Eastern Coachella and Imperial Valleys. It is critical that these communities be included in the evaluation of potential impacts, project design and modification, and any avoidance, minimization and mitigation measures.

Thank you for the opportunity to provide our input to this project. Please keep our organizations on any lists for the distribution of additional information about this project.

Sincerely,

Rebecca Zaragoza
Regional Policy Manager
Leadership Counsel for Justice and Accountability

From:	Lithium Valle
To:	David Black
Cc:	state.clearinghouse@opr.ca.gov
Subject:	NOP comments; EIR for Hell"s Kitchen PowerCo1 and LithiumCo1
Date:	Friday, April 29, 2022 2:27:58 PM

CAUTION: This email originated outside our organization; please use caution.

Hi David,

My name is Luis Gomez and I'm an investigative journalist reporting on lithium projects in the Imperial Valley. I understand that there was a discussion and scoping meeting regarding the Hell's Kitchen power & lithium projects yesterday with very little public input.

However, I'm concerned that the meetings were either not advertised and their recordings have not been made public on the county's website.

Per California's Public Resource Code Section 21092.2, Section 21167(f) and Gov. Code Section 65092, please include me in all emails related to the following matters:

- environmental impact review (EIR) of the Hell's Kitchen PowerCo 1 and LithiumCo 1 projects
- land use entitlements, building and grading permits, main conditional use permit, encroaching permits and zoning variance
- development agreement between the applicant (CTR) and the Imperial County Planning Department.

Thank you. I look forward to seeing your response.

--

Luis Gomez
Editor/Publisher, Lithium Valle
About: Lithium Valle is a weekly newsletter covering developments of lithium recovery in Southern California's Imperial Valley. Join the Facebook Group to get updates and be part of the discussion.

May 4, 2022

The Honorable Gavin Newsom
Governor, State of California
1021 O Street, Suite 9000
Sacramento, CA 95824

RE: Recommendations Regarding Lithium Valley and the Salton Sea Region

Dear Governor Newsom,

On behalf of the the undersigned organizations and community residents working collectively across the State of California to ensure the meaningful protection of the Salton Sea, wildlife, and surrounding communities, we call on you to ensure that any development of the "Lithium Valley" in this region includes the following recommendations:

1. Lithium extraction and processing must not move forward without thoroughly informing the public of its potential impacts.
2. Ensure that no subsequent industrial development and logistics infrastructure negatively impacts public health and the environment.
3. To ensure no harm to the local communities in the Salton Sea region, the state must require full environmental review of lithium development and conformity with environmental laws, including the California Environmental Quality Act (CEQA) and water quality and supply law and policy.
4. "Lithium Valley" development must benefit, and not detrimentally impact the Salton Sea and surrounding communities.
5. Ensure the decision-making process is equitable, inclusive, community-led, and informed by resident priorities and data-based findings.
6. Agreements regarding community and Salton Sea investments and benefits related to "Lithium Valley" must be informed by residents to ensure they meet community priorities.
7. Ensure that a proper allocation from the incentives, royalties and taxes is directed to the Salton Sea to provide habitat restoration, multi-benefit infrastructure, and community amenities as informed by residents.

These recommendations are based on consistent and direct feedback from community residents across the Salton Sea region. We urge you to take this into consideration throughout the process to develop "Lithium Valley" and reflect these recommendations in the final state budget and beyond.

1. **Lithium extraction and processing must not move forward without a full and transparent assessment of potential impacts to health and safety.**

Advocates and community residents have asked continuously for detailed information on the potential impacts of lithium extraction and subsequent development. Concerningly, agency and industry interests have responded to these questions by offering a comparison to other lithium extraction practices around the world or describing it as a closed-looped system without offering a detailed description of the lithium extraction process proposed in the region and its potential impacts. This level of detail and information is not adequate to make informed decisions. There must be an accessible and transparent practice for sharing information derived from data and non-biased sources.

Prior to moving forward with programs, incentives, and policies that encourage and facilitate lithium extraction, the state must provide to the public in a timely manner accurate and accessible information regarding lithium and geothermal energy, potential risks and impacts to public health and the environment of lithium extraction and subsequent uses, and a subsequent strategy for putting in place mitigation measures that will eliminate any potential impacts.

2. **Ensure that no subsequent industrial development and logistics infrastructure negatively impacts public health and the environment.**

The federal, state, and local government has proposed development of a localized supply chain, including vehicle manufacturing, battery manufacturing, recycling facilities, expanded geothermal energy facilities, and the transportation of material as complementary development to Lithium and other mineral extraction. However, to date, there has not been any review, analysis or public consideration of the impacts from these developments.

The Salton Sea region is a direct neighbor of the Inland Empire that already experiences significant environmental and public health impacts due to the massive logistics industry. This region serves as a prime example of how industries can harm low-income communities and communities of color in particular. While this development brings the promise of new jobs, we have seen in the Inland Empire that these jobs tend to be of poor quality, low wages, and only temporary sources of employment that are also rapidly being automated. Residents across the Inland Empire have fought courageously to protect their communities and prevent this industry from further polluting their neighborhoods. We fear that the expansion of the logistics industry into the Coachella Valley and the southern border region will compound the environmental and public health crises, and chronic underinvestment in the region that we are already facing.

Further, the localized supply and manufacturing chain will have a dramatic increase in critical air pollutants in a region already severely impacted by poor air quality. As described in the Environmental Impact Report for Energy Sources ATLiS project, “[b]oth project construction and operations have potential to create emissions that result in a cumulative considerable net increase of criteria pollutants which the region is in federal and state nonattainment, namely O3,

PM10, and PM2.5."[1] As AB 617 communities and a region classified as nonattainment for various criteria air pollutants, we must prevent future air quality deterioration.[2]

To avoid negative impacts to communities, the state and local government must review and analyze the scope of environmental and public health impacts from the full lifecycle of lithium extraction and processing and ensure that this review and analysis is transparent to the public and provides for meaningful public input. Furthermore, it is important to ensure that there is active and adequate monitoring of any and all impacts to air quality and all monitoring data must be made publicly accessible to the local community.

3. **To ensure no harm to the local communities in the Salton Sea region, the state must require full environmental review of lithium development and conformity with environmental laws, including the California Environmental Quality Act (CEQA) and water quality and supply law and policy.**

We believe that the health and protection of people and the environment must come first. Therefore, all components of lithium development in this region must be thoroughly researched and disclosed to the public to understand the potential impacts from this new industry and ensure that land use, economic, and environmental decisions are made in a fully informed and transparent manner.

Due to these uncertainties around the impacts from lithium development, we do not support any executive or legislative action that undermines the environmental review process for any current or future projects or proposals regarding the development of Lithium Valley and geothermal energy expansion. For example, we urge the state to reject the request from Imperial County for an exemption for individual lithium-related projects from CEQA that denies a robust analysis of the direct, indirect and cumulative impacts of lithium development and other related lithium production and processing development.[3] To set a precedent for all industrial development to operate transparently and fully comply with the necessary environmental review process, we urge you to require all geothermal and lithium-related proposals to comply with all state policies and laws, including CEQA.

In the midst of an ongoing drought and drinking water crisis in this state, we are concerned that water use for lithium extraction may have unintended or unknown consequences. While industry representatives have stated that there will be minimum related impacts on groundwater quality or quantity in the region from lithium extraction and processing, we note that the extraction process is experimental and that the potential impacts are not well understood. Consequently, it is important to ensure that any water used for lithium extraction complies with all state and federal laws and policy, including but not limited to the reasonable and beneficial use doctrine, the Porter-Cologne Water Quality Control Act, the Sustainable Groundwater Management Act, the

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[1]ChamberGroup Inc,. *FINAL ENVIRONMENTAL IMPACT REPORT FOR THE ENERGY SOURCE MINERAL ATLIS PROJECT IMPERIAL COUNTY, CALIFORNIA*,
https://www.icpds.com/planning/environmental-impact-reports/final-eirs/hudson-ranch-simbol-ii-feir
[2] California Air Resource Board, *Maps of State and Federal Area Designations*,
https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations
[3]Imperial County, *Lithium Valley Economic Opportunity Investment Plan (Imperial County LVIP)*,
https://efiling.energy.ca.gov/GetDocument.aspx?tn=241584&DocumentContentId=75550

state and federal Antidegradation Policy, the Nonpoint Source Policy, Clean Water Act, and the Public Trust Doctrine.

Furthermore, it is important to ensure that there is active and adequate monitoring of any and all impacts to groundwater for all beneficial uses of that water that includes close monitoring of our aquifers to ensure there are no adverse impacts to the basins. All monitoring data must be made public and accessible to the local community.

4. **"Lithium Valley" development must benefit, and not detrimentally impact the Salton Sea and surrounding communities.**

In addition to the protection of public health and communities across the region, we must think about the direct and indirect consequences that geothermal energy expansion and lithium extraction may have on the Salton Sea. The state has considerable responsibilities in ensuring that the receding Salton Sea does not create further negative impacts on public health and, in fact, provide benefits to the surrounding communities and the wildlife that rely on these resources. This also means that "Lithium Valley" development efforts must not allow or cause further harm to the Salton Sea itself. There is currently an opportunity for "Lithium Valley" development efforts to collaborate with the ongoing work of the SSMP to restore the sea and develop projects that will further protect public health, support wildlife, create habitat, suppress dust, and create infrastructure targeted at community needs.

The Salton Sea is critical to geothermal energy production, and the recession of the sea has played a key role in opening up geothermal extraction zones, as it exposed areas that were previously inaccessible for lithium extraction opening up over one gigawatt of developable geothermal energy generation.[45] It remains unclear whether lithium extraction from geothermal brine will depend on the continued recession of the sea, especially at the proposed levels of extraction. The state must guarantee that the geothermal energy and lithium extraction projects will not accelerate further recession of the Salton Sea and instead be conducted in a manner that is consistent with and furthers SSMP and community projects.

5. **Ensure decision-making is equitable, inclusive, community-led, and informed by resident priorities and data-based findings.**

The State of California is working to quickly advance the commercialization of lithium to meet its climate, electrification, and renewable energy goals. While we support and commend the state's work to combat climate change through electrification, the state has failed to lead accessible and transparent educational and decision-making processes that include community residents as part of this effort. It is vital for California to set a precedent by initiating a standard of comprehensive community engagement that prevents future harm to all environmental justice communities from energy production.

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[4] Stringfellow, William T., and Patrick F. Dobson. "Technology for the Recovery of Lithium from Geothermal Brines." Energies 14.20 (2021): 6805.

[5] Kaspereit, Dennis, et al. "Updated conceptual model and reserve estimate for the Salton Sea geothermal field, Imperial Valley, California." Geotherm. Res. Council Trans 40 (2016): 57-66.

An ongoing issue is the lack of clarity behind the roles and responsibilities of stakeholders engaged in this process which has greatly impacted the ability of community residents to know where and how to engage. This highlights a concerning lack of accountability to local communities regarding "Lithium Valley". Not only should roles and responsibilities be clear for the California Energy Commission (CEC), the Lithium Valley Commission (LVC), local jurisdictions, industry leaders, elected officials, the Governor's Office, and the Biden Administration but also for community residents, stakeholders, and community-based organizations.

Our understanding is that the LVC is required to produce a report in October to inform the state's and local government decision making regarding the future of this industry. We, therefore, urge state and local leaders to establish a more transparent and inclusive process that allows communities to engage meaningfully that results in outcomes (e.g. the LVC report, environmental review process, land use decisions, and community benefit agreements) that captures resident concerns and recommendations.

While having local community-based organizations represent the environment and communities around the Salton Sea region on the LVC, it is important to acknowledge the difference between community representation and community engagement. It is vital to directly and meaningfully engage residents in a manner that allows for a fluid conversation and uses extensive outreach tactics, including an accessible forum for continuous feedback.

We expect the state to ensure that the report is comprehensive, accurate, and inclusive of recommendations and concerns that have been actively and intentionally solicited by community members. Any program or policy designed to facilitate and accelerate lithium extraction prior to the release of the LVC's report and prior to fulfilling the considerations listed above is premature.

6. **Agreements regarding community and Salton Sea investments and benefits related to the "Lithium Valley" must be informed by residents to ensure they meet community priorities.**

The ultimate goal of the "Lithium Valley" effort is to implement a just and equitable transition to clean energy. We do not support the potential harm that this effort might impose on the surrounding communities.While we appreciate the language in the Governor's proposed budget related to community benefits, community engagement, and high environmental and labor standards, we do not see evidence currently of a meaningful and inclusive process to inform the design of community benefits or due diligence to ensure adequate environmental protection.The state must ensure the development of enforceable community benefits agreements that include community-identified priorities related to environmental and public health as well as economic development and climate resiliency.

Additionally, the State should only move forward with incentivizing lithium extraction in the Salton Sea region if residents likely to be impacted by projects support such action following robust and effective community engagement that produces community-identified priorities, as outlined above.

7. **Ensure that a proper allocation from the incentives, royalties and taxes is directed to the Salton Sea to provide habitat restoration, multi-benefit infrastructure, and community amenities as informed by residents.**

There has also been discussion between state and local governments around generating revenue sources from fees, royalties and/or taxes on lithium production. Any revenue generating proposal–whether it is state and/or local–must include enforceable commitments that a substantial portion of this funding will be directed to the communities impacted by lithium development, including the Salton Sea. Further, there must be mechanisms put into place to ensure that there is a meaningful process for these communities to have input into how these funds are expended. Finally, we strongly urge that a portion of these funds be directed toward creating a sustainable revenue stream for the operations and maintenance of SSMP projects. To date, the state has failed to identify a funding source to operate and maintain these projects over the long-term, which has been a source of considerable concern by local communities since we worry that projects constructed by the state will not have sufficient resources beyond the first few years of operation.

* * * * *

Thank you for the opportunity to provide our recommendations. We look forward to working with your administration and other partners as these efforts progress to address community concerns and priorities and center sustainability and equity in the Salton Sea region.

Sincerely,

Mariela Loera
Policy Advocate
Leadership Counsel for Justice and Accountability

Rebecca Zaragoza
Regional Policy Manager
Leadership Counsel for Justice and Accountability

Erin Woolley
Policy Advocate
Sierra Club California

Michael Cohen
Senior Associate
Pacific Institute

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Ryan Sinclair
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Youth Leadership Institute

Sahara Huazano
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Lilian Garcia
Salton City Resident
Executive Officer of United For Justice Inc.

Carolina Macknight
North Shore Resident

Ed Luna
Mecca Resident

Rosario Sabala
Coachella Resident

Manuela Ramirez
Thermal Resident

Cecilia Dora Tapia
Salton City Resident

Irene Hernandez
Salton City Resident

Elizabeth Jaime
North Shore Resident

Stephanie Ambriz
Coachella Resident

Danny Torres
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Lithium Valley Commission

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Lina Vugutsa Malova
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Kourtney Vaccaro
California Energy Commission
Commissioner

Secretary Wade Crowfoot
California Natural Resources Agency

Joaquin Esquivel
State Water Resource Control Board
Chair of Board

Paul Gosselin
Deputy Director for Sustainable Groundwater Management
Department of Water Resources

Karla Nemeth
Director
Department of Water Resources

Liane M. Randolph
California Air Resources Board
Chair of Board

Jared Blumenfeld
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James C. Hanks
President Imperial Irrigation District Board
Lithium Valley Commission

Ryan E. Kelly
Imperial County District #4
Vice-Chair, Lithium Valley Commission

V. Manuel Perez
Riverside County District #4

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April 14, 2022

RECEIVED
APR 25 2022
IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

David Black, Planner IV
Imperial County Planning and Development Department
801 Main Street
El Centro, CA 92243

Re: 2022030704, Hell's Kitchen PowerCo 1 and Lithium Co1 Project, Imperial County

Dear Mr. Black:

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

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

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

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

AB 52

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

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

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

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

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

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

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

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

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

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

SB 18

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

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

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

NAHC Recommendations for Cultural Resources Assessments

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

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

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

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

Office of the
Agricultural Commissioner
Sealer of Weights and Measures

Carlos Ortiz
Agricultural Commissioner
Sealer of Weights and Measures

Jolene Dessert
Asst. Agricultural Commissioner
Asst. Sealer of Weights and Measures

October 19, 2021

Landscaper/Nursery

This letter is to remind you of the requirements you must follow for movement of plant material into Imperial County. There are many quarantines which must be observed. The most complex is for the glassy-winged sharpshooter and detailed directions for compliance follow. However, there are a few other quarantines that you should be aware of and they are listed at the end of this letter.

There is a State Interior Quarantine in place to prevent artificial movement of the glassy-winged sharpshooter (GWSS). The GWSS is a hardy insect which feeds on many common landscape plants and crops. It carries and spreads *Xylella fastidiosa*, a bacterium which is deadly to many plants. Imperial County is the only Southern California County that is not infested with the glassy-winged sharpshooter, and is designated as an enforcing county.

A summary of the quarantine requirements for entry of GWSS-host nursery stock from infested counties:

- Nursery stock must be purchased from a nursery that is under Compliance Agreement with the Agricultural Commissioner's office in that County. The plants should enter Imperial County with paperwork that includes the GWSS Compliance Agreement Number stamp, the required blue tag (see below), and Certificate of Quarantine Compliance (CQC) if applicable.

- Every shipment of nursery stock from an infested county must be accompanied by a Warning Hold for Inspection Certificate also known as a blue tag. As stated on the blue tag, this requires the receiver to hold the shipment off sale upon arrival and call our office for an inspection. It is very important that we be notified immediately upon arrival of the plant shipment. You must not commingle the new shipment with previously-released nursery stock until released by our office. Our office hours are Monday through Friday, 8:00 AM to 5:00 PM. Please call as early as possible. If you intend to bring in plants on a Saturday or Holiday, you must notify our office in advance.

- Landscapers that have their own growing ground or holding yard where they store nursery stock are required to be licensed as a nursery. Landscapers that do not hold or store that stock prior to its delivery to the planting site do not need a license.

- All landscapers must comply with the requirements listed above for every shipment brought into the County. You also must hold the stock at its destination (preferably away from other plants) and call our office for an inspection - you may not plant any of the nursery stock until the plants have been inspected and released by our office. If you are buying and transporting nursery stock into Imperial County, it is your responsibility to obtain the required documents from the origin nursery and call for the inspection upon arrival.

- For every shipment, you must have a proof of ownership document for the nursery stock.

Penalties for failure to comply with the quarantine requirements listed above:

- Any violation of quarantine requirements is an infraction punishable by a fine of $1,000 for the first offense. For a second or subsequent offense within three years, the violation is punishable as a misdemeanor (Food and Ag Code, Section 5309).

- In lieu of any civil action, the Agricultural Commissioner may levy a civil penalty for up to $2,500 for each violation (Food and Ag Code, Section 5311).

- In addition to any other action taken, any violation of these requirements may be liable civilly in an amount not to exceed $10,000 for each violation (Food and Ag Code, Section 5310).

- Anyone that negligently or intentionally violates any quarantine regulation and imports a GWSS-infested plant that results in an infestation, or the spread of an infestation, may be civilly liable in an amount up to $25,000 for each violation (Food and Ag Code, Section 5028(c)).

Other restricted plant materials (if you intend to bring in any of the following commodities from outside Imperial County please contact us before the shipment date):

- Citrus species – All Citrus species are restricted from most locations within California.

- Phoenix palms – All palms of the Phoenix genus (this includes *Phoenix roebelinii*, a common landscape plant) originating in California are prohibited, unless it is from certain portions of Riverside County.

- Florida nursery stock- Must comply with California State Interior Quarantine CCR. 3271 Burrowing and Reniform Nematodes, RIFA federal Quarantine and other quarantines may apply.

- Arizona nursery stock- Must comply with California State Interior Quarantine CCR. 3261 Ozonium Root Rot.

- Also, if you intend to remove any plants from the soil and ship them out of Imperial County you must be certified free from Ozonium Root Rot. To do so you must be part of our program and you should contact our office.

If you have any questions please contact our office at (442) 265-1500.

Sincerely,

Nelson Perez
Deputy Agricultural Commissioner
Pest Detection and Eradication

Office of the
Agricultural Commissioner
Sealer of Weights and Measures

Carlos Ortiz
Agricultural Commissioner
Sealer of Weights and Measures

Jolene Dessert
Asst. Agricultural Commissioner
Asst. Sealer of Weights and Measures

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PLANNING & DEVELOPMENT SERVICES

Pest Management Plan Requirements for Solar Projects

The Project Shall:

- Maintain a Pest Management Plan until reclamation is complete.
- Develop and implement a Pest Management Plan that will reduce negative impacts to surrounding (not necessarily adjacent) farmland.
- Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business.
- "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, biocontrol, cultural control, or chemical treatments.
- Use of "permanent" soil sterilants to control weeds or other pests is prohibited due to the fact that this would interfere with reclamation.
- Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture (CDFA) and the United States Department of Agriculture (USDA). Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests will be done under the direction of the Agricultural Commissioner's Office and/or CDFA.
- Obey all pesticide use laws, regulations, and permit conditions.
- Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties.
- Ensure that all project employees that handle pest control issues are appropriately trained and certified, that all required records are maintained and available for inspection, and that all permits and other required legal documents are current.
- Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.
- Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request.

Reimbursement

- The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.

(442) 265-1500 • fax: (760) 353-9420
agcom@co.imperial.ca.us
852 Broadway Street, El Centro, CA 92243
agcom.imperialcounty.org

Office of the
Agricultural Commissioner
Sealer of Weights and Measures

Carlos Ortiz
Agricultural Commissioner
Sealer of Weights and Measures

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Valerie Grijalva

From: Philip Arklin <pha81249@gmail.com>
Sent: Wednesday, April 27, 2022 6:49 AM
To: ICPDSCommentLetters
Subject: Hell's Kitchen Power and Lithium Project

Follow Up Flag: Follow up
Flag Status: Flagged

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APR 27 2022
IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

CAUTION: This email originated outside our organization; please use caution.

Imperial County Environmental Evaluation Committee

Planning and Services Dept.,
County of Imperial

To the committee in regards to:

Hell's Kitchen Power and Lithium projects
CUP #'s 20-0020 & 20-0021 &
V 21-0004 & 21-0005

I have had a home on 376 west Pound Rd for over 30 years, I am not the one to stand in the way of progress, however, I have enjoyed the peace and quiet until you started drilling on Alcott and Davis.

The noise was deafening and I could not sit outside. The location is home to the rare vermillion fly catcher and the rare black tail kite, plus hundreds of other various birds, where people from all over the country come to view.

Now with the noise and the traffic I doubt if this will continue.

Millions of gallons of fossil fuels are used to create this so called green energy. Trucks, service trucks, tractors, heavy equipment and generators, to name a few.

The employees and truck drivers seem to have no regards to the safety and speeds on these country dirt roads.

I challenge anybody to live near one of these facilities, none of you would like to have a house near one these noisy facilities.

I would appreciate any mitigation, including, but not limited to, the closure of pound road to this traffic and not working on weekends. Please have some regards to human and wildlife.

Sincerely,
Phil Arklin

Oasis Sanctuary

PS: You're invited to sit on my porch during one of these operations.

BRING EAR PLUGS

1.0 INTRODUCTION

This Air Quality Technical Report has been prepared for the proposed Hell's Kitchen PowerCo 1 (HKP1) and Hell's Kitchen LithiumCo1 (HKL1) Projects (proposed project) in Imperial County, California. To support the HKP1 and HKL1 Environmental Impact Report (EIR), three air quality analyses were conducted: construction emissions inventories, operational emissions inventories, and dispersion modeling to support an ambient air quality standards analysis.

Hell's Kitchen PowerCo 1 LLC proposes to develop the HKP1 Project and Hell's Kitchen LithiumCo 1 LLC proposes to construct and operate the HKL1 Project in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). The projects will be constructed by different entities, have different project objectives, and will be operated by separate entities as separate projects; however, the projects are considered connected actions under the California Environmental Quality Act (CEQA). Imperial County is the CEQA Lead Agency with authority for issuing the Conditional Use Permits for the projects.

HKP1 and HKL1 are located approximately 3.6 miles west of the community of Niland, adjacent to Davis Road, south of Noffsinger Road and north of Pound Road, near the eastern shore of the Salton Sea (Figure1). Both facilities are located within CTR's lease area from IID and on lands owned by CTR. The gen-tie/power line will be located east of Davis Road and north of McDonald Road within IID's transmission line right-of-way (ROW) and partially within new ROW. The proposed project is located within Sections 11 and 12 of Township 11 South, Range 13 East, as shown on the Niland USGS 7.5' quadrangles, San Bernardino Base Meridian.

The HKP1 Project involves the generation of up to 49.9 MW of geothermal power and will deliver the power to Imperial Irrigation District (IID) via an approximately 2-mile-long, 230-kilovolt (kV) generation tie (gen-tie) line, which will interconnect with IID facilities at the existing Hudson Ranch Interconnect Station. The HKP1 project will include a total of seven wells for production. In addition to the wells and gen-tie alignment, the project will include geothermal fluid pipelines; power production and brine processing facilities; a brine pond; administration buildings, laboratories and control rooms, operations and maintenance buildings, and warehouses; and a water storage pond along Davis Road.

The HKL1 facility will utilize geothermal brine produced from the neighboring HKP1 project site for the commercial production of lithium hydroxide, silica, bulk sulfide, and polymetallic products. The HKL1 Project will also include a power line co-located on the same transmission poles as the HKP1 gen-tie line, to supply power to Project facilities. Other HKL1 facilities include a cooling tower and cooling and

flocculation building, brine supply and return pipelines and processing facilities, ion exchange systems, product handling facilities, and offloading and storage tanks. The HKL1 administration building, laboratory, maintenance shop, and warehouses will be shared with the HKP1 Project and will be built as part of the HKP1 facility. The water storage pond will also be shared between the two facilities.

Emissions estimates were prepared to determine both short-term construction and long-term operational impacts, and calculations were made using standard industry models and federal, state, and locally approved methodologies. The air quality analysis was developed based on the Imperial County Air Pollution Control District (ICAPCD) *CEQA Air Quality Handbook*.[1] Dispersion modeling analysis was prepared in accordance with United Stated Environmental Protection Agency (USEPA) *Guideline on Air Quality Models.*[2]

Air quality impacts were determined for USEPA criteria pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 micrometers (coarse particulate or PM_{10}), and particulate matter less than 2.5 micrometers (fine particulate or $PM_{2.5}$).

The Imperial County is designated "nonattainment" for state and federal ozone and coarse particulates (PM_{10}) air quality standards and for the federal fine particulates ($PM_{2.5}$) air quality standards. The ambient air quality analysis addressed all of the fundamental components of an air dispersion modeling analysis including model selection and options, receptor locations, meteorological data, terrain data, building downwash effects, and source release characteristics. The American Meteorological Society/USEPA Regulatory Model Improvement Committee Model ("AERMOD" Version 21112) was used. Dispersion modeling results were compared to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) for CO. There are no sensitive receptors within two miles of the proposed project; therefore, a health risk assessment was not conducted. However, the hazardous air pollutant emissions associated with the proposed project were disclosed for informational purposes.

The following sections discuss existing air quality for the setting in which the proposed project is to be located, as well as applicable air quality standards and regulations; the significance of potential air quality impacts, as determined using appropriate thresholds; and mitigation measures, as necessary, to reduce air quality impacts.

---

1 Imperial County Air Pollution Control District, CEQA Air Quality Handbook, December 12, 2017, https://apcd.imperialcounty.org/wp-content/uploads/2020/01/CEQAHandbk.pdf

2 United States Environmental Protection Agency, Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W, January 2017.

The supporting information, methodology, and assumptions used in the construction air emissions inventory, operational air emissions inventory, and air dispersion modeling are provided in:

- **Attachment A: Construction Air Emissions Inventory Supporting Data**
- **Attachment B: Operational Air Emissions Inventory Supporting Data**
- **Attachment C: Air Quality Dispersion Modeling Methodology and Assumptions**

2.0 PROJECT OVERVIEW

The proposed project is located in Imperial County near the eastern shore of the Salton Sea (refer to **Figure 1** and **Figure 2**). The proposed geothermal power facilities will be immediately west of Davis Road and south of Noffsinger Road in Imperial County, California. The gen-tie line will be east of Davis Road and north of McDonald Road, within IID's transmission right-of-way and a new right-of-way. The project is approximately 3.6 miles west from the Town of Niland (**Figure 1)**. The project development and the proposed gen-tie right-of-way is shown on **Figure 2** and **Figure 3**. The HKP1 power generation facilities will be located southwest of the intersection of Noffsinger Road and Davis Road. A security fence will be installed around both the HKP1 and HKL1.

DRAFT

Figure 1 Project Location Map

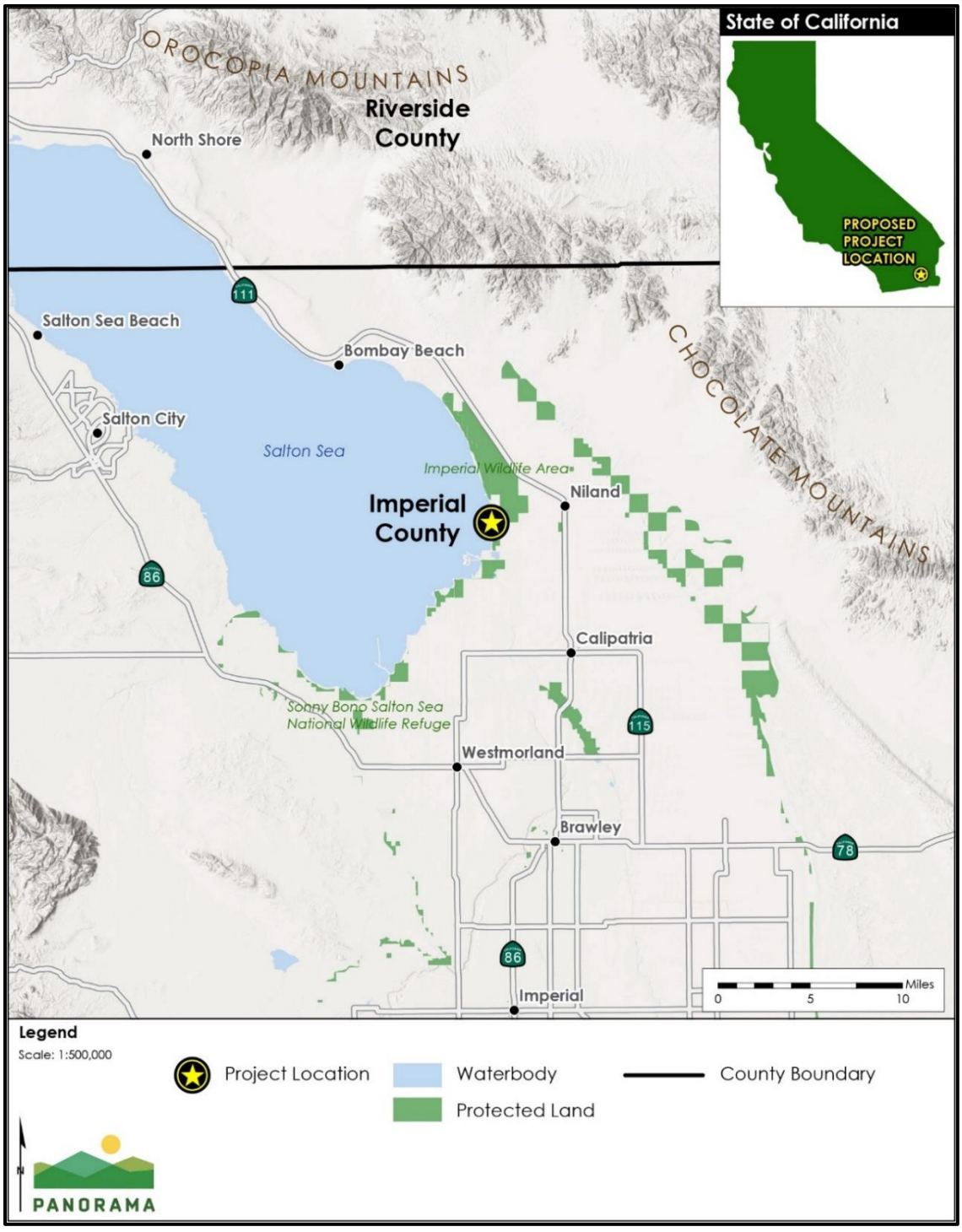


Figure 2 Project Area Map

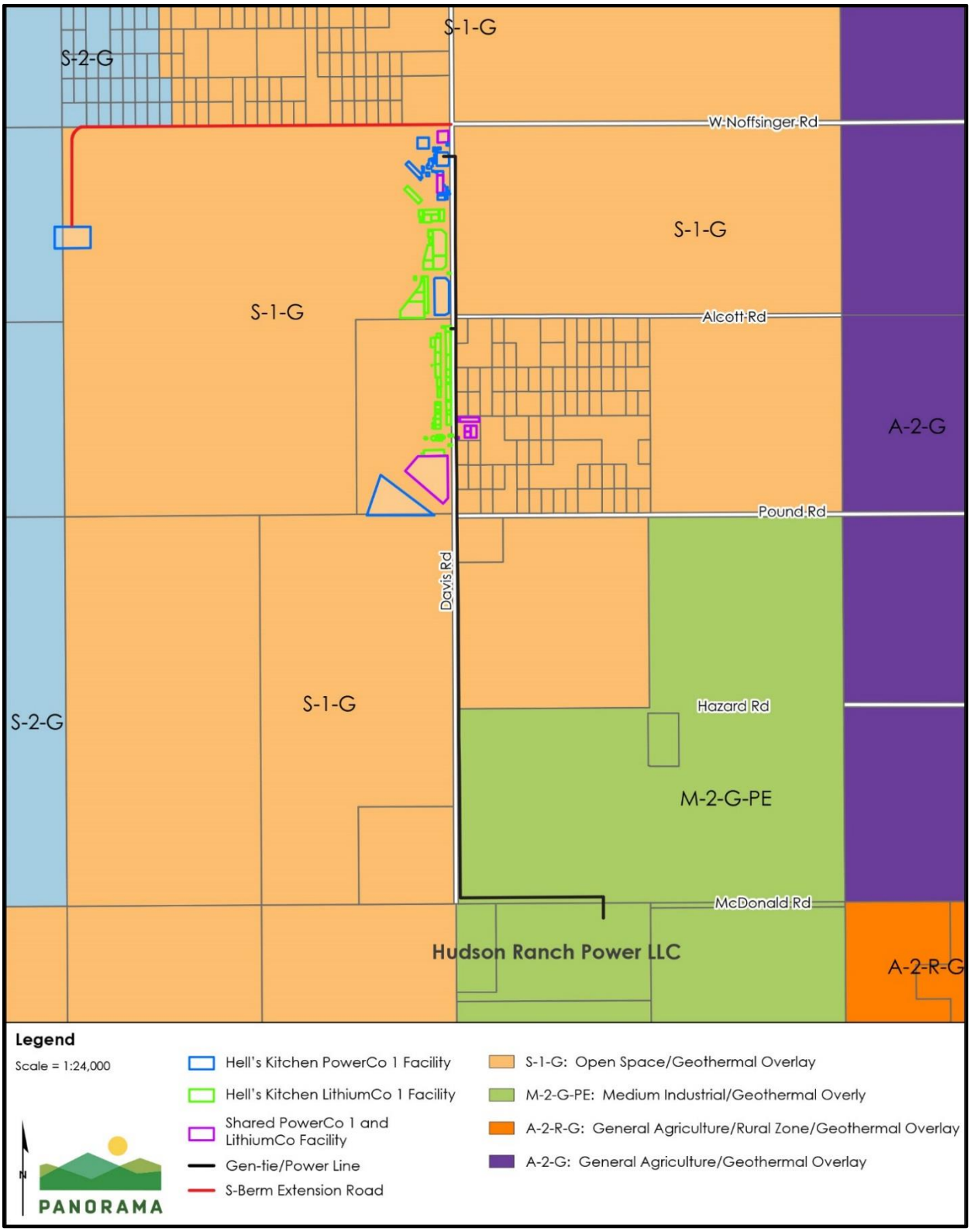
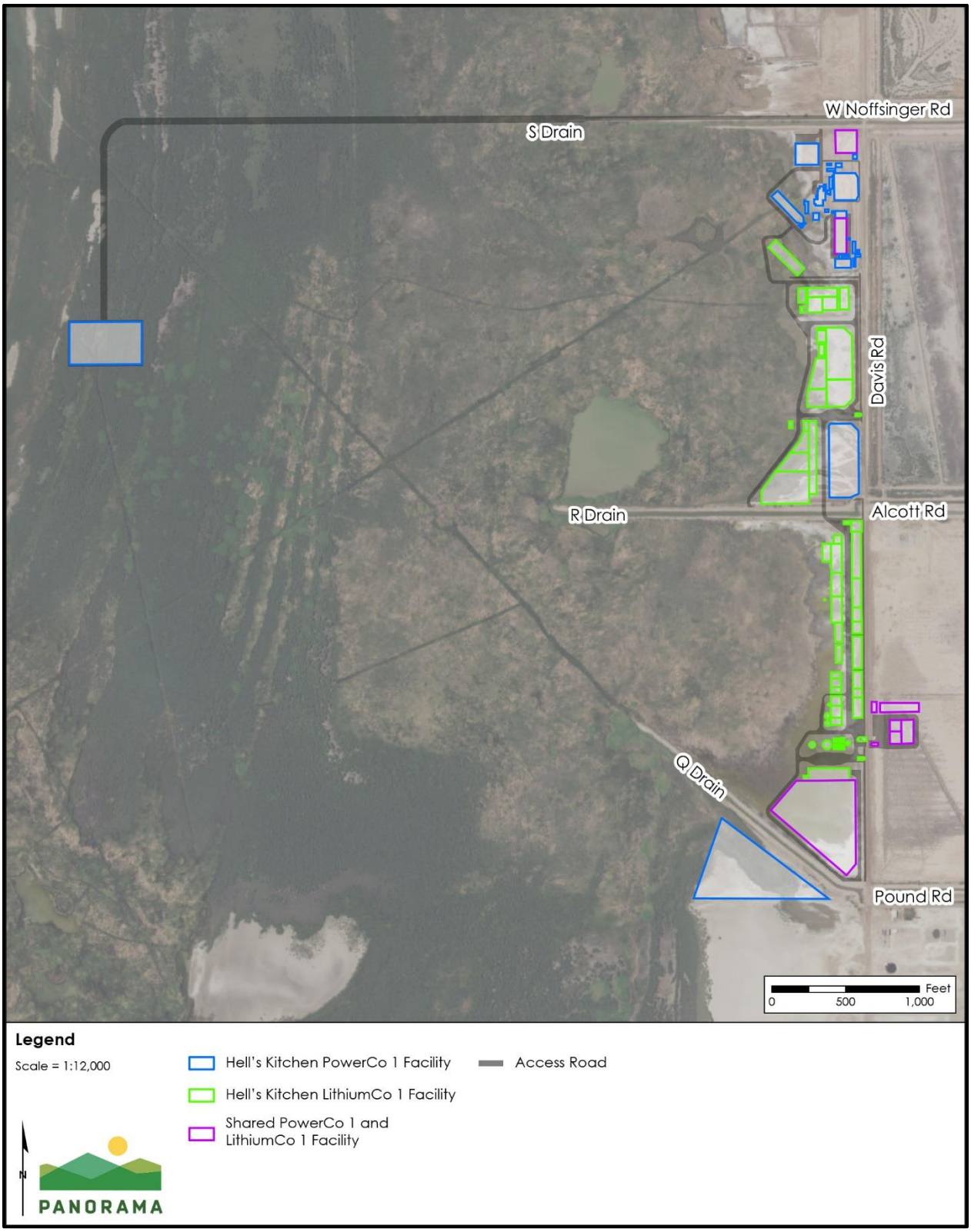


Figure 3 Project Site Location



Hell's Kitchen PowerCo 1

HKP1 will be a single-flash power plant, using a single-pressure, axial exhaust-condensing, steam turbine generator set, capable of producing up to 55.3 megawatts electric (MWe) (gross), 49.9 MW net. The horizontal brine separator will receive produced brine, delivered from the production wells, and will separate a high-pressure steam fraction from the brine. The steam will be purified using a scrubber and demister system before being admitted into the axial exhaust-condensing steam turbine. The liquid brine in the separator will be injected back into the geothermal reservoir. The turbine exhaust steam will be condensed to form geothermal condensate, which may be used as make-up water in the cooling tower, to minimize the water consumption of the facility. HKP1 includes the following components:

- Geothermal power plant, which includes:
  - Production and injection wells and well pads
  - Geothermal fluid production and injection pipelines
  - Brine processing facility and brine pond
  - 49.9 MW net geothermal turbine generator facility including heat rejection system
  - Material and equipment storage
  - Control Building
  - Administrative and warehouse buildings
  - Water storage pond and water storage tank
  - On-site substation
- 230-kV gen-tie line to the IID interconnect station located at Hudson Ranch

HKP1 will be accessed from Davis Road via new ingress/egress driveways that will be constructed during construction of the power facilities. Davis Road will be upgraded with an aggregate base during project construction. Project-related traffic typically will access the site from Highway 111 via McDonald Road and Davis Road. A security fence will be installed around both the HKP1 and HKL1 facilities.

Brine Processing Facility

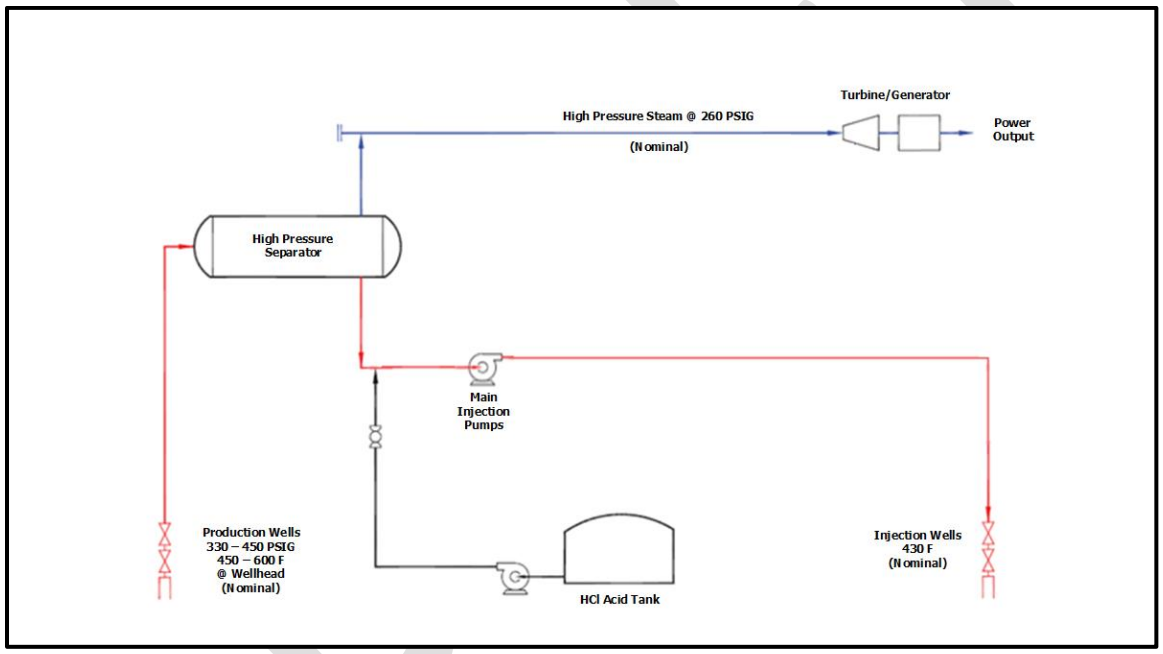
The brine processing facility will prepare the geothermal fluid that is produced from the production wells for steam extraction. The geothermal fluid will be delivered through above ground pipelines to the brine processing facility. The spent brine will be injected back into the geothermal reservoir through injection wells.

A pH modification system will be installed if silica management is necessary to prevent scaling in either surface equipment or injection wellbores. The pH modification system will involve injection of dilute

hydrochloric acid (HCl) into the brine stream, exiting the high-pressure separator at a rate to establish a known bulk fluid pH value. The pH modification system will consist of a concentrated acid storage tank, acid transfer pumps, a diluted acid storage tank, diluted acid injection pumps, and an injection nozzle to distribute the diluted acid into the brine injection pipeline. Concentrated HCl (approximately 32 percent by weight) will be delivered to the project site by truck for storage. The concentrated acid will be mixed with service water to create a diluted acid solution (approximately four percent by weight). If necessary, for silica management, this diluted acid solution then will be injected into the brine pipeline between the high-pressure separator and the brine injection pumps. The process will utilize HCL tanks of 20,000 gallons and 75,000 gallons. HCl storage tanks will include scrubbers with 100 percent control efficiency.

A process flow diagram is provided to illustrate fluid movement through the brine processing facility (**Figure 4**).

Figure 4 Brine Processing Flow Diagram



Source: (John Matthew Engineering, 2014)

Turbine Generator Facility

Steam from the high-temperature geothermal fluid in the brine-handling facilities will be delivered to the turbine generator facility. The turbine generator facility will include a 49.9 MW (net) condensing turbine/generator set, a gas removal and emission abatement system, and a heat rejection system (i.e., condenser and cooling tower). The steam will be purified using a scrubber and demister, before being admitted into the condensing steam turbine. The turbine will be directly coupled to a totally enclosed water and air-cooled synchronous-type generator. The turbine-generator unit will be fully equipped with

all the necessary auxiliary systems for turbine control and speed protection, lubricating oil, gland sealing, generator excitation, and cooling. Facilities associated with the turbine generator facility will include a control building, a service water storage tank, a lube oil skid, and other ancillary facilities.

A three-MW diesel generator will be installed to provide black start[3] capability and emergency site power when the steam turbine generator is shut down. The time required for startup of the plant is approximately 72 hours when the plant has been completely shut down (cold startup) and all brine flow to the plant has been secured for an extended period. This event is projected to occur approximately once per year. During plant start-up or load rejection (i.e., plant trip offline), steam to the turbine will be diverted to a rock muffler for safe venting as is currently the procedure at the existing geothermal power plants in the Salton Sea area. An 800-kW emergency generator will be installed, to provide backup power for critical instrument and equipment control power.

The fire protection system will consist of an underground fire main and surface distribution equipment, such as yard hydrants and hose houses, monitors around the perimeter of the cooling tower, automatic sprinklers for the turbine generator and auxiliary equipment, and a complete detection and alarm system. The firewater supply and pumping system will provide an adequate quantity of fire-fighting water. Two diesel fire pumps (250 hp each) will support the fire protection system.

The generators are expected to operate less than 600 hours per year. Typically, the generators will operate for 50 hours per year and no more than two hours per day during testing and maintenance. The diesel engines will meet California Air Resources Board (CARB) air pollutant emission limits.

Heat Rejection and Noncondensible Gas Removal Systems

The heat rejection system will include a shell-and-tube-type condenser, a counterflow cooling tower, and a noncondensible gas (NCG) removal system. The cooling tower, NCG removal system, and condenser design will be similar to those used at other geothermal power plants at the Salton Sea. Steam from the turbine will be condensed in the condenser. The geothermal steam condensate from the condenser will be collected in an aeration tank and used as a source of make-up water for the cooling tower. Gases that accumulate in the condenser will be evacuated by the NCG removal system. NCG will be pressurized and vented to a hydrogen sulfide (H_2S) abatement system during normal plant operation.

During plant startup or load rejection (i.e., plant trip offline), steam to the turbine will be diverted to a rock muffler for safe venting, like the current procedure at the existing geothermal power plants in the

3 Black start service is the capability of generating units to start without an outside electrical supply or the demonstrated ability of a generating unit to automatically remain operating at reduced levels when disconnected from the grid.

Salton Sea KGRA. During this time, H_2S and other NCG (such as benzene and ammonia) will be released to the atmosphere.

A combination of best available control technology, best management practices, and process monitoring equipment will be used to minimize air emissions from the power plant facilities. Permits to construct and operate the facility will be obtained from the ICAPCD.

Hydrogen Sulfide Abatement System

H_2S gas is a naturally occurring compound found in Salton Sea geothermal brines. To minimize H_2S from being released to the atmosphere and to meet permitted requirements during routine operations, the proposed project will employ proven abatement systems. The H_2S abatement system effectively oxidizes the gas to a sulfate (SO_4^{2-}) which is highly soluble, and then returns the sulfate product to injectate streams via the cooling tower blowdown process.

Non-condensable gases (NCG), including H_2S, are removed from the main condenser through a series of steam powered air ejectors, vacuum pumps, and compressors.[4] Once the gas stream is pressurized, it is sent to a sparging system located in the cooling tower basin where the H_2S reacts with H_2S abatement chemicals to oxidize the sulfide to sulfate. The sulfate product is injected into the reservoir with cooling tower blowdown.

In addition, condensate flowing from the main condenser will be routed to a tank where oxygen will be introduced, along with oxidizing chemicals. This process will oxidize any remaining H_2S gas to soluble sulfate. The treated condensate then will be introduced to the cooling tower basin as a source of make-up water. The sulfate product subsequently will be injected into the reservoir as cooling tower blowdown.

Hell's Kitchen Lithium 1 Project Description

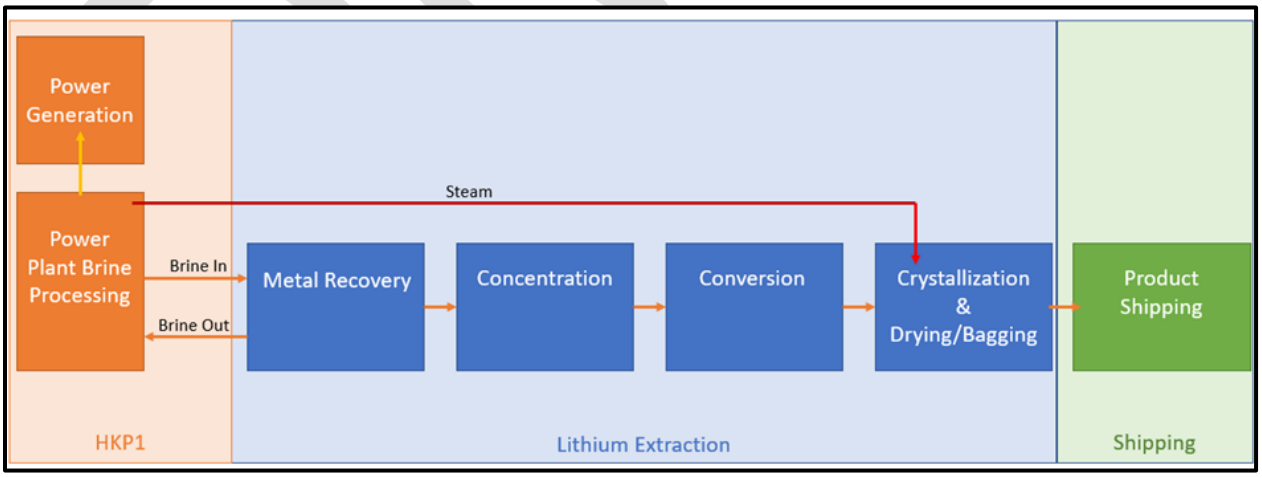
HKL1 will consist of mineral extraction and processing facilities capable of producing commercial quantities of lithium hydroxide monohydrate ($LiOH \bullet H_2O$) or a dry lithium product, silica, bulk sulfide, and polymetallic products. HKL1 will include brine supply and return pipelines to process geothermal brine from HKP1. The project will also include an interconnecting power line, which will be installed on the transmission structures with the HKP1 generation tie line, to supply power to project facilities. The production operations will consist of lithium extraction as lithium chloride (LiCl), concentration of LiCl, conversion and processing of LiCl to lithium hydroxide, and drying and packaging of lithium products, which are also summarized in a flow diagram (**Figure 5)**. The production processing steps may be altered

4 Non-condensable gases, such as sulfur oxides, carbon dioxide, methane, ammonia, hydrogen sulfide, hydrogen, are the gaseous emissions that are found dissolved in the geothermal brine.

over time as production methods and efficiencies evolve and new or revised product lines are developed at the facility. The process includes the following facilities:

- a cooling tower
- truck security entrance
- a cooling and flocculation building
- brine crystallizers, clarifiers, thickeners, and filter presses
- a lithium recovery resin vessel and systems
- raw water filtration, fire water storage, and reverse osmosis facilities
- electrical buildings to house electric power switchgear and electrical metering
- reagent storage and preparation buildings
- two motor control centers and a control room building
- lithium product handling and packaging buildings (that will house the filtration and drying equipment for the lithium products and bagging and palletizing of finished products)
- polymetallic product handling facilities
- bulk sulfide product handling facilities
- silica product manufacturing facilities
- bulk boron product handling facilities
- two lime silos
- hydrochloric acid offloading and storage tanks
- a reverse osmosis water treatment facility

Figure 5 Lithium Processing Flow Diagram



After processing of the geothermal brine, the depleted brine will be returned to HKP1. A pipe rack will be constructed from the HKL1 project's process area to the HKP1 project site. A geothermal brine delivery

pipeline from HKP1 will feed brine to the project's process area. Steam/steam-condensate pipelines also will be constructed on the pipe rack. The depleted brine will be delivered post-processing to the HKP1 injection system, for reinjection into the geothermal reservoir.

The geothermal brine delivery and return pipelines will be constructed with minimal use of flanged connections, to reduce the potential for pipeline leaks. Automatic valves will be integrated into the pipeline system, which will close or divert the geothermal brine in the event of a pipeline issue, to minimize the size of any potential spill. An Emergency Response Plan will be prepared, and this plan will be implemented if a fluid spill occurs.

The lithium extraction areas will be constructed on concrete pads with a containment curb. The lithium extraction processing areas will consist of a series of interconnected tanks and pipelines.

The HKL1 process will include the following steps:

- brine cooling
- silica, bulk sulfide, and polymetallic product production
- lithium and metals extraction
- concentration of lithium extraction
- processing of lithium extractant to lithium hydroxide
- drying and packaging of lithium and polymetallic products
- off-site product shipping

Metal Recovery

Geothermal brine from HKP1 will feed two parallel vacuum flash brine cooling trains, sized for the full operating flow of approximately five million pounds per hour. The cooled brine will be fed to the minerals extraction process. Silica, bulk sulfide, and polymetallic products will be extracted from the brine, using proprietary technology. Silica, bulk sulfide, and polymetallic products will be filtered and shipped off-site in roll-off bins. The process will include soda ash and lime grits handling. A LiCl product stream also will be produced, using a proprietary extraction process. The LiCl will be processed in the subsequent lithium process steps.

Lithium Production

The LiCl product stream will be concentrated and purified. The purified, concentrated LiCl will be transported via pipeline from the lithium purification/concentration operation to the lithium product production buildings. Proprietary technology will be used to convert the LiCl into a $LiOH \bullet H_2O$ product.

The $LiOH•H_2O$ product stream will be crystallized and transported to a lithium product handling, production and warehouse building where the crystals will be separated from the lithium-rich process fluid in a filtration system. $LiOH•H_2O$ crystals will be dried and packaged in bulk bags. Packaging is expected to be into 20 kilogram (kg) bags or into 1,000 kg super sacks.

Product Shipping to Offsite Markets

HKL1 will produce multiple products for offsite shipment to market by truck. The average annual amount of product shipped out of the plant operating at 5,000,000 pounds per hour brine flow capacity is estimated at approximately 5,100 pounds per hour dry lithium product ($LiOH•H_2O$), 3,100 pounds per hour silica, 9,800 pounds per hour bulk sulfide and 60,000 pounds per hour polymetallic products. All products will be transported by freight truck on existing roadways to shipping distribution point(s).

Backup Standby Generator

An 800-kW emergency generator will be installed to provide backup for HKL1 control power. The emergency generator will operate for 50 hours per year and no more than two hours per day during testing and maintenance. The diesel engine will meet CARB air pollutant emission limits.

3.0 ANALYSIS METHODOLGY

Intermittent (short-term construction emissions that occur from activities, such as site-grading and building construction) and long-term air quality impacts related to the operation of the proposed project were evaluated. Regulatory models used to estimate air quality impacts include:

- California Air Pollution Officers Association (CAPCOA) CalEEMod (California Emissions Estimator Model Version 2020.4.0)[5] land use emissions model estimates emissions due to demolition and construction activities and operations for land use development.
- California Air Resources Board's (CARB) EMFAC[6] emissions inventory model. EMFAC is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This model reflects CARB's current understanding of how vehicles travel and how much they emit. EMFAC can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future.

5 California Air Pollution Officers Association, *California Emissions Estimator Model User's Guide*, May 2021, http://www.aqmd.gov/caleemod/home

6 California Air Resources Board, EMFAC2021 User's Guide, January 15, 2021, https://arb.ca.gov/emfac/

- CARB OFFROAD[7] emissions inventory model. OFFROAD is the latest emission inventory model that calculates emission inventories and emission rates for off-road equipment such as loaders, excavators, and off-road haul trucks operating in California. This model reflects CARB's current understanding of how equipment operates and how much they emit. OFFROAD can be used to show how California off-road equipment emissions have changed over time and are projected to change in the future.

- South Coast Air Quality Management District (SCAQMD) Guidelines for Calculating Emissions from Cooling Towers (dated December 2014)[8] and New Mexico Environmental Department, Calculating TSP, PM_{10} and $PM_{2.5}$ from Cooling Towers, September 9, 2013.[9]

- American Meteorological Society/USEPA Regulatory Model (AERMOD). AERMOD (Version 21112) is an atmospheric dispersion model which can simulate point, area, volume, and line emissions sources and has the capability to include simple, intermediate, and complex terrain along with meteorological conditions and multiple receptor locations.[10,11] AERMOD is commonly executed to yield 1-hour maximum and annual average concentrations (in parts per million or ppm and micrograms per cubic meter or $\mu g/m^3$) at each receptor. AERMOD is used to estimate air concentrations at nearby receptors resulting from the activities associated with an air emission source (such as construction equipment).

4.0 EXISTING CONDITIONS

The proposed project is located within the unincorporated area of the Imperial County in southeastern California. Imperial County encompasses the southern half of the Salton Sea Air Basin (SSAB). The proposed project is situated about 3.6 miles west-southwest of the community of Niland, California.

Meteorological Conditions

Imperial County is one of the hottest and driest parts of California and is located in a region best described as a low latitude desert characterized by hot, dry summers and relatively mild winters. Average annual

7 California Air Resources Board, OFFROAD Instructions, https://arb.ca.gov/emfac/emissions-inventory/b775cf6dbceb3e54cc827e7b0c4fb169397d8c92

8 South Coast Air Quality Management District, Guidelines for Calculating Emissions from Cooling Towers, December 2014, http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/guidelines-for-calculating-emissions-from-cooling-towers.pdf

9 New Mexico Environmental Department, Calculating TSP, PM_{10} and $PM_{2.5}$ from Cooling Towers, September 9, 2013, https://www.env.nm.gov/wp-content/uploads/sites/2/2019/10/PermittingGuidanceforCoolingTowerParticulateEmissions.pdf

10 United States Environmental Protection Agency Preferred/Recommended Models, AERMOD Modeling System, Air Quality Dispersion Modeling - Preferred and Recommended Models | US EPA

11 Title 40 CFR Part 51, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule.

precipitation is less than three inches. Daily average temperature in winter ranges between 65 and 75ºF. During winter months it is not uncommon to record maximum temperatures of up to 80ºF. Summers are extremely hot with daily average temperature ranges between 104 and 115ºF, with maximum temperatures up to 120ºF.

During the summer, due to the presence of the Pacific high-pressure zone off the coast of California, a thermal trough develops over California's southeast desert region. The intensity and orientation of the trough varies from day to day. Although the mountainous terrain surrounding the Imperial Valley inhibits air circulation, the influence of the trough does permit some inter-basin exchange of air with coastal locations through the mountain passes. Relative humidity in the summer is very low, averaging 30 to 50 percent in the early morning and 10 to 20 percent in the afternoon. During the hottest part of the day, a relative humidity level below 10 percent is common. However, the effect of extensive agricultural operations in the widely irrigated Imperial Valley tends to increase local humidity. The prevailing weather conditions promote intense heating during the day in summer, with marked cooling at night. The wind direction follows two seasonal patterns. During the fall, winter, and spring, regional winds tend to come from the northwest. These originating prevailing winds are known to be from the Los Angeles area. During the spring and summer, Imperial County experiences occasional periods of extremely high wind speeds; wind statistics indicate prevailing winds are from the west-northwest through southwest, and a secondary flow maximum from the southeast is also evident.

Local Air Quality

The ICAPCD and CARB maintain a network of several ambient air quality monitoring stations in Imperial County. The purpose of the monitoring network is to measure air pollutant levels and demonstrate compliance with applicable ambient standards. As indicated previously, Imperial County is currently designated as being in nonattainment for ozone and PM_{10} with respect to NAAQS and CAAQS, and for $PM_{2.5}$with respect to NAAQS.

Generally, the closest upwind monitor should be selected, with preference to the monitor that has the most similar characteristics to the area for the source under consideration. The closest monitoring station to the proposed project site is located at 7711 English Road in the Town of Niland (ID 06-025-4004). While both ozone and PM_{10} are measured at the Niland air monitoring station; none of the other criteria pollutants are monitored at this station. The Imperial monitoring station, located at El Centro-9th Street (ID 06-025-1003), monitors NO_2, PM_{10}, $PM_{2.5}$ and ozone. The Palm Springs monitoring station, located at FS-590 Racquet Club Avenue (ID 06-065-5001), monitors CO, NO_2, PM_{10}, $PM_{2.5}$, and ozone. **Table 1 Air Quality Data Summary** shows a summary of the monitoring data for these pollutants for years 2020 through 2022 with ozone and PM_{10} measurements from the Niland air monitoring station, NO_2 and $PM_{2.5}$

measurements from the Imperial air monitoring station, and CO measurements from the Palm Springs air monitoring station. Reflective of the regional PM_{10} nonattainment, the PM_{10} concentrations at the Imperial monitoring station exceed the ambient air quality standards.

Table 1
Air Quality Data Summary (2020 - 2022)

Pollutant	Standard[s]	Monitoring Data by Year		
		2020	*2021*	*2022*
Ozone				
Highest 1 Hour Average (ppm)	0.09	0.054	0.065	0.07
Highest 8 Hour Average (ppm)	0.07	0.045	0.065	0.062
Particulate Matter (PM_{10})				
Highest 24 Hour Average ($\mu g/m^3$)	50	**239**	**210**	**469**
State Annual Average ($\mu g/m^3$)	20	**35.8**	**39.2**	**47.3**
Particulate Matter ($PM_{2.5}$)				
Highest 24 Hour Average ($\mu g/m^3$)	35	28.5	19.1	22.1
State Annual Average ($\mu g/m^3$)	12	9.80	8.28	8.70
Nitrogen Dioxide (NO_2)				
Highest 1 Hour Average (ppm)	0.180/0.100	0.0448	0.0558	0.0513
Days over State Standard	—	0	0	0
Annual Average (ppm)	0.030/0.053	0.00815	0.00673	0.00696
Carbon Monoxide (CO)				
Highest 1 Hour Average (ppm)	20.0	0.8	0.8	1.1
Days over State Standard	—	0	0	0
Highest 8 Hour Average (ppm)	9.0	0.5	0.4	0.5
Days over State Standard	—	0	0	0

*Notes: Values in **bold** are in excess of at least one applicable standard.*
Generally, State and national standards are not to be exceeded more than once per year.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
Source: United States Environmental Protection Agency, AirData, https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors

The ICAPCD has addressed each of three nonattainment pollutants in separate State Implementation Plans (SIP). For ozone the most current SIP is the Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard (2017 Ozone SIP), which was prepared to detail measures to reduce ozone precursors (i.e., ROG and NOx) within the County in order to meet the 2008 NAAQS for 8-hour ozone standard of 0.075 parts per million (ppm) by July 20, 2018. Although the Ozone 2017 SIP demonstrates that the County met the 8-hour ozone standard of 0.075 ppm by the July 20, 2018, requirement, it should be noted that in 2015 the USEPA further strengthened its 8-hour ozone standard to 0.070 ppm, which will require an updated SIP for the County to meet the new ozone standard.

Since PM_{10} in the County has met the 24-hour NAAQS other than for exceptional events that include storms as well as from substantial PM_{10} concentrations blowing into the County from Mexico, the most current PM_{10} plan is the Imperial County 2018 Redesignation Request and Maintenance Plan for PM_{10} (2018 PM_{10} Plan). The 2018 PM_{10} Plan shows that the monitoring of PM_{10} in the County found that other than exceptional events, no violation of the 24-hour PM_{10} NAAQS of 150 µg/m^3 occurred over the 2014 to 2016 time period. As such, the ICAPCD has requested the USEPA to redesignate the Air Basin to maintenance.

For $PM_{2.5}$ the most current SIP is the Imperial County 2018 Annual $PM_{2.5}$ State Implementation Plan (2018 $PM_{2.5}$ SIP), which was prepared to detail measures to meet the 2012 NAAQS for the annual $PM_{2.5}$ standard of 12 µg/m^3 by the end of 2021 for the portion of Imperial County (approximately from Brawley to Mexico border) that is designated nonattainment. The $PM_{2.5}$ Plan found that the only monitoring station in the County that has recorded an exceedance of $PM_{2.5}$ is the Calexico Monitoring Station and that the exceedance is likely caused by the transport of $PM_{2.5}$ across the border from Mexico. It is anticipated that the ICAPCD will submit a redesignation request for $PM_{2.5}$ in the near future.

Nearby Sensitive Receptors

Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive to poor air quality than the general public because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB and SCAQMD have identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience.

No sensitive receptors are within two miles of the proposed project. Therefore, a health risk assessment is not required.

5.0 REGULATORY CONTEXT

The USEPA has established the NAAQS under the Clean Air Act (CAA) for six common air pollutants known as "criteria pollutants."[12] These air pollutants consist of CO, NO_2, ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), SO_2, and lead (Pb). An ambient air quality standard establishes the concentration above which the pollutant is known to cause adverse health effects to sensitive groups within the population such as children and the elderly. Ambient air quality standards are classified as either "primary" or "secondary" standards. Primary standards define levels of air quality, including an adequate margin of safety, necessary to protect the public health. Secondary ambient air quality standards define levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. The ambient air quality standards are shown in **Table 2: State and National Criteria Air Pollutant Standards, Effects, and Sources**.

Under the federal CAA, USEPA designate air basins where NAAQS are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there are inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." Areas where air pollution levels persistently exceed the State or national ambient air quality standards are designated "nonattainment." Federal nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Imperial County is in nonattainment status for the federal ozone, PM_{10}, and $PM_{2.5}$; and in attainment for the federal CO, NO_2, and SO_2.[13]

CARB manages air quality, regulates mobile emissions sources, and oversees the activities of county and regional Air Pollution Control Districts and Air Quality Management Districts. CARB regulates local air quality indirectly by establishing State ambient air quality standards and vehicle emissions and fuel standards; and by conducting research, planning and coordinating activities. California has adopted ambient standards (known as CAAQS) that are more stringent than the federal standards for some criteria air pollutants. Under the California Clean Air Act patterned after the CAA, areas have been designated as attainment or nonattainment with respect to the State standards. With respect to the CAAQS, Imperial County is in nonattainment for ozone and PM_{10} and is in attainment for CO, NO_2, $PM_{2.5}$, lead, and SO_2.[14]

The major sources of particulate matter in Imperial County are fugitive windblown dust, with other contributions from entrained road dust, farming, and construction activities. The ozone concentrations are due primarily to transport from the South Coast Air Basin.

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12 United States Environmental Protection Agency, Six Common Air Pollutants, Criteria Air Pollutants | US EPA

13 United States Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants, https://www.epa.gov/green-book

14 California Air Resources Board, Area Designations Maps/State and National, http://www.arb.ca.gov/desig/adm/adm.htm

Table 2
State and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.07 ppm	– 0.070 ppm	High concentrations can directly affect lungs, causing irritation. Long–term exposure may cause damage to lung tissue.	Formed when reactive organic gases and nitrogen oxides react in the presence of sunlight. Major sources include on–road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide (CO)	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9.0 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline–powered motor vehicles.
Nitrogen Dioxide (NO_2)	1 Hour Annual	0.18 ppm 0.03 ppm	0.10 ppm 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish–brown.	Motor vehicles, petroleum–refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide (SO_2)	1 Hour 3 Hour 24 Hour Annual	0.25 ppm – 0.04 ppm –	0.075 ppm 0.5 ppm 0.14 ppm 0.030 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM_{10})	24 Hour Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 –	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume–producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind–raised dust and ocean sprays).
Fine Particulate Matter ($PM_{2.5}$)	24 Hour Annual	– 12 µg/m^3	35.0 µg/m^3 12.0 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including nitrogen oxides, sulfur oxides, and organics.
Lead (Pb)	Month Rolling 3 Month	1.5 µg/m^3 –	– 0.15 µg/m^3	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present sources: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

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Source: Ambient Air Quality Standards, https://ww2.arb.ca.gov/resources/background-air-quality-standards

Criteria Air Pollutants and Air Toxics

The following provides a summary of the potential health and welfare effects and typical sources of each of the criteria air pollutants and air toxics.

Ozone

Ozone (or O_3) is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. O_3 is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving VOC and NO_x. VOC and NO_x are known as precursor compounds for O_3. Substantial ozone production generally requires O_3 precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. O_3 is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of VOC and NO_x under the influence of wind and sunlight. O_3 concentrations tend to be higher in the late spring, summer, and fall, when long sunny days combine with regional air subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds.

Carbon Monoxide

CO is a nonreactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood–burning stoves and fireplaces. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground–level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity, resulting in reduced levels of oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California, but in more recent years, CO measurements and modeling are not a priority in most California air districts due to the retirement of older vehicles, fewer emissions from new vehicles, and improvements to fuels.

Nitrogen Oxides

When combustion temperatures are extremely high, as in aircraft, truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen. Nitric oxide (NO) and NO_2

are the most significant air pollutants generally referred to as NO_x. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO_2 and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema. Inhaling NO_2 can lead to respiratory illnesses such as bronchitis and pneumonia.

Volatile Organic Compounds

VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. VOC include a variety of chemicals, some of which may have short- and long-term adverse health effects. VOC are emitted by a wide array of products numbering in the thousands. Examples include paints and lacquers, paint strippers, cleaning supplies, building materials and furnishings, as well as fuel storage and use.

VOC can cause eye, nose, and throat irritation; headaches, loss of coordination, nausea; and damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic, to those with no known health effect. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. Eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics.

Particulate Matter

PM_{10} and $PM_{2.5}$ consist of airborne particles that measure 10 micrometers or less in diameter and 2.5 micrometers or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, wood burning stoves and fireplaces, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition, construction activities and mining, are more local in nature, while others such as vehicular traffic and wood burning stoves and fireplaces, have a more regional effect.

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 micrometers) settles out rapidly and is easily filtered by human breathing passages. This dust is of

concern more as a soiling nuisance rather than a health hazard. The remaining fractions, PM_{10} and $PM_{2.5}$, are a health concern particularly at levels above the federal and California ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus penetrate to the deepest parts of the lungs.

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health. The CARB has estimated that achieving the ambient air quality standards for PM_{10} could reduce premature mortality rates by 6,500 cases per year.

Sulfur Dioxide

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 atmospheric sulfate and particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead

Lead has a range of adverse neurotoxin health effects and was released into the atmosphere via leaded gasoline products. The phase-out of leaded gasoline in California has resulted in dramatically decreased levels of atmospheric lead. Metal processing is currently the primary source of lead emissions in the SCAB. The highest concentrations of lead in air are generally found near lead smelters and general aviation airports; where piston aircraft use leaded fuel. Other stationary sources that generate lead emissions include waste incinerators, utilities, and lead-acid battery manufacturers. The maximum lead concentrations recorded in the project area is below federal and California standards. Notably, diesel fuel does not contain lead emissions and gasoline fuel is unleaded.

Sulfates

Sulfates are the fully oxidized ionic form of sulfur produced when sulfur dioxide is fully oxidized in the atmosphere. Sulfates are produced by emissions from automobiles, power plants, and industrial activity, and contribute to general atmospheric haziness. Typical health effects associated with exposure to sulfates include respiratory illness and an increased risk of cardio-pulmonary disease.

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Vinyl Chloride

Vinyl chloride is an artificially created colorless gas with a mild, slightly sweet odor. The gas is used in the manufacture of vinyl products, including polyvinyl chloride (PVC) plastic. Vinyl chloride emissions are produced from the vinyl manufacturing process as well as from the breakdown of vinyl products in landfills and hazardous waste sites. The health effects associated with vinyl chloride include dizziness, headaches, and drowsiness from short-term exposure, and liver damage and cancer resulting from long-term exposure.

Hydrogen Sulfide

H_2S is a naturally occurring, colorless gas that at low concentrations produces a distinctive rotten egg odor. At higher concentrations, olfactory fatigue prevents detection of odor. The gas is produced through the bacteriological breakdown of organic materials as well as during oil and gas production and geothermal power generation. Health effects associated with H_2S include exposure to a disagreeable odor, coughing, irritation to eyes, and impairment of the respiratory system.

Visibility Reducing Particles

Visibility reducing particles are particulate matter composed of many different substances that are suspended in the atmosphere and contribute to haze and diminished visibility.

Toxic Air Contaminants

Non-criteria air pollutants or toxic air contaminants are airborne substances that can cause short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TAC include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TAC includes approximately 240 compounds, including particulate emissions from diesel-fueled engines and asbestos.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines as TAC. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*[15] and *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines.*[16] The document represents a proposal to reduce diesel particulate emissions, with the goal to reduce emissions

15 California Air Resources Board, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, October 2000, https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf

16 California Air Resources Board, Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, October 2000, https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rmgfinal.pdf

and the associated health risk by 75 percent in 2010 and 85 percent in 2020.[17] The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low sulfur diesel fuel on diesel-fueled engines.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases. This definition includes both solid and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon; heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons (PAH) found in diesel exhaust. Diesel particulates include small nuclei particles of diameters below 0.04 micrometers (µm) and their agglomerates of diameters up to 1 µm. DPM is a major factor in total TAC exposure in California.

California State Law defines TAC as air pollutants having carcinogenic effects. A total of 243 substances have been designated as TAC under California law; they include the 187 (federal) hazardous air pollutants (HAP) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources but AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures.

Benzene is a colorless, flammable liquid with a pleasant, sweet odor that evaporates quickly when exposed to air. Benzene is produced naturally through geothermal processes, as a component of petroleum and natural gas, and as a byproduct of burning wood and other plant matter. Anthropomorphic sources of benzene include use as an ingredient in solvents and as an additive to gasoline.

HCl is a colorless liquid with a pungent odor, or a colorless to slightly yellow gas, commonly used in the chemical, mining, water treatment, waste management, and food industries, among others. HCl is one of the most corrosive of the non-oxidizing acids in contact with copper alloys and is handled in dilute solutions. It is soluble in benzene, alcohol, and ether; it is insoluble in hydrocarbons, and incompatible or reactive with metals, hydroxides, amines, and alkalis. HCl fumes have an acid, penetrating odor. Inhalation of the spray mist may produce severe irritation of the respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

17 Generally, there was a 60 percent reduction in health risks from 2005 through 2015, based on the SCAQMD Multiple Air Toxics Exposure Study.

Ammonia is another substance of concern for the proposed project. Ammonia is listed neither as a criteria air pollutant, TAC, or HAP. Ammonia is a widely used strongly alkaline chemical which can be volatile. The proposed project would produce ammonia from the geothermal reservoir by operation of the geothermal wells and subsequent use of geothermal brine. No storage of ammonia would be involved as a result of the projects' operations. Ammonia vapors cause irritation of the eyes and the respiratory tract. Higher concentrations cause conjunctivitis, laryngitis, and pulmonary edema, possibly accompanied by a feeling of suffocation.

Ammonia also is responsible for neutralizing a large fraction of acidic gases promoting the formation of atmospheric particles. The USEPA recommends monitoring of ammonia gas for identifying when $PM_{2.5}$ formation in an area that is limited by ammonia or nitric acid. However, under ICAPCD Rule 101, ammonia is not listed as a precursor or a secondary pollutant. Further, similar geothermal projects analyzed in Southern California have recognized that although these reactions could occur, there is not sufficient evidence to demonstrate that the concurrence of all conditions necessary for particulate formation from geothermal wells operations is supported by meteorological and other data.

Federal Clean Air Act and California Clean Air Act

The Clean Air Act of 1970 (CAA) (42 United States Code [U.S.C.] §§7401-7641) (last amended by the Clean Air Act Amendments of 1990 [104 Stat. 2468, P.L. 101-549]), defines the USEPA's role in managing air quality in the United States. Under the CAA, the USEPA promulgated the NAAQS (40 CFR Part 50), setting limits on the acceptable ambient air concentrations for each of the federally identified criteria air pollutants.

Similar to the CAA, the California Clean Air Act of 1988 (CCAA) (Stats. 1988, Ch. 1568) requires all air quality planning regions to achieve and maintain the CAAQS by the earliest date practicable. The CCAA also requires that air quality regions that have failed to meet the CAAQS work with the CARB to prepare State Implementation Plans (SIPs) demonstrating when and how the CAAQS will be met.

California Air Resources Board

The CARB, a part of the California Environmental Protection Agency (Cal/EPA), is responsible for interpreting and implementing state statutes that manage air pollution. CARB gathers air quality data for the State of California, ensures the quality of these data, designs and implements air models, sets ambient air quality standards for the state, compiles the state's emissions inventories, and performs air quality and emissions inventory special studies. CARB is responsible for monitoring the regulatory activity of California's 35 local and regional air pollution control districts. These districts regulate stationary

emissions sources (i.e., industrial pollution sources), issue air quality permits, develop local air quality plans, and ensure that industries under their jurisdiction adhere to air quality mandates.

Imperial County Air Pollution Control District

The ICAPCD is the local air pollution control agency for Imperial County, which includes the southern half of the SSAB. The ICAPCD has primary responsibility for ensuring that state and federal air quality standards are attained and maintained within the ICAPCD's jurisdiction. To that end, the ICAPCD is responsible for preparing clean air plans, issuing construction and operation permits, monitoring ambient air quality, and promulgating rules and regulations governing air quality within Imperial County. The ICAPCD has also produced California Environmental Quality Act (CEQA) guidelines that include significance thresholds for determining potential impacts to air quality from operational and construction related gas emissions. Rules and regulations promulgated by the ICAPCD applicable to the proposed project include the following:

- ICAPCD Rule 207.C.1, New and Modified Stationary Source Review (best available control technologies [BACT]), requires that any new or modified emissions unit that has a potential to emit 25 pounds per day or more of any nonattainment pollutant or its precursors, or 55 pounds per day of H_2S, must include best available control technology (BACT) as a part of the project.

- ICAPCD Rule 207.C.2, New and Modified Stationary Source Review (Offsets), requires the purchase of offsets for facility emissions of criteria air pollutants in excess of 137 pounds a day.

- ICAPCD Rule 400, Nuisances, forbids the emission of air contaminants or other materials that would cause a nuisance to the public, including non-agricultural related odors.

- ICAPCD Regulation VIII, Rule 801 (Construction and Earthmoving Activities) requires the implementation of a dust management control plan for all non-residential projects of five acres or more.

- ICAPCD Rule 900, Major Stationary Source Permits, Rule 900 implements the requirements of Title V of the federal CAA as amended in 1990 for permits to operate. Title V provides for the establishment of operating permit programs for sources which emit regulated air pollutants, including attainment and nonattainment pollutants.

6.0 THRESHOLDS OF SIGNIFICANCE

The thresholds of significance applied to assess project-level air quality impacts (see **Table 3**) are:

- Daily construction emissions of 75 pounds per day of ROG, 100 pounds per day of NO_x, 150 pounds per day of PM_{10}, and 550 pounds per day of CO

- Daily operational emissions of 137 pounds per day of ROG and NOx, and 150 pounds per day of PM_{10} and SO_x, and 550 pounds per day of CO and $PM_{2.5}$

The ICAPCD has developed a tiered approach to significance levels; a project with emissions qualifying it for Tier I thresholds (i.e., all projects with emissions greater than zero) should require the most basic mitigation. Projects that qualify for Tier II (i.e., all projects with emissions greater than the significance thresholds) should require more extensive mitigation. If unmitigated emissions exceed significance thresholds, then there is a potentially significant impact; if mitigated emissions still exceed the significance thresholds, then there is a significant and unavoidable impact.

Any proposed residential, commercial, or industrial development with a potential to emit less than 137 pounds per day of NOx or ROG; less than 150 pounds per day of PM_{10} or SOx; or less than 550 pounds per day of CO or $PM_{2.5}$ may potentially have an adverse impact on local air quality relative to the Tier I significance thresholds.

Any proposed residential, commercial, or industrial development with a potential to meet or exceed the 137 pounds per day of NOx or ROG; 150 pounds per day of PM10 or SOx; or 550 pounds per day of CO or $PM_{2.5}$ is considered to have a significant impact on regional and local air quality relative to the Tier II significance thresholds.

Table 3
ICAPCD Significance Thresholds (pounds per day)

	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Construction	75	550	100	150	--	--
Operation	137	550	137	150	550	150

Source: Imperial County Air Pollution Control District CEQA Air Quality Handbook.

- Exposure of persons by siting a new source or a new sensitive receptor to substantial levels of TAC resulting in (a) a cancer risk level greater than 10 in one million and (b) a noncancerous risk (chronic or acute) hazard index greater than 1.0. For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers

- Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people

While final determination of whether or not a project is significant relies on the responsibility of the lead agency pursuant to Section 15064(b) of the State CEQA Guidelines, the ICAPCD recommends the use of air pollution thresholds as guidance in determining whether a project could result in a significant air quality impact. If the lead agency finds that a project has the potential to exceed these air pollution thresholds, the project's impact would be considered significant.

For construction emissions, the ICAPCD CEQA Handbook recommends conducting initial analyses based on a qualitative approach and the implementation of effective and comprehensive mitigation measures. Projects exceeding the construction thresholds are required to submit a detailed emissions analysis, and implement standard, discretionary, and enhanced mitigation measures for construction equipment and fugitive PM_{10}. In addition, a health risk assessment is recommended if a project would have the potential to emit pollutants and is located in close proximity to sensitive receptors.

Because the operational phase of a project has the potential of creating long term impacts on air quality, the ICAPCD recommends that projects whose operational emissions are expected to exceed the thresholds of significance be deemed to have a potentially significant adverse impact on air quality.

For industrial development, the ICAPCD recommends operational thresholds be used only to determine significance of the impact from mobile source emissions attracted to the stationary source. Thresholds would not be used to determine significance for the air emissions associated with the stationary source, including off-road mobile emissions produced within the stationary source; since those sources are already subject to mitigation according to ICAPCD Rules 207 and 201. However, the ICAPCD CEQA Guidance also states that "the Lead Agency has the authority to request a comprehensive air quality analysis or an EIR to address the impact of all sources regardless of the recommended operational thresholds."

For the purposes of this analysis, air pollutant emissions from stationary sources associated with the proposed project operations are compared with the ICAPCD Rule 207 Standards, as defined in Subsection C.1, and Offset Requirements, as defined in Subsection C.2. These standards are applicable as threshold of significance (137 pounds per day) for operational stationary sources only.

The ICAPCD has not adopted a specific threshold of significance for TAC, but ICAPCD recommends it be consulted on any project with the potential to emit toxic or hazardous air pollutants. A health risk assessment may be also required to determine the potential level of risk associated with the operation and if emissions would exceed a certain magnitude, especially those located in close proximity to already existing industrial type operations and/or have the potential to emit TAC.

Consistent with the California Air Pollution Control Officers Association (CAPCOA) guidance for performing analysis and risk assessments related to TAC, for acute (short-term), non-cancerous health effects and chronic (long-term) non-cancerous health effects, impacts are considered significant if the proposed project would result in emissions that pose an acute or chronic health risk with a health hazard index of 1 or greater. The acute health hazard index is the ratio of the average short-term ambient concentration of an acutely toxic substance or substances, divided by the acute reference response level set by the California Office of Health Hazard Assessment (OEHHA). Similarly, the chronic health hazard index is the ratio of the average annual ambient concentration of a chronic toxic substance divided by the chronic reference exposure level set by the OEHHA. However, no sensitive receptors are within two miles of the proposed project and a health risk assessment was not completed.

7.0 ENVIRONMENTAL PROTECTION MEASURES

The following provides a description of Environmental Protection Measures (EPMs) that HKP1 and HKL1 will incorporate into its construction to avoid or minimize air quality impacts from fugitive dust and combustion exhaust.

Prior to commencing construction, the project proponent shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} and $PM_{2.5}$ emissions and associated mitigation measures during the construction and operational phases of the project. The project proponent shall submit a "Construction Notification Form" to the ICAPCD ten days prior to the commencement of any earthmoving activity. This plan would provide a detailed list of control measures to reduce fugitive emissions from construction and operational activities, including, but not limited to, watering of unpaved roads, vehicle speed limits, windbreaks, transport container covers, and cleaning and sweeping procedures. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20-percent opacity performance standard for dust control.

All construction sites, regardless of size, must comply with the requirements contained within ICAPCD Regulation VIII. Although compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts its main purpose is to reduce the amount of PM_{10} entrained into the atmosphere as a result of anthropogenic (man-made) fugitive dust sources. Therefore, under all preliminary modeling a presumption is made that all projects are in compliance with Regulation VIII as follows:• Fugitive Dust Suppression Plan: All disturbed areas, including bulk material storage, that is not being actively used, will be effectively stabilized; and visible emissions shall be limited to no greater than 20-percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material, such as vegetative groundcover.

Bulk material is defined as earth, rock, silt, sediment, and other organic and/or inorganic material consisting of or containing PM with five percent or greater silt content.

- Fugitive Dust Suppression Plan: All on-site and off-site unpaved roadway segments being used for 50 or more average vehicle trips per day will be effectively stabilized, to limit visible emissions to no greater than 20 percent opacity for dust emissions, by the use of restricting vehicle access, paving, chemical stabilizers, dust suppressants, and/or watering.
- Fugitive Dust Suppression Plan: All unpaved traffic areas one acre or more in size with 75 or more average vehicle trips per day will be effectively stabilized, and visible emissions will be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- Fugitive Dust Suppression Plan: The transport of bulk materials on public roads will be completely covered, unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks will be cleaned and/or washed at the delivery site after removal of bulk material, before using the trucks to haul material on public roadways.
- Fugitive Dust Suppression Plan: All track-out or carry-out on paved public roads, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road in an urban area.
- Fugitive Dust Suppression Plan: Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line except where such material or activity is exempted from stabilization by the rules of ICAPCD.
- Fugitive Dust Suppression Plan: Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.
- Fugitive Dust Suppression Plan: Suspending soil disturbance activities and travel on unpaved roads during periods of high winds (such as greater than 25 miles per hour). Site-specific wind speed thresholds shall be determined on the basis of soil properties determined during site characterization.
- Fugitive Dust Suppression Plan: Construct three-sided enclosures for storage piles.

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To provide a greater degree of PM_{10} reductions, beyond that required by Regulation VIII, the following will be implemented as recommended by ICAPCD:

- Fugitive Dust Suppression Plan: Fugitive dust generation during construction would be minimized by watering, as needed to meet Imperial County standards for fugitive dust control. To further reduce fugitive dust emissions, vehicle traffic on unpaved roads would be kept below 15 miles per hour.

- Fugitive Dust Suppression Plan: During grading, the project would be watering actively disturbed onsite areas at least three times a day as necessary to reduce fugitive dust emissions.

- A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action, if required, within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

- Access to the site would be via Highway 111, McDonald Road, and Davis Road. All workers, vendors and haul trucks would be required to utilize these roadways.

- An agreement between County of Imperial Public Works and the applicant would be established requiring the applicant to improve a two-mile section of the unpaved Davis Road adjacent to the site by installing a 12-18" thick engineered Class II base section. In addition, at the request of the County, the applicant would utilize the improved section during construction and would wet the site continuously during construction activities. The road would be immediately paved after construction prior to operations of the plant to avoid damaging a new asphalt section.

- During construction of the project, the project would be required to maintain daily dust suppression at the two-mile section of Davis Road adjacent to the site using a water truck operating continuously while vehicles are using it.

- The project would provide wheel shakers at the exit(s) of the construction site to minimize dust being tracked off the project site and onto the roadways.

- Operational on-road trips will not operate on unpaved dirt roads.

Prior to commencing construction, the project proponent shall submit commit to a Combustion Exhaust Emissions Control Program. This plan would provide a detailed list of control measures to minimize exhaust emissions (such as PM and NOx) during project construction, including, but not limited to, fuel use, engine maintenance, and procedures:

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- Exhaust Emissions Control Plan: The Exhaust Emission Control Plan will provide a detailed list of control measures to minimize exhaust emissions during project construction, including, but not limited to, fuel use, engine maintenance, and procedures.

- Diesel Engines with Certified NO_x Emissions: The construction contractor will be required to use construction equipment using diesel engines less than 50 horsepower with certified NO_x emissions rated as Tier 3 or better. All off-road diesel-powered equipment that is greater than 50 horsepower that is used onsite during construction of the project shall meet USEPA Tier 4 off-road emission standards and Level 3 Diesel Particulate Filters (DPF).[18]

- Use of Electrical Equivalent Equipment: When commercially available, replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- Where access to alternative sources of power are available, portable diesel engines shall be prohibited.

- Haul truck shall be 2010 model year trucks or newer (a gross vehicle weight rating of at least 14,001 pounds), or best commercially available equipment, that meet CARB's 2010 engine emissions standards at 0.01 g/hp-hour of particulate matter and 0.20 g/hp-hour of NO_x emissions or newer, cleaner trucks.

18 USEPA and CARB have implemented regulations and a tiering system to reduce emissions from off-road equipment with increasing combustion efficiency (i.e., decreasing emissions) where Tier 1 is the least efficient (greatest emissions) and Tier 4 is the most efficient (least emissions). The regulations have been implemented over time such that Tier 1 was phased out in the 1990's and Tier 2 was required, followed by implementation of Tier 3 and Tier 4 by 2015 with a phase out of Tier 2.

- The VOC architectural coating limits specify that the use paints and solvents with a VOC content of 100 grams per liter or less for interior and 150 grams per liter or less for exterior surfaces shall be required.

The following provides a description of EPMs that the HKP1 and HK-L1 will incorporate into its operations to avoid or minimize air quality impacts:

- Air Quality Permitting: An application will be submitted to the ICAPCD for an Authority to Construct permit for construction activities and any operational equipment or emission sources requiring a permit. The application specifies a detailed list of control measures to reduce fugitive emissions from O&M activities, including watering of unpaved roads, vehicle speed limits, windbreaks, transport container covers, and cleaning and sweeping procedures. The project will comply with the ICAPCD permit conditions of approval to limit emissions from project activities.

- Well Flow Testing Program: Specific design features will be used, such as well test units to minimize the release of particulate matter and metals during well drilling and initial testing. The well flow testing program will include flow rate and duration limits.

- Emissions Mitigation: Consistent with the requirements of ICAPCD Policy 5, the project proponent shall pay an emission mitigation fee sufficient to offset the amount by which the project's NOx emissions exceed the 100 pounds per day threshold. ICAPCD allows a project to pay in-lieu impact fees using the most current Carl Moyer Cost Effective methodology to reduce excess NOx emissions. Under the ICAPCD program, the exact amount of the fee cannot be calculated until the time of construction when more precise data regarding the construction equipment types and hours of operation are known, allowing ICAPCD to calculate the fee. Prior to any earthmoving activity, the project proponent shall submit to the ICAPCD a complete list of all construction equipment to be utilized during the construction phase identifying make, model, year, horsepower, and estimated hours of usage.

- Hydrogen Sulfide Abatement: The project will employ a proven industry standard hydrogen sulfide abatement system to minimize hydrogen sulfide emissions from both the vent gas and the portion of condensate being used as cooling tower make-up. The abatement system will remove at least 95 percent of the H_2S in the non-condensable gases.

- In addition, particle emissions from the cooling towers will be minimized by using high-efficiency drift eliminators.

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- Electric Truck Hauling: The HKL1 Project commits to using 100 percent electrical vehicles for hauling of mineral products.

- Generators That Meet Pollutant Emission Limits: The proposed standby/"black start" diesel engine generator, the emergency diesel generators and the emergency fire pump engines would each meet the applicable USEPA and CARB air pollutant emission limits. Each engine would be tested for less than 50 hours per year (at 100 percent load).

- Vehicle Charging Stations: The project will include charging stations for electric vehicles and electric trucks.

- Scrubbers: HCl storage tanks will include scrubbers with 100 percent removal efficiency.

- A Transportation Plan will be prepared for implementation during all phases of the project. The Transportation Plan will address methods for reducing construction worker traffic volumes and project-related equipment and materials transport by implementing the following strategies: (1) provide a construction worker rideshare program; (2) schedule shift changes and deliveries to avoid conflict with peak-hour traffic patterns; (3) establish traffic controls for transport of facility hazardous and nonhazardous materials, components, main assembly cranes, and other large pieces of equipment; and (4) evaluate alternative transportation approaches depending on specific object sizes, weights, origin, destination, peak-hour traffic, and unique handling requirements.

8.0 CONSTRUCTION EMISSIONS INVENTORY

Intermittent (short-term construction emissions that occur from activities, such as site-grading, paving, and building construction) air quality impacts related to the proposed project were evaluated. The emissions generated from these construction activities include:

- Dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as material handling and travel on unpaved surfaces; and

- Combustion exhaust emissions of criteria air pollutants (ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$) primarily from operation of heavy off-road construction equipment, haul trucks, (primarily diesel-operated), and construction worker automobile trips (primarily gasoline-operated).

- VOC as ROG primarily from "fugitive" sources such as architectural coating and paving.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. High winds (greater than ten miles per hour) occur infrequently in the area, less than two percent of the time. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM_{10} concentrations may be adversely affected on a temporary and intermittent basis during construction. In addition, the fugitive dust generated by construction would include not only PM_{10}, but also larger particles, which would fall out of the atmosphere within several hundred feet of the project site.

Erosion control measures and water programs are typically undertaken to minimize these fugitive dust and particulate emissions. A dust control efficiency of over 50 percent applies due to daily watering and other measures (e.g., limiting vehicle speed to 15 mph, management of stockpiles, screening process controls, etc.). One water application per day reduces fugitive dust by 34 percent, two water applications per day reduces fugitive dust by 55 percent, and three water applications per day reduces fugitive dust by 61 percent.[19]

The information associated with the construction equipment schedule (**Tables 4 through 16**) is based on project-specific estimates provided by the applicant. CalEEMod (and the use of default data) is best designated for common land use development such as residential, commercial, industrial, and institutional, and is not particularly suited for a complex project such as a geothermal and lithium plant. Therefore, non-default information as shown in **Tables 4 through 16** was developed through preliminary engineering design and used to estimate construction emissions.

Attachment A: Construction Air Emissions Inventory Supporting Data contains information related to the construction emission calculations.

Construction Activities for Hell's Kitchen PowerCo 1 and Hell's Kitchen LithiumCo 1

Hell's Kitchen PowerCo 1 Construction Schedule

HKP1 project construction is anticipated to take place over a 10-month period. It is anticipated that construction of the power plant will occur in November of 2022 through September of 2023. An average of 225 workers will be on site daily during construction with a maximum of up to 450 workers per day during peak construction. Construction will be conducted during daytime hours from 7.a.m. to 6 p.m. The construction schedule is based on a single-shift, ten hours per day, Monday through Saturday. Overtime

19 California Air Pollution Control Officers Association. *California Emissions Estimator Model User's Guide Version 2020.4.0*. May 2021. http://www.caleemod.com/

and shift work for construction may vary. **Table 4: Construction Schedule for Hell's Kitchen PowerCo 1 Project** presents the construction schedule by phase.

A new electrical drop from IID's distribution line will be installed at the Project site to provide temporary construction power. Alternatively, a generator may be used to provide construction power, when a power line is not practical. Any generator use during construction will be permitted with the ICAPCD.

Table 4
Construction Schedule for Hell's Kitchen PowerCo 1 Project

Construction Phase Description	Start	End	Working Days
Site Work: Site Preparation	11/01/2022	11/14/2022	12
Site Work: Grading	11/15/2022	01/31/2023	67
Foundation	02/01/2023	07/31/2023	155
Process Equipment Installation	02/01/2023	09/30/2023	208
Structural Steel	03/01/2023	07/31/2023	131
Buildings	03/01/2023	08/31/2023	158
Electrical	03/01/2023	09/30/2023	184
Piping	05/01/2023	09/30/2023	132
Commissioning: Onsite Paving	09/01/2023	09/30/2023	26

Hell's Kitchen LithiumCo 1 Construction Schedule

HKL1 project construction is anticipated to take place over a 23-month period. It is anticipated that construction of the power plant will occur from February of 2023 through December of 2024. Construction will be conducted Monday through Saturday from 7.a.m. to 6 p.m. Construction work will also occur during nighttime hours during periods of extreme heat in the summer. Approximately 200 construction workers are anticipated on average and 500 workers are anticipated at peak construction periods. **Table 5: Construction Schedule for LithiumCo 1 Project** presents the construction schedule by phase. **Figure 6** displays the HKP1 and HKL1 construction schedule.

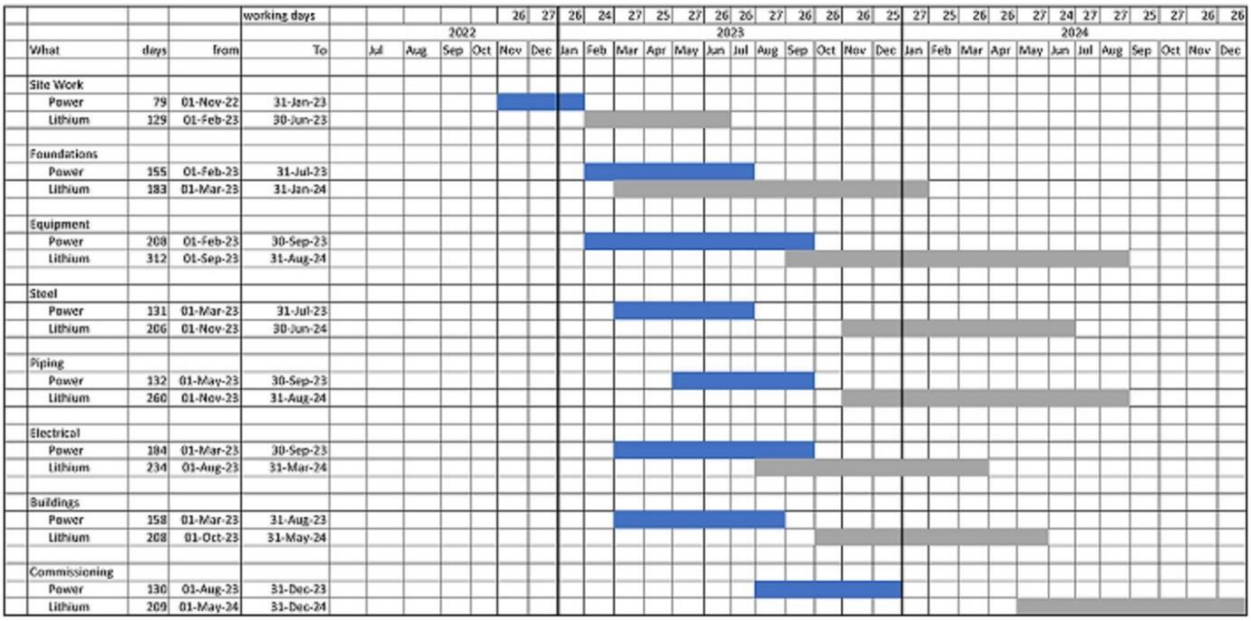
Table 5
Construction Schedule for Hell's Kitchen LithiumCo 1 Project

Construction Phase Description	Start	End	Working Days
Site Work: Site Preparation	02/01/2023	02/28/2023	24
Site Work: Grading	03/01/2023	06/30/2023	105
Foundation	03/01/2023	01/31/2024	289
Electrical	08/01/2023	03/31/2024	209
Process Equipment Installation	09/01/2023	08/31/2024	314
Buildings	10/01/2023	05/31/2024	209
Structural Steel	11/01/2023	06/30/2024	208
Piping	11/01/2023	08/31/2024	262

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Commissioning: Architectural Coating	05/01/2024	05/31/2024	27
Commissioning: Onsite Paving	05/01/2024	05/31/2024	27
Commissioning: Offsite Paving	09/01/2024	09/30/2024	25

Figure 6 Construction Schedule



No demolition is expected to be necessary for the project. It is assumed that the site preparation would consist of disturbing the existing agricultural lands and would require an estimated twenty worker trips daily. The equipment expected to be used during site preparation is provided in **Table 6: Site Preparation Construction Equipment.**

Table 6
Site Preparation Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Rubber Tired Dozers	2	8
Tractors/Loaders/Backhoes	2	8

Grading is expected to require approximately 120 worker trips and ten vendor trips daily. The equipment expected to be used during grading is provided in **Table 7: Grading Construction Equipment**. During grading, the project would water actively disturbed on-site areas routinely to reduce fugitive dust emissions.

For HKP1, site preparation/grading would require 151,000 cubic yards of import materials and 23,700 cubic yards of export materials; resulting in a total of 21,838 haul truck trips (assuming eight cubic yards per truck trip) with a travel distance of twenty miles one way.[20] For HKL1, site preparation/grading would require 280,300 cubic yards of import materials and 71,400 cubic yards of export materials; resulting in a total of 43,963 haul truck trips (assuming eight cubic yards per truck trip) with a travel distance of twenty miles one way.

Water will be used during construction for dust control and compaction. This water will be obtained from IID and transported to the project site via truck. The water will be applied for dust control that meets Imperial County's dust control requirements.

Table 7
Grading Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Excavators	1	4
Off Highway Trucks	7	6
Rubber Tired Dozers	4	8
Scrapers	6	8
Tractors/Loaders/Backhoes	3	8

Foundation construction would commence once grading is complete. Foundation construction consists of the pouring of concrete foundations for the project buildings/structures and the various concrete containment areas. Foundation construction is expected to require approximately 100 worker trips and six vendor trips daily. The equipment anticipated to be used during the foundation construction is provided in **Table 8: Foundation Construction Equipment**.

For HKP1, foundation construction would require 13,250 cubic yards of import materials; resulting in a total of 1,656 haul truck trips (assuming eight cubic yards per truck trip) with a travel distance of twenty miles one way. For HKL1, foundation construction would require 18,000 cubic yards of import materials; resulting in a total of 2,250 haul truck trips (assuming eight cubic yards per truck trip) with a travel distance of twenty miles one way.

Table 8
Foundation Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Concrete Pump Trucks (Off Highway Trucks)	2	8

20 CalEEMod assumes a 16 cubic yard capacity truck with a full load on exit and an empty load on entrance.

Once the foundations are in place, structural steel work would commence. The structural steel is the first phase of building construction and is expected to require approximately 180 worker trips and ten vendor trips daily, and a total of ten haul truck trips. The equipment anticipated to be used during the structural steel is provided in **Table 9: Structural Steel Construction Equipment**.

Table 9
Structural Steel Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Aerial Lifts	4	4
Cranes	2	4
Forklifts	4	4
Generator Sets	1	4
Off Highway Trucks	2	8
Welders	3	4

Once the first phase of building construction and mechanical/electrical work is complete, the process equipment installation will begin. This phase is expected to require approximately 350 worker trips and 20 vendor trips daily, and a total of ten haul truck trips. The equipment anticipated to be used during process equipment installation is provided in **Table 10: Process Installation Equipment Construction Equipment**.

Table 10
Process Equipment Installation Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Aerial Lifts	3	4
Cranes	3	4
Forklifts	4	4
Generator Sets	1	4
Off Highway Trucks	2	6
Welders	10	8

Once the process equipment installation is complete, the piping installation will begin. This phase is expected to require approximately 350 worker trips and 20 vendor trips daily, and a total of ten haul truck trips. The equipment anticipated to be used during piping installation is provided in **Table 11: Piping Installation Construction Equipment**.

Table 11
Piping Installation Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Aerial Lifts	2	4
Cranes	3	4
Forklifts	5	4
Generator Sets	1	4
Off Highway Trucks	2	6
Welders	8	8

HKP1 will deliver power to the IID system via an approximately two-mile-long gen-tie line to the existing IID interconnect station at Hudson Ranch. The electrical construction is expected to require approximately 140 worker trips and six vendor trips daily, and a total of six haul truck trips. The equipment anticipated to be used during the electrical construction is provided in **Table 12: Electrical Construction Equipment**.

Table 12
Electrical Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Aerial Lifts	2	4
Cranes	1	4
Forklifts	2	4
Generator Sets	1	4
Graders	1	4
Off Highway Trucks	2	8
Rollers	1	4
Rubber Tired Dozers	1	4
Tractors/Loaders/Backhoes	3	4

Building construction is expected to require approximately 120 worker trips and two vendor trips daily, a total of one haul truck trip. The equipment anticipated to be used during the building construction is provided in **Table 13: Building Construction Equipment**.

Table 13
Building Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Aerial Lifts	1	4
Cranes	1	4
Forklifts	1	4
Generator Sets	1	4

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Towards the end of the HKP1 and HKL1 construction, the necessary onsite paving will commence. Onsite paving would require approximately 60 worker trips and eight vendor trips daily, and a total of ten haul truck trips. The equipment anticipated to be used during onsite paving is provided in **Table 14: Onsite Paving Construction Equipment**.

Table 14
Onsite Paving Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Graders	1	8
Off-Highway Trucks	1	6
Pavers	1	8
Paving Equipment	1	6
Rollers	2	8
Rubber Tired Dozers	1	8

Paving of Davis Road to Imperial County standards would follow the completion of construction of the HKL1. Paving of Davis Road would require approximately 40 worker trips and eight vendor trips daily, and a total of 20 truck trips. The equipment anticipated to be used during offsite paving is provided in **Table 15: Offsite Paving Construction Equipment**.

All County road ingress/egress will be constructed in conformance with Imperial County Public Works Department requirements. Road access will be restricted during construction, and appropriate traffic controls will be in place during construction of the project.

Table 15
Offsite Paving Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Graders	1	8
Off-Highway Trucks	1	8
Pavers	1	8
Paving Equipment	1	8
Rollers	3	6
Rubber Tired Dozers	1	8

Application of the architectural coatings would require approximately 22 worker trips per day. The equipment anticipated to be used during application of the architectural coatings is provided in **Table 16: Architectural Coatings Construction Equipment**.

Table 16
Architectural Coatings Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)
Air Compressors	2	2

Summary of Construction Emissions Inventory

Table 17: Maximum Daily Unmitigated Construction Emissions (pounds) shows the estimated maximum daily unmitigated emissions for construction related emissions (including combustion and fugitive dust emissions) for the HKP1 and HKL1.[21] The estimated daily unmitigated emissions of NOx would be above the significance thresholds and thus, a potentially significant impact on air quality.

Table 17
Maximum Daily Unmitigated Construction Emissions (pounds)

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	13.0	90	**145**	34.7	19.4	0.37
2023	34.0	249	**258**	51.6	26.7	0.78
2024	76.3	144	**106**	14.4	8.50	0.36
Significance Thresholds	75	550	100	150	--	--
Exceeds Significance Thresholds?	No	No	**Yes**	No	--	--

Bold values represent exceedance of thresholds.
Source: CARB CalEEMod.

Table 18: Daily Mitigated Construction Emissions (pounds) shows the estimated daily mitigated emissions for construction related emissions (including combustion and fugitive dust emissions) for the HKP1 and HKL1 while incorporating the EPMs found in **Section 7**. The estimated daily mitigated emissions of NOx and all other pollutants would be below the significance thresholds, and thus, a less than significant impact on air quality with mitigation.

Table 18
Maximum Daily Mitigated Construction Emissions (pounds)

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	3.88	108	79.0	17.4	6.88	0.37
2023	18.6	307	95.0	28.8	11.5	0.78
2024	70.8	175	49.3	11.5	3.85	0.36
Significance Thresholds	75	550	100	150	--	--
Exceeds Significance Thresholds?	No	No	No	No	--	--

Bold values represent exceedance of thresholds.
Source: CARB CalEEMod.

21 CalEEMod calculates both summer and winter daily emissions; the maximum value is reported.

9.0 OPERATIONAL EMISSIONS INVENTORY

Operations of HKP1 would involve stationary and mobile emission sources associated with the brine processing facility, the turbine-generator facility, common and ancillary facilities, a new overhead interconnection line, a water storage tanks, and worker and vendor vehicle use. Operational emissions associated with the facility would include combustion emissions from onsite equipment and offsite traffic; non-condensable gases from the geothermal brine containing H_2S, ROG, ammonia (NH_3), and traces of other substances (methane, benzene, nitrogen, hydrogen, and argon); HCl vapors from storage tanks; particulate emissions from the cooling tower operations and traffic on unpaved roads; and the use of architectural coating and consumer products during maintenance.

The facility will be a single-stage power plant, utilizing a single pressure, axial exhaust condensing steam turbine generator capable of producing up to 55.3 MWe (gross). The single-stage power plant will extract steam using a horizontal brine separator. The horizontal brine separator receives 2-phase fluid delivered from the production wells and separates the steam from the brine. The steam will be purified using scrubber and demister before being admitted into the 55.3 MWe axial exhaust condensing steam turbine. The brine collected in the separator will be reinjected to the well field. The turbine exhaust steam will be condensed to form geothermal condensate which will be utilized as make up water in the cooling tower to minimize the water consumption of the facility.

Benzene, H_2S, and NH_3, contained in naturally occurring gases produced with the geothermal fluids would be emitted from HKP1 during normal operations. HCl, used to chemically stabilize the geothermal brine once the steam and NCG are removed, would be emitted during the filling of the HCl storage tank. Diesel particulate (DPM) would be emitted during testing, maintenance, and operation of standby/"black start" and emergency diesel engines. During plant startup and outages, produced steam would be diverted to a rock muffler for venting of the steam, H_2S, ROG, and other unabated NCGs to the atmosphere.

All NCG produced by the geothermal production wells which are not retained in the geothermal brine and injected into the geothermal reservoir would be delivered to the cooling tower, either from the condenser (dissolved in the condensate used as the cooling tower makeup water), or from the condenser NCG removal system (which would be pressurized and vented to the cooling tower H_2S abatement system).

In addition to particulate matter emissions from mineral extraction from the geothermal brine, the extraction process will require the use of concentrated HCl liquid. The hydrochloric acid would be injected into the brine to allow for mineral extraction. Some of the hydrochloric acid will evaporate and convert to an aerosol form otherwise known as HCl. The project would utilize scrubbers to collect the aerosol.

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Furthermore, offloading operations would produce HCl vapor emissions from the storage tank(s). Scrubbers will be installed on the storage tanks to control HCl vapor emissions from the storage tank.

Attachment B: Operational Air Emissions Inventory Supporting Data contains information related to the operational emission calculations.

Cooling Towers

HKP1 and HKL1 will each utilize small cooling towers that will be designed and operated to minimize particulate emissions and will operate at a relatively low circulation rate. Operations of the cooling tower would require the use of cooling makeup water, which during the cooler months would consist entirely of steam condensate with a low total dissolved solids (TDS) concentration. The TDS concentration is expected to increase during higher temperature summer months. The applicant would use high efficiency cooling tower drift eliminators to limit the emission of water droplets ("drift") which leads to aerosols that form when the emitted cooling tower liquid drift evaporates as particulates.

The mechanical draft cooling tower will supply cooling water for the condenser and any other cooling for auxiliary equipment. The tower will be designed to operate continuously in a corrosive plant atmosphere at the guarantee point of 78°F (wet bulb). The geothermal condensate from the condenser will be treated in aeration tank and used as the main source of makeup water for the cooling tower. Treated canal water will also be used as secondary source of make-up water when required.

Dissolved solids in the circulating cooling water would be released to the environment as particulate emissions via "drift" (small water droplets that become entrained in the air stream leaving the cooling tower). Drift eliminators are designed to capture the water droplets in the cooling tower air stream and prevent their escape by causing the droplets to change direction, lose velocity and fall back into the circulating cooling water. Particulate emissions from the cooling towers will be minimized by maintaining a low TDS concentration in the circulating water by removing a slipstream of the higher TDS circulating cooling water as blowdown and replacing it with the lower TDS canal water; and by controlling cooling tower drift losses by using high efficiency drift eliminators, which are considered best available control technology for cooling tower drift. The cooling tower blowdown will be used within the process dilution water.

The cooling tower associated with the HKP1 would circulate about 50,710 gallons per minute (12,643 tons per hour) of cooling water with a total TDS concentration estimated at 8,000 ppm by weight; with a maximum circulation rate of 64,572 gallons per minute. The cooling tower associated with the HKL1 would circulate about 63,311 gallons per minute of cooling water with a total TDS concentration estimated at 8,000 ppm by weight. High efficiency cooling tower drift eliminators would limit the liquid drift rate to

0.005 percent or less of the circulating cooling water rate. Conservatively, all of the aerosols which form when the emitted cooling tower liquid drift are assumed to evaporate as PM_{10} or smaller. However, a vast majority of the aerosols are greater than $PM_{2.5}$.[22]

Operational Support Equipment

The equipment anticipated to be used during HKP1 and HKL1 daily operations are aerial lifts, forklifts, pressure washers, and welders as shown in **Table 19: Operational Support Equipment for Hell's Kitchen PowerCo 1 and Hell's Kitchen LithiumCo 1**. Operational emissions associated with support equipment were based on emission factors within CARB's OFFROAD.

Table 19
Operational Support Equipment Hell's Kitchen PowerCo 1 and Hell's Kitchen LithiumCo 1

Equipment Type	Amount	Daily Usage (Hours)
Aerial Lift	1	8
Forklifts	6	8
Off-Highway Trucks	2	4
Pressure Washers	1	6
Welder	1	8

Operational Workforce and Traffic for Hell's Kitchen PowerCo 1

HKP1 will require up to 22 full-time, onsite employees throughout the duration of operation; resulting in 85 daily trips.[23] Operational staff will include operators, management and supervisors, maintenance technicians, and lab technicians. On a typical day, the operators will assume a two-shift, 24-hour workday, and all other personnel will assume a standard 8-hour workday. Approximately 22 worker trips (with a total of 85 trips per day), three vendor trips, and one haul truck trips will take place daily during operations. The estimated employee vehicle round trip distance is 21 miles. Operational emissions associated with employee vehicles were based on emission factors within CARB's EMFAC. The estimated electrical usage for the employee electric vehicles would be approximately 54,610 kw per year (assuming a rate of 0.56 kw/mile and three percent of fleet).

22 New Mexico Environmental Department, Calculating TSP, PM_{10} and $PM_{2.5}$ from Cooling Towers, September 9, 2013, https://www.env.nm.gov/wp-content/uploads/sites/2/2019/10/PermittingGuidanceforCoolingTowerParticulateEmissions.pdf

23 DKS, Hell's Kitchen Geothermal Project VMT Analysis, November 24, 2021

The proposed project will be accessed from Davis Road via two new ingress/egress driveways that will be constructed during construction of the power facilities. Project traffic will typically access the site from Highway 111 via McDonald Road and Davis Road.

Operational Workforce and Traffic for Hell's Kitchen Lithium 1

HKL1 is expected to be operated by a total staff of approximately 90 full-time, onsite employees resulting in 347 daily trips.[24] Facility operations will continue 24-hours/day, 7-days/week. It is projected that up to 44 employees will be on site at any given time with 28 day-staff employees and two rotating shifts of 16 additional employees overlapping the day-staff and covering nights, weekends and holidays.

Approximately 84 trucks per day are expected to travel in and out of the project site during normal operation. Daily truck traffic will include approximately 48 trucks for product shipping. All trucks used for product shipping are planned to be electric. The project would provide charging stations for delivery trucks. Truck traffic also will include approximately 36 truck deliveries of reagent chemicals, cooling tower treatment chemicals, consumptive media, product packaging materials, and fuel (assumed to be diesel trucks). Outgoing general waste that is generated on site will be removed by truck as needed and is expected to require less than one truck per day. The estimated delivery truck round trip distance is 200 miles. Operational emissions associated with delivery trucks were based on emission factors within CARB's EMFAC. The estimated electrical usage for the operational delivery trucks (assuming a rate of 1.89 kw/mile) would be approximately 381,025 kw per year.

Product Handling

Small quantities of particulates will be released from the loading and unloading of the dry materials in open areas, as well as chemical storage silos and tanks; and the drying, transfer and packaging of the lithium hydroxide, silica, bulk sulfide, and polymetallic products.

Drying, transfer and packaging the lithium and zinc/manganese products would create small amounts of particulate matter which, in each case, would be collected by a wet scrubber, baghouse or other dust collector to prevent the loss of product, as well as to minimize particulate emissions to the atmosphere. The Li Product Handling Buildings' and Packaging and Warehouse Buildings' air will also be filtered and operated with a negative pressure to further prevent dust emissions from these operations. As an alternative nitrogen gas may be used to create a positive pressure system.

24 DKS, Hell's Kitchen Geothermal Project VMT Analysis, November 24, 2021

The loading of bulk dry reagent chemicals into storage silos or tanks is typically done pneumatically, which can release particulate matter into the atmosphere. These silo or tank loading particulate emissions would be controlled using fabric filter units called "bin vents," which are typically installed on top of silos, or other dust collectors to prevent the loss of reagent, as well as to minimize particulate emissions to the atmosphere. Bin vent fans induce a draft which directs any particulate emissions to the fabric filter. Dust collected on the filters or the other types of dust collectors is discharged back into the appropriate silo. Bulk dry chemicals removed from the silos or tanks are discharged into wet processes which would not result in particulate emissions.

Electrical Usage

The ongoing operation of HKL1 would require the use of energy resources for multiple purposes including, but not limited to, pumps and other mechanical industrial equipment, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Operation of HKL1 would result in consumption of electricity at the project site. HKL1 will have an average demand of 35 MW and peak power demand of up to 40 MW during operation. HKL1 would consume approximately 275,940,000 kilowatt-hours per year of electricity (per 90 percent availability or 7,884 hours); (assumed to be "brown" power via the electrical grid).[25] However, HKP1 would generate approximately 430,567,140 kilowatt-hours per year of (renewable) electricity (per 98.5 percent availability or 8,630 hours); assumed to be "green" power avoiding the electrical grid. Therefore, there will be a surplus of renewable electrical generation of approximately 154,627,140 kilowatt-hours per year of electricity, which results in a net reduction of GHG emissions (see **Section 11**).

HKL1 may receive power from either the HKP1 or the utility. The electrical generation of the HKP1 would likely be greater than the electrical demand of the HKL1. Importantly, the HKL1 would not operate if the HKP1 was not operating due to maintenance or outage. The air quality analysis conservatively assumes that the electrical demand of the HKL1 would be provided by the electrical grid ("brown" power) instead of being provided by the HKP1 ("green" power). Nevertheless, under this conservative condition, the operations of the HKP1 and the HKL1 would have a net 154,627,140 kilowatt-hours per year of (renewable) electricity generation. The GHG emission calculations are based on this conservative condition.

The amount of renewable electricity generation would be even greater under the condition that HKP1 supplies the entire power demands of HKL1. There would be an avoidance of the 275,940,000 kilowatt-hours per year of electricity from the HKL1 plus generation of the 154,627,140 kilowatt-hours per year of (renewable) electricity. This results in a surplus of renewable electrical generation of approximately

25 Hatch Engineering, Process Design Basis and Criteria, H365316-00000-210-210-0001, August 13, 2021.

430,567,140 kilowatt-hours per year of (renewable) electricity (assumed to be "green" power avoiding the electrical grid); which results in an even greater reduction of GHG emissions.

The proposed project would comply with all federal, State, and County requirements related to the consumption of electricity, including CCR Title 24, Part 6, Building Energy Efficiency Standards and CCR Title 24, Part 11, the CALGreen Code. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the project, including enhanced insulation and use of energy-efficient lighting and appliances as well as requiring a variety of other energy efficiency measures to be incorporated into all of the proposed structures.

Process Operational Emissions

Within the HKL1, a number of process exhaust points including, but not limited to, offgas scrubber stack, hydrogen stack, steam rock muffler, HCL burner scrubber stack, LHM package stack, poly precip buffer tank, and deaerator water tank emit small quantities of non-condensable gases, water vapor, and other air emissions.

Summary of Operational Emissions Inventory

Table 20: Daily Emissions (pounds) during Normal Operations presents the operational emissions associated with HKP1 and HKL1 for vehicle trips, generator testing, onsite equipment, and cooling towers. The daily operational emissions associated with HKP1 and HKL1 are less than significant during typical conditions.

Table 20
Daily Emissions (pounds) during Normal Operations

Emission Source	ROG	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
Hell's Kitchen PowerCo 1						
Employee Vehicles	0.06	4.12	0.28	0.01	0.06	0.02
Haul Trucks	<0.01	0.01	0.17	<0.01	0.03	0.01
Vendor Vehicles	0.09	1.39	1.31	0.01	0.13	0.06
Onsite Equipment	0.63	22.8	1.56	<0.01	0.27	0.21
Area Sources	2.57	0.01	<0.01	<0.01	<0.01	<0.01
Cooling Towers	-	-	-	-	20.2	9.60
Standby/Black Start Diesel Generator Testing	3.37	46.1	8.87	6.51	0.53	0.53
Standby Diesel Generator Testing	4.27	58.4	11.2	8.25	0.67	0.67
Standby Fire Pumps Testing	0.42	5.73	1.10	0.81	0.07	0.07
Subtotal Hell's Kitchen PowerCo 1	**11.4**	**139**	**24.5**	**15.6**	**21.9**	**11.2**

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Hell's Kitchen LithiumCo 1						
Employee Vehicles	0.23	16.9	1.13	0.05	0.24	0.08
Haul Trucks	0.12	0.53	6.01	0.16	0.96	0.38
Onsite Equipment	0.14	1.43	1.33	<0.01	0.07	0.06
Area Sources	14.0	0.06	<0.01	<0.01	<0.01	0.00
Cooling Towers	-	-	-	-	25.2	12.0
Standby Diesel Generator Testing	0.90	12.3	2.37	1.74	0.14	0.14
Rock Muffler	6.70	-	-	-	-	-
Material Transfer and Packaging	-	-	-	-	0.78	0.27
Subtotal Hell's Kitchen LithiumCo 1	**22.1**	**31.2**	**10.8**	**1.95**	**27.4**	**12.9**
Grand Total	**33.5**	**170**	**35.4**	**17.5**	**49.3**	**24.1**
Significance Threshold	137	550	137	150	550	150
Exceeds Significance Threshold?	No	No	No	No	No	No

Source: RCH Group, 2022

Stationary source operational daily emissions associated with HKP1 and HKL1 are shown in **Table 21: Daily Emissions (pounds) during Startup Operations.** The CO emissions exceed the CEQA significance thresholds and the Rule 207, Section C.2.g thresholds, therefore, air quality dispersion modeling was performed. The NOx emissions do not exceed the CEQA significance thresholds and do not the Rule 207, Section C.2.g thresholds. Therefore, offsets would not be required for the NO_x emissions.

Table 21
Daily Emissions (pounds) during Startup Operations

Emission Source	**ROG**	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Standby/Black Start Diesel Engine Generator	40.4	553	106	78.1	6.39	6.39
CEQA Significance Threshold	137	550	137	150	550	150
Exceeds CEQA Significance Threshold?	No	**Yes**	No	No	No	No
Rule 207, Section C.2.g Threshold	137	137	137	137	137	137
Exceeds Rule 207, Section C.2.g Threshold?	No	**Yes**	No	No	No	No

Source: RCH Group, 2022

During start-up conditions, air emissions of CO associated with the Geothermal Power Plant were estimated to exceed the CEQA significance thresholds during start-up conditions. Imperial County Air Pollution Control District (ICAPCD) Rule 207 Section C.2 requires emissions offsets for sources with

pollutant emissions that exceed 137 pounds per day. The NOx emissions associated with the startup operations would be less than 137 pounds per day and the CO emissions associated with the startup operations would be greater than 137 pounds per day. Therefore, dispersion modeling was conducted to determine if the CO emissions would result in an exceedance of the NAAQS/CAAQS.

The following describes the methodology and assumptions for the CO dispersion modeling analysis. Pursuant Rule 207, Section C.2.g, the proposed project has prepared a CO Air Quality Impact Analysis (Part F of Rule 207), which demonstrates that the HKP1 would not cause or contribute to a violation of the CO NAAQS/CAAQS and therefore, would be a less than significant impact.

Compliance with Air Quality Plans

As shown, both construction and operational emissions created from the proposed project would be within their respective ICAPCD thresholds. According to the ICAPCD Handbook, projects that are within the ICAPCD thresholds are consistent with the regional air quality plans. Furthermore, the standard mitigation measures provided in the ICAPCD Handbook have been incorporated into the project and the proposed project will be required to implement all of the ICAPCD Regulation viii, fugitive dust control measures during construction and operation of the proposed project. Furthermore, any stationary sources of emissions operated on site will be required to adhere to ICAPCD Rule 207, new and modified stationary source review and Rule 201 that require permits to construct and operate stationary sources. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plans and impacts would be less than significant.

Cumulative Impacts

Cumulative impacts are defined in CEQA as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines Section 15355). Stated in another way, “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing relating impacts” (CEQA Guidelines Section 15130 [a][1]).

Cumulative impacts would exist when either direct air quality impacts or multiple construction projects occur within the same area simultaneously. If a project were to produce air quality emissions simultaneously to a nearby construction project, the addition of both project emissions to the environment could exceed significance thresholds. For this project, the construction emissions were found to be less than significant. If a nearby project was to be under construction at the same time, that project would need to produce an additive amount of emissions close to the project site such that emissions would exceed thresholds. No cumulatively considerable construction projects are within at least

one mile of the site. Given this, a less than significant cumulative air quality impact would be expected during construction.

The proposed project site is zoned industrial, and the project has been designed to be consistent with this zoning designation. The project would generate less than significant direct and cumulative air quality impacts. Since the proposed project would not have any significant direct impacts and would not have any significant cumulative impacts, the project would not conflict with either the County's Air Quality Management Plan or SIP.

10.0 AMBIENT AIR CONCENTRATION IMPACTS

During start-up conditions, air emissions of CO and NOx associated with the HKP1 were estimated to exceed the CEQA significance thresholds and air emissions of CO associated with HKP1 were estimated to exceed the Rule 207, Section C.2.g thresholds. ICAPCD Rule 207 Section C.2 requires emissions offsets for sources with pollutant emissions that exceed 137 pounds per day. Pursuant Rule 207, Section C.2.g, the proposed project has prepared a CO Air Quality Impact Analysis (Part F of Rule 207), which demonstrates that the HKP1 would not cause or contribute to a violation of the CO NAAQS/CAAQS. Therefore, the proposed project would have a less than significant impact. **Table 22: Estimated CO Concentrations for Startup Operations** presents the estimate 1-hour and 8-hour CO concentrations associated with the proposed standby/"black start" diesel engine generator**.** The 1-hour and 8-hour CO modeled concentration plus background concentrations are 2,213 and 1,369 micrograms per cubic meter ($\mu g/m^3$), respectively, which are well below the NAAQS/CAAQS. Therefore, the startup operations associated with the proposed standby/"black start" diesel engine generator would have a less than significant impact on CO concentrations. **Attachment C: Air Quality Dispersion Modeling Methodology and Assumptions** provides detailed information about the air quality dispersion modeling analysis for CO.

Table 22
Estimated CO Concentrations ($\mu g/m^3$) from Startup Operations

Criteria	1-Hour CO	8-Hour CO
Off-site Receptor (Project)	718	480
Background Concentration	1,495	889
Total Concentration	**2,213**	**1,369**
CAAQS/NAAQS	23,000/40,000	10,000/10,000
Significant (Yes or No)?	No	No

Source: RCH Group, 2022

11.0 GREENHOUSE GAS EMISSIONS

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal (IPCC, 2007), with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change (IPCC) concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing GHG concentrations resulting from human activity such as fossil fuel burning, and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. GHG naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHG 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 decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHG because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), ozone, and water vapor.

While the presence of the primary GHG in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHG include

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hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in "carbon dioxide-equivalent" measures (CO_2e).[26]

There is international scientific consensus that human-caused increases in GHG have and will continue to contribute to global warming. Potential global warming impacts may include, but are not limited to, loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

California Environmental Quality Act and Climate Change

Under CEQA, lead agencies are required to disclose the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions have the potential to affect the environment because they contribute to global climate change. In turn, global climate change has the potential to cause sea level rise, alter rainfall and snowfall patterns, and affect habitat.

Executive Order S-3-05

Governor Schwarzenegger established Executive Order S-3-05 in 2005, in recognition of California's vulnerability to the effects of climate change. Executive Order S-3-05 set forth a series of target dates by which California emissions of GHG would be progressively reduced, as follows:

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

The executive order directed the Secretary of the CalEPA to coordinate a multiagency effort to reduce GHG emissions to the target levels. The Secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of CalEPA created the California Climate Action Team, made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

26 Because of the differential heat absorption potential of various GHG, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

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

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce Statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the State reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce Statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations to achieve reductions in GHG to meet the 1990 emissions cap by 2020.

Climate Change Scoping Plan

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHG to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated every five years. The initial AB 32 Scoping Plan contains the main strategies California will use to reduce the GHG that cause climate change. The initial Scoping Plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 program implementation fee regulation to fund the program. In August 2011, the initial Scoping Plan was approved by CARB.

The 2013 Scoping Plan Update builds upon the initial Scoping Plan with new strategies and recommendations. The 2013 Update identifies opportunities to leverage existing and new funds to further

drive GHG emission reductions through strategic planning and targeted low carbon investments. The 2013 Update defines CARB climate change priorities for the next five years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The 2013 Update highlights California progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. In the 2013 Update, nine key focus areas were identified (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program. On May 22, 2014, the First Update to the Climate Change Scoping Plan was approved by the Board, along with the finalized environmental documents. The 2017 Scoping Plan, approved on December 14, 2017, outlines options to meet California's aggressive goals to reduce GHGs by 40 percent below 1990 levels by 2030.

Executive Order No. B-30-15

On April 29, 2015, Executive Order No. B-30-15 was issued to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Executive Order No. B-30-15 sets a new, interim, 2030 reduction goal intended to provide a smooth transition to the existing ultimate 2050 reduction goal set by Executive Order No. S-3-05 (signed by Governor Schwarzenegger in June 2005). It is designed so State agencies do not fall behind the pace of reductions necessary to reach the existing 2050 reduction goal. Executive Order No. B-30-15 orders "All State agencies with jurisdiction over sources of GHG emissions shall implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 targets." The Executive Order also states that "CARB shall update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent." The CARB is currently moving forward with a second update to the Climate Change Scoping Plan to reflect the 2030 reduction target. The updated Scoping Plan will provide a framework for achieving the 2030 target. In September of 2016, the AB 32 was extended to achieve reductions in GHG of 40 percent below 1990 levels by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

Greenhouse Gas Regional Emission Estimates

Worldwide emissions of GHG in 2017 were estimated at 48.40 billion metric tons of CO_2e.[27] This value includes ongoing emissions from industrial and agricultural sources but excludes emissions from land use changes.

In 2019, the United States emitted about 6,558 million metric tons of CO_2e. Emissions increased from 2018 to 2019 by 1.7 percent. This decrease was driven largely by a decrease in emissions from fossil fuel

27 World Resources Institute, *Climate Analysis Indicator Tool – Global Historical GHG Emissions*.

combustion resulting from a decrease in total energy use in 2019 compared to 2018 and a continued shift from coal to natural gas and renewables in the electric power sector.[28] GHG emissions in 2018 (after accounting for sequestration from the land sector) were 10.2 percent below 2005 levels. GHG emissions in 2019 (after accounting for sequestration from the land sector) were 13 percent below 2005 levels.

In 2018, California emitted approximately 425 million metric tons of CO_2e, 0.8 million metric tons of CO_2e higher than 2017 levels and six million metric tons of CO_2e below the 2020 GHG Limit of 431 million metric tons of CO_2e).[29] Consistent with recent years, these reductions have occurred while California's economy has continued to grow and generate jobs. The transportation sector remains the largest source of GHG emissions in the state with 40 percent of the emissions in 2018 but saw a decrease in emissions compared to 2017.[30]

Emissions from the electricity sector account for 15 percent of the inventory and showed a slight increase in 2018 due to less hydropower. California in 2018 used more electricity from zero-GHG sources (for the purpose of the GHG inventory, these include hydro, solar, wind, and nuclear energy) than from GHG-emitting sources for both in-state generation and total (in-state plus imports) generation. The industrial sector has seen steady emissions in the past few years and remains at 21 percent of the inventory.[31] The composition of GHG emissions in California (expressed as CO_2e) were as follows:

- CO_2 accounted for 83 percent;
- CH_4 accounted for nine percent;
- N_2O accounted for three percent; and
- Fluorinated gases (hydrofluorocarbons (HFCs), perfluorinated compounds (PFCs), and sulfur hexafluoride (SF_6)) accounted for five percent.

Imperial County Air Pollution Control District

The ICAPCD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. ICAPCD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. The ICAPCD has not established formal quantitative or qualitative GHG emissions thresholds

28 United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, April 2021, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019

29 California Air Resources Board, *Emissions Trends Report 2000-2018 (2020 Edition)*, https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf

30 California Air Resources Board, *Emissions Trends Report 2000-2018 (2020 Edition)*, https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf

31 California Air Resources Board, *Emissions Trends Report 2000-2018 (2020 Edition)*, https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf

through a public rulemaking process. However, the ICAPCD has adopted the federal Prevention of Significant Deterioration (PSD) and Title V GHG air permitting requirements by reference for stationary sources in Regulation IX in Rules 900 and 903.

ICAPCD Rule 900 provides procedures for issuing permits to operate for industrial projects that are subject to Title V of the federal Clean Air Act Amendments of 1990 (Major Sources) of emissions, which is defined as a source that exceeds 100 tons per year of any regulated pollutant, including GHG emissions.

ICAPCD Rule 903 applies to any stationary source that would have the potential to emit hazardous air pollutants. Rule 903 provides a de minimis emissions level of 20,000 metric tons of CO_2e per year, where if a stationary source produces less emissions than the de minimis emissions levels, the source is exempt from the Rule 903 recordkeeping and reporting requirements.

Thresholds of Significance

The standards of significance applied to the analysis of potential GHG impacts are based on Appendix G of the *CEQA Guidelines.* According to Appendix G evaluation thresholds, the proposed project would be considered to have significant air quality impacts if it were to:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

At this time, neither the ICAPCD nor Imperial County has adopted numerical thresholds of significance for GHG emissions that would apply to the proposed project. The ICAPCD, however, recommends that all projects subject to CEQA review be considered in the context of GHG emissions and climate change impacts, and that CEQA documents include a quantification of GHG emissions from all project sources, as well as minimize and mitigate GHG emissions as feasible. Notably, the project would reduce GHG emissions through long-term operational activities, and thus, would be beneficial impacts on GHG emissions and climate change. Imperial County has not adopted a Climate Action Plan.

Considering the lack of established GHG emissions thresholds that would apply to the proposed project, CEQA allows lead agencies to identify thresholds of significance applicable to a project that are supported by substantial evidence. Substantial evidence is defined in the CEQA statute to mean "facts, reasonable

assumptions predicated on facts, and expert opinion supported by facts" (14 CCR 15384(b)).[32] Substantial evidence can be in the form of technical studies, agency staff reports or opinions, expert opinions supported by facts, and prior CEQA assessments and planning documents. Therefore, to establish additional context in which to consider the order of magnitude of the proposed project's GHG emissions, this analysis accounts for the following considerations by other government agencies and associations about what levels of GHG emissions constitute a cumulatively considerable incremental contribution to climate change:

- Sacramento Metropolitan Air Quality Management District (SMAQMD) established thresholds, including 1,100 metric tons of CO_2e per year for the construction or operational phase of land use development projects, or 10,000 direct metric tons of CO_2e per year from stationary source projects.[33]

- Placer County Air Pollution Control District (PCAPCD) recommends a tiered approach to determine if a project's GHG emissions would result in a significant impact. First, project GHG emissions are compared to the de minimis level of 1,100 metric tons of CO_2e per year. If a project does not exceed this threshold, it does not have significant GHG emissions. If the project exceeds the de minimis level and does not exceed the 10,000 metric tons of CO_2e per year bright line threshold, then the project's GHG emissions can be compared to the efficiency thresholds. These thresholds are 4.5 metric tons of CO_2e per-capita for residential projects in an urban area, and 5.5 metric tons of CO_2e per-capita for residential projects in a rural area. For nonresidential development, the thresholds are 26.5 metric tons of CO_2e per 1,000 square feet for projects in urban areas, and 27.3 metric tons of CO_2e per 1,000 square feet for projects in rural areas. The PCAPCD bright-line GHG threshold of 10,000 metric tons of CO_2e per year is also applied to land use projects' construction phase and stationary source projects' construction and operational phases. Generally, GHG emissions from a project that exceed 10,000 metric tons of CO_2e per year would be deemed to have a cumulatively considerable contribution to global climate change.[34]

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32 14 CCR 15384 provides the following discussion: "Substantial evidence" as used in the Guidelines is the same as the standard of review used by courts in reviewing agency decisions. Some cases suggest that a higher standard, the so called "fair argument standard" applies when a court is reviewing an agency's decision whether or not to prepare an EIR. Public Resources Code section 21082.2 was amended in 1993 (Chapter 1131) to provide that substantial evidence shall include "facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts." The statute further provides that "argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment, is not substantial evidence."

33 Sacramento Metropolitan Air Quality Management District, Guide to Air Quality Assessment in Sacramento County, May 2018, http://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools

34 Placer County Air Pollution Control District, 2017 CEQA Handbook – Chapter 2, Thresholds of Significance. https://placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDf

- Bay Area Air Quality Management District (BAAQMD) has adopted 1,100 metric tons of CO_2e per year as a project-level bright-line GHG significance threshold that would apply to operational emissions from mixed land-use development projects, a threshold of 10,000 metric tons of CO_2e per year as the significance threshold for operational GHG emissions from stationary-source projects, and an efficiency threshold of 4.6 metric tons of CO_2e per service population per year.[35]

- South Coast Air Quality Management District formed a GHG CEQA Significance Threshold Working Group to work with South Coast Air District staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. In December 2008, the South Coast Air Quality Management District adopted an interim 10,000 metric tons of CO_2e per-year screening level threshold for stationary source/industrial projects for which the South Coast Air Quality Management District is the lead agency (South Coast Air Quality Management District Resolution No. 08-35, December 5, 2008).

- The USEPA's 25,000 metric tons of CO_2e emissions threshold or ICAPCD Rule 903 20,000 metric tons of CO_2e emissions threshold.

Therefore, the project used the SMAQMD GHG thresholds of CO_2e -(1,100 metric tons of CO_2e per year for construction or 10,000 metric tons of CO_2e per year from stationary source projects.

As described, the 10,000 metric tons of CO_2e per year threshold is used by other air districts for industrial and/or stationary source emissions of GHG. Since the proposed project is an industrial project that includes stationary sources (i.e., diesel generators used for emergency power), the proposed project's GHG emissions were compared to the 10,000 metric tons of CO_2e per year quantitative threshold. The substantial evidence for this GHG emissions threshold is based on the expert opinion of various California air districts, which have applied the 10,000 metric tons of CO_2e per year threshold in numerous CEQA documents where those air districts were the lead agency.

The estimated construction GHG emissions for the project are 10,307 metric tons of CO_2e, which corresponds to approximately 1,014,500 gallons of diesel fuel.[36] Given the three-year construction period, the average annual construction GHG emissions for the project are approximately 3,435 metric tons of CO_2e, which corresponds to 338,170 gallons of diesel fuel per year. As indicated, the 20-year (project

35 Bay Area Air Quality Management District, CEQA Air Quality Guidelines, May 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

36 Fuel usage is estimated using the output for CO2 and a 10.15 kg-CO2/gallon conversion factor, as cited in the *U.S. Energy Information Administration Voluntary Reporting of Greenhouse Gases Program*, https://www.eia.gov/environment/pdfpages/0608s(2009)index.php

lifetime)[37] amortized construction related GHG emissions would be approximately 515 metric tons of CO_2e. The amortized construction GHG emissions would not exceed 1,100 metric tons of CO_2e per year threshold. The results of the comparison are presented in **Table 23: Estimated Annual Construction Greenhouse Gas Emissions**.

Table 23
Estimated Annual Construction Greenhouse Gas Emissions

Construction Year	CO_2e Metric Tons
2022	868
2023	6,940
2024	2,499
Total Construction Emissions	**10,307**
Total 20-Year Amortized Construction Emissions	**515**

Source: RCH Group, 2022

The estimated annual operational GHG emissions for HKP1 will result in a reduction of 35,308 metric tons of CO_2e due to the generation of renewable energy. The estimated annual operational GHG emissions for HKL1 are 24,865 metric tons of CO_2e. The net annual operational GHG emissions will be a reduction of 10,443 metric tons of CO_2e. The results of the comparison are presented in **Table 24: Estimated Annual Operational Greenhouse Gas Emissions**. See **Section 9** for details and assumptions related to electrical generation and usage.

The operational GHG emissions would not exceed 10,000 metric tons of CO_2e per year threshold and ICAPCD Rule 903 20,000 metric tons of CO_2e emissions threshold, where exceedance of either threshold would require the proposed project to perform additional GHG emissions recordkeeping and reporting.

Under the condition where the annual electrical demand (HKL1) is equal to the electrical generation (HKP1), there would be a net zero of electrical-related GHG emissions. The annual operational GHG emissions associated with other aspects of the proposed project (i.e., employee vehicles, delivery trucks, onsite equipment, generators, fire pumps) would be 2,890 metric tons of CO_2e.

The proposed project would be subject to all applicable permit and planning requirements in place or adopted by the County and the State of California at the time that building permits are issued. The proposed project would be consistent with County plans, policies, and regulations for reduction of GHG. CARB's 2017 Scoping Plan, which details the State's strategy for achieving the 2030 GHG target (EO B-30-

37 Hatch Engineering, Process Design Basis and Criteria, H365316-00000-210-210-0001, August 13, 2021.

15 and SB 32 extended the goals of AB 32 and set a 2030 goal of reducing emissions 40 percent from 1990 levels).

Table 24
Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2e Metric Tons
Hell's Kitchen PowerCo 1	
Employee Vehicles	202
Haul Trucks	5
Vendor Vehicles	7
Onsite Equipment	66
Area Sources	<1
Energy Sources (avoided)	-37,103
Cooling Towers	-
Standby/Black Start Diesel Generator Testing	106
Standby Diesel Generator Testing	134
Standby Fire Pumps Testing	13
Standby/Black Start Diesel Generator Operation	1,270
Subtotal Hell's Kitchen PowerCo 1	**-35,300**
Hell's Kitchen LithiumCo 1	
Employee Vehicles	826
Haul Trucks	170
Onsite Equipment	63
Area Sources	<1
Energy Sources	23,779
Cooling Towers	-
Standby Diesel Generator Testing	28
Rock Muffler	-
Material Transfer and Packaging	-
Subtotal Hell's Kitchen LithiumCo 1	**24,865**
Grand Total	**-10,435**

Source: RCH Group, 2022

12.0 SUMMARY

EPMs for construction activities and operations are presented in **Section 7**. In summary, daily construction emissions would not exceed the significance thresholds, as described in **Section 8**. These impacts are largely due to off-road construction equipment and to a much lesser degree due to off-site construction haul trucks. Unmitigated construction emissions would be potentially significant, but mitigation measures

would reduce impacts to less than significant. Once operational, the proposed project would result in less than significant impacts of criteria air pollutants and a reduction of GHG emissions (see **Sections 9, 10, and 11)**. Therefore, short-term construction-related air quality impacts would occur, but long-term operational-related air quality benefits would follow.

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Attachment A

Construction Emissions

- CALEEMOD for Geothermal Power Plant and Lithium Production Plant

Daily Unmitigated Construction Emissions (pounds per day) for Summer

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	13.0	89.7	**142**	34.7	19.4	0.37
2023	34.0	249	**253**	51.6	26.7	0.78
2024	76.3	144	**106**	14.4	8.50	0.36
Significance Thresholds	75	550	100	150	55	--
Significance Thresholds (Y/N)	Yes	No	Yes	No	No	--

Daily Mitigated Construction Emissions (pounds per day) for Summer

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	3.88	108	71.9	17.4	6.88	0.37
2023	18.6	307	91.4	28.8	11.5	0.78
2024	70.8	175	48.8	11.5	3.85	0.36
Significance Thresholds	75	550	100	150	55	--
Significance Thresholds (Y/N)	No	No	No	No	No	--

Daily Unmitigated Construction Emissions (pounds per day) for Winter

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	12.8	88.6	**145**	34.7	19.4	0.37
2023	32.1	235	**258**	51.6	26.7	0.76
2024	75.0	132	**106**	14.4	6.50	0.35
Significance Thresholds	75	550	100	150	55	--
Significance Thresholds (Y/N)	Yes	No	Yes	No	No	--

Daily Mitigated Construction Emissions (pounds per day) for Winter

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	3.67	107	79.0	17.4	6.88	0.37
2023	16.7	293	95.0	28.8	11.5	0.76
2024	69.6	164	49.3	11.5	3.85	0.35
Significance Thresholds	75	550	100	150	55	--
Significance Thresholds (Y/N)	No	No	No	No	No	--

Daily Unmitigated Construction Emissions (pounds per day)

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	13.0	90	**145**	34.7	19.4	0.37
2023	34.0	249	**258**	51.6	26.7	0.78
2024	76.3	144	**106**	14.4	8.50	0.36
Significance Thresholds	75	550	100	150	55	--
Significance Thresholds (Y/N)	Yes	No	Yes	No	No	--

Daily Mitigated Construction Emissions (pounds per day)

Construction Year	ROG	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
2022	3.88	108	79.0	17.4	6.88	0.37
2023	18.6	307	95.0	28.8	11.5	0.78
2024	70.8	175	49.3	11.5	3.85	0.36
Significance Thresholds	75	550	100	150	55	--
Significance Thresholds (Y/N)	No	No	No	No	No	--

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hell's Kitchen Geothermal and Lithium Plants Construction

Imperial County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	789.00	1000sqft	18.11	789,000.00	0
Other Non-Asphalt Surfaces	395.00	1000sqft	9.07	395,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Conditional Use Permit Application Project Description, November 2021

Construction Phase - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Project Description

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

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Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Trips and VMT - Conditional Use Permit Application Project Description, November 2021

On-road Fugitive Dust - Trips use Highway 11, McDonald Road, and Davis Road, all paved except two miles on Davis and a portion of McDonald Roads, prior to construction. This unpaved portion will be improved with 12-18" base and would have a dedicated water truck.

Grading - Conditional Use Permit Application Project Description, November 2021 and Table of Quantities for Water Resources Permit Application, December 7, 2021

Architectural Coating - Conditional Use Permit Application Project Description, November 2021

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Construction Off-road Equipment Mitigation - Basic and Enhanced Emission Reduction Measures

Area Mitigation - Conditional Use Permit Application Project Description, November 2021

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
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tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,183,500.00	158,000.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	150	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	394500	247333
tblAreaCoating	Area_Nonresidential_Interior	1183500	742000
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	0	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	0	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	0	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	0	100
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	32.00
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Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblGrading	AcresOfGrading	536.00	18.00
tblGrading	AcresOfGrading	840.00	36.00
tblGrading	AcresOfGrading	12.00	18.00
tblGrading	AcresOfGrading	24.00	36.00
tblGrading	MaterialExported	0.00	15,801.00
tblGrading	MaterialExported	0.00	47,602.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	MaterialExported	0.00	7,899.00
tblGrading	MaterialExported	0.00	23,798.00
tblGrading	MaterialImported	0.00	100,672.00
tblGrading	MaterialImported	0.00	186,876.00
tblGrading	MaterialImported	0.00	50,328.00
tblGrading	MaterialImported	0.00	93,424.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblSolidWaste	SolidWasteGenerationRate	978.36	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	20.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,656.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,250.00
tblTripsAndVMT	VendorTripNumber	194.00	2.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	194.00	2.00
tblTripsAndVMT	VendorTripNumber	194.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	497.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	497.00	140.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	18.00	60.00
tblTripsAndVMT	WorkerTripNumber	497.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	180.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	18.00	60.00
tblTripsAndVMT	WorkerTripNumber	99.00	22.00
tblTripsAndVMT	WorkerTripNumber	53.00	120.00
tblTripsAndVMT	WorkerTripNumber	20.00	40.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	497.00	100.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	53.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	180.00
tblTripsAndVMT	WorkerTripNumber	497.00	140.00
tblTripsAndVMT	WorkerTripNumber	497.00	100.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00
tblWater	IndoorWaterUseRate	182,456,250.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2865	3.5412	2.0034	9.1700e-003	0.7658	0.1172	0.8829	0.3605	0.1082	0.4687	0.0000	844.0654	844.0654	0.1262	0.0702	868.1371
2023	3.3615	24.8933	24.7323	0.0765	3.6848	0.9086	4.5934	1.4612	0.8511	2.3124	0.0000	6,823.7876	6,823.7876	1.2333	0.2869	6,940.1050
2024	2.3354	9.0148	11.5801	0.0285	0.8639	0.3355	1.1994	0.2307	0.3182	0.5489	0.0000	2,475.4723	2,475.4723	0.4509	0.0416	2,499.1521
Maximum	**3.3615**	**24.8933**	**24.7323**	**0.0765**	**3.6848**	**0.9086**	**4.5934**	**1.4612**	**0.8511**	**2.3124**	**0.0000**	**6,823.7876**	**6,823.7876**	**1.2333**	**0.2869**	**6,940.1050**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0896	1.2734	2.3744	9.1700e-003	0.3982	0.0128	0.4111	0.1678	0.0123	0.1802	0.0000	844.0650	844.0650	0.1262	0.0702	868.1366
2023	1.9136	9.9037	30.5708	0.0765	2.5766	0.1879	2.7645	0.8763	0.1858	1.0620	0.0000	6,823.7827	6,823.7827	1.2333	0.2869	6,940.1000
2024	1.8648	4.4855	13.8693	0.0285	0.8639	0.1056	0.9695	0.2307	0.1052	0.3359	0.0000	2,475.4703	2,475.4703	0.4509	0.0416	2,499.1500
Maximum	**1.9136**	**9.9037**	**30.5708**	**0.0765**	**2.5766**	**0.1879**	**2.7645**	**0.8763**	**0.1858**	**1.0620**	**0.0000**	**6,823.7827**	**6,823.7827**	**1.2333**	**0.2869**	**6,940.1000**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**35.35**	**58.18**	**-22.18**	**0.00**	**27.77**	**77.50**	**37.91**	**37.89**	**76.26**	**52.61**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-1-2022**	**1-31-2023**	5.6156	1.8700
2	**2-1-2023**	**4-30-2023**	8.2182	3.5139
3	**5-1-2023**	**7-31-2023**	9.4281	3.7799
4	**8-1-2023**	**10-31-2023**	5.3379	2.3687
5	**11-1-2023**	**1-31-2024**	5.0829	2.4495
6	**2-1-2024**	**4-30-2024**	4.1375	2.1606
7	**5-1-2024**	**7-31-2024**	4.3451	2.7638
8	**8-1-2024**	**9-30-2024**	1.2064	0.6133
		Highest	9.4281	3.7799

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Power Plant Site Preparation	Site Preparation	11/1/2022	11/14/2022	6	12	
2	Power Plant Grading	Grading	11/15/2022	1/31/2023	6	67	
3	Lithium Plant Site Preparation	Site Preparation	2/1/2023	2/28/2023	6	24	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Power Plant Foundation	Building Construction	2/1/2023	7/31/2023	6	155	
5	Power Plant Process Equipment Installation	Building Construction	2/1/2023	9/30/2023	6	208	
6	Lithium Plant Grading	Grading	3/1/2023	6/30/2023	6	105	
7	Power Plant Structural Steel	Building Construction	3/1/2023	7/31/2023	6	131	
8	Power Plant Electrical	Building Construction	3/1/2023	9/30/2023	6	184	
9	Lithium Plant Foundation	Building Construction	3/1/2023	1/31/2024	6	289	
10	Power Plant Building Construction	Building Construction	3/1/2023	8/31/2023	6	158	
11	Power Plant Piping	Building Construction	5/1/2023	9/30/2023	6	132	
12	Lithium Plant Electrical	Building Construction	8/1/2023	3/31/2024	6	209	
13	Lithium Plant Process Equipment Installation	Building Construction	9/1/2023	8/31/2024	6	314	
14	Power Plant Onsite Paving	Paving	9/1/2023	9/30/2023	6	26	
15	Lithium Plant Building Construction	Building Construction	10/1/2023	5/31/2024	6	209	
16	Lithum Plant Structural Steel	Building Construction	11/1/2023	6/30/2024	6	208	
17	Lithium Plant Piping	Building Construction	11/1/2023	8/31/2024	6	262	
18	Lithium Plant Onsite Paving	Paving	5/1/2024	5/31/2024	6	27	
19	Lithium Plant Coating	Architectural Coating	5/1/2024	5/31/2024	6	27	
20	Lithium Plant Offsite Paving	Paving	9/1/2024	9/30/2024	6	25	

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 18

Acres of Paving: 9.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,000; Non-Residential Outdoor: 47,400; Striped Parking Area: 23,700 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Power Plant Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Power Plant Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Grading	Excavators	1	4.00	158	0.38
Power Plant Grading	Graders	0	8.00	187	0.41
Power Plant Grading	Off-Highway Trucks	7	6.00	402	0.38
Power Plant Grading	Rubber Tired Dozers	4	8.00	247	0.40
Power Plant Grading	Scrapers	6	8.00	367	0.48
Power Plant Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Lithium Plant Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Lithium Plant Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Power Plant Foundation	Cranes	0	7.00	231	0.29
Power Plant Foundation	Forklifts	0	8.00	89	0.20
Power Plant Foundation	Generator Sets	0	8.00	84	0.74
Power Plant Foundation	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Foundation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Foundation	Welders	0	8.00	46	0.45
Power Plant Process Equipment Installation	Aerial Lifts	3	4.00	63	0.31
Power Plant Process Equipment Installation	Cranes	3	4.00	231	0.29
Power Plant Process Equipment Installation	Forklifts	4	4.00	89	0.20
Power Plant Process Equipment Installation	Generator Sets	1	4.00	84	0.74
Power Plant Process Equipment Installation	Off-Highway Trucks	2	6.00	402	0.38
Power Plant Process Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Process Equipment Installation	Welders	10	8.00	46	0.45
Lithium Plant Grading	Excavators	1	4.00	158	0.38
Lithium Plant Grading	Graders	0	8.00	187	0.41
Lithium Plant Grading	Off-Highway Trucks	7	6.00	402	0.38
Lithium Plant Grading	Rubber Tired Dozers	4	8.00	247	0.40
Lithium Plant Grading	Scrapers	6	8.00	367	0.48
Lithium Plant Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Structural Steel	Aerial Lifts	4	4.00	63	0.31
Power Plant Structural Steel	Cranes	2	4.00	231	0.29
Power Plant Structural Steel	Forklifts	4	4.00	89	0.20
Power Plant Structural Steel	Generator Sets	1	4.00	84	0.74
Power Plant Structural Steel	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Structural Steel	Welders	3	4.00	46	0.45
Power Plant Electrical	Aerial Lifts	2	4.00	63	0.31
Power Plant Electrical	Cranes	1	4.00	231	0.29
Power Plant Electrical	Forklifts	2	4.00	89	0.20
Power Plant Electrical	Generator Sets	1	4.00	84	0.74
Power Plant Electrical	Graders	1	4.00	187	0.41
Power Plant Electrical	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Electrical	Rollers	1	4.00	80	0.38
Power Plant Electrical	Rubber Tired Dozers	1	4.00	247	0.40
Power Plant Electrical	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Power Plant Electrical	Welders	0	8.00	46	0.45
Lithium Plant Foundation	Cranes	0	7.00	231	0.29
Lithium Plant Foundation	Forklifts	0	8.00	89	0.20
Lithium Plant Foundation	Generator Sets	0	8.00	84	0.74
Lithium Plant Foundation	Off-Highway Trucks	2	8.00	402	0.38
Lithium Plant Foundation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Foundation	Welders	0	8.00	46	0.45
Power Plant Building Construction	Aerial Lifts	1	4.00	63	0.31
Power Plant Building Construction	Cranes	1	4.00	231	0.29
Power Plant Building Construction	Forklifts	1	4.00	89	0.20
Power Plant Building Construction	Generator Sets	1	4.00	84	0.74
Power Plant Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Building Construction	Welders	0	8.00	46	0.45

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Piping	Aerial Lifts	2	4.00	63	0.31
Power Plant Piping	Cranes	3	4.00	231	0.29
Power Plant Piping	Forklifts	5	4.00	89	0.20
Power Plant Piping	Generator Sets	1	4.00	84	0.74
Power Plant Piping	Off-Highway Trucks	2	6.00	402	0.38
Power Plant Piping	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Piping	Welders	8	8.00	46	0.45
Lithium Plant Electrical	Aerial Lifts	2	4.00	63	0.31
Lithium Plant Electrical	Cranes	1	4.00	231	0.29
Lithium Plant Electrical	Forklifts	2	4.00	89	0.20
Lithium Plant Electrical	Generator Sets	1	4.00	84	0.74
Lithium Plant Electrical	Graders	1	4.00	187	0.41
Lithium Plant Electrical	Off-Highway Trucks	2	8.00	402	0.38
Lithium Plant Electrical	Rollers	1	4.00	80	0.38
Lithium Plant Electrical	Rubber Tired Dozers	1	4.00	247	0.40
Lithium Plant Electrical	Tractors/Loaders/Backhoes	3	4.00	97	0.37
Lithium Plant Electrical	Welders	0	8.00	46	0.45
Lithium Plant Process Equipment Installation	Aerial Lifts	3	4.00	63	0.31
Lithium Plant Process Equipment Installation	Cranes	3	4.00	231	0.29
Lithium Plant Process Equipment Installation	Forklifts	4	4.00	89	0.20
Lithium Plant Process Equipment Installation	Generator Sets	1	4.00	84	0.74
Lithium Plant Process Equipment Installation	Off-Highway Trucks	2	6.00	402	0.38
Lithium Plant Process Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Process Equipment Installation	Welders	10	8.00	46	0.45
Power Plant Onsite Paving	Graders	1	8.00	187	0.41
Power Plant Onsite Paving	Off-Highway Trucks	1	6.00	402	0.38
Power Plant Onsite Paving	Pavers	1	8.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Onsite Paving	Paving Equipment	1	6.00	132	0.36
Power Plant Onsite Paving	Rollers	2	8.00	80	0.38
Power Plant Onsite Paving	Rubber Tired Dozers	1	8.00	247	0.40
Lithium Plant Building Construction	Aerial Lifts	1	4.00	63	0.31
Lithium Plant Building Construction	Cranes	1	4.00	231	0.29
Lithium Plant Building Construction	Forklifts	1	4.00	89	0.20
Lithium Plant Building Construction	Generator Sets	1	4.00	84	0.74
Lithium Plant Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Building Construction	Welders	0	8.00	46	0.45
Lithum Plant Structural Steel	Aerial Lifts	4	4.00	63	0.31
Lithum Plant Structural Steel	Cranes	2	4.00	231	0.29
Lithum Plant Structural Steel	Forklifts	4	4.00	89	0.20
Lithum Plant Structural Steel	Generator Sets	1	4.00	84	0.74
Lithum Plant Structural Steel	Off-Highway Trucks	2	8.00	402	0.38
Lithum Plant Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithum Plant Structural Steel	Welders	3	4.00	46	0.45
Lithium Plant Piping	Aerial Lifts	2	4.00	63	0.31
Lithium Plant Piping	Cranes	3	4.00	231	0.29
Lithium Plant Piping	Forklifts	5	4.00	89	0.20
Lithium Plant Piping	Generator Sets	1	4.00	84	0.74
Lithium Plant Piping	Off-Highway Trucks	2	6.00	402	0.38
Lithium Plant Piping	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Piping	Welders	8	8.00	46	0.45
Lithium Plant Onsite Paving	Graders	1	8.00	187	0.41
Lithium Plant Onsite Paving	Off-Highway Trucks	1	6.00	402	0.38
Lithium Plant Onsite Paving	Pavers	1	8.00	130	0.42
Lithium Plant Onsite Paving	Paving Equipment	1	6.00	132	0.36
Lithium Plant Onsite Paving	Rollers	2	8.00	80	0.38
Lithium Plant Onsite Paving	Rubber Tired Dozers	1	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Coating	Air Compressors	2	2.00	78	0.48
Lithium Plant Offsite Paving	Graders	1	8.00	187	0.41
Lithium Plant Offsite Paving	Off-Highway Trucks	1	8.00	402	0.38
Lithium Plant Offsite Paving	Pavers	1	8.00	130	0.42
Lithium Plant Offsite Paving	Paving Equipment	1	8.00	132	0.36
Lithium Plant Offsite Paving	Rollers	3	6.00	80	0.38
Lithium Plant Offsite Paving	Rubber Tired Dozers	1	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Power Plant Site Preparation	4	20.00	0.00	7,278.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Grading	21	120.00	10.00	14,559.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Site Preparation	4	20.00	0.00	14,653.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Foundation	2	100.00	6.00	1,656.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Process Equipment Installation	23	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Grading	21	120.00	10.00	29,310.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Structural Steel	16	180.00	10.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Electrical	14	140.00	6.00	6.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Foundation	2	100.00	6.00	2,250.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Building Construction	4	120.00	2.00	1.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Piping	21	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Electrical	14	140.00	6.00	6.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Process Equipment Installation	23	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Onsite Paving	7	60.00	8.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Building Construction	4	120.00	2.00	1.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithum Plant Structural Steel	16	180.00	10.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Piping	21	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Onsite Paving	7	60.00	8.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Coating	2	22.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Offsite Paving	8	40.00	8.00	20.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Power Plant Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0876	0.0000	0.0876	0.0416	0.0000	0.0416	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0120	0.1256	0.0698	1.4000e-004		6.0900e-003	6.0900e-003		5.6000e-003	5.6000e-003	0.0000	12.2826	12.2826	3.9700e-003	0.0000	12.3820
Total	**0.0120**	**0.1256**	**0.0698**	**1.4000e-004**	**0.0876**	**6.0900e-003**	**0.0937**	**0.0416**	**5.6000e-003**	**0.0472**	**0.0000**	**12.2826**	**12.2826**	**3.9700e-003**	**0.0000**	**12.3820**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Power Plant Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0108	0.4590	0.1072	2.0500e-003	0.0634	5.1600e-003	0.0686	0.0174	4.9400e-003	0.0224	0.0000	196.7748	196.7748	5.8000e-004	0.0309	206.0074
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	3.2000e-004	3.7100e-003	1.0000e-005	9.2000e-004	0.0000	9.3000e-004	2.5000e-004	0.0000	2.5000e-004	0.0000	0.7519	0.7519	3.0000e-005	3.0000e-005	0.7603
Total	**0.0114**	**0.4594**	**0.1109**	**2.0600e-003**	**0.0644**	**5.1600e-003**	**0.0695**	**0.0177**	**4.9400e-003**	**0.0226**	**0.0000**	**197.5268**	**197.5268**	**6.1000e-004**	**0.0310**	**206.7677**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0342	0.0000	0.0342	0.0162	0.0000	0.0162	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	7.4100e-003	0.0741	1.4000e-004		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	12.2826	12.2826	3.9700e-003	0.0000	12.3819
Total	**1.7100e-003**	**7.4100e-003**	**0.0741**	**1.4000e-004**	**0.0342**	**3.0000e-005**	**0.0342**	**0.0162**	**3.0000e-005**	**0.0163**	**0.0000**	**12.2826**	**12.2826**	**3.9700e-003**	**0.0000**	**12.3819**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Power Plant Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0108	0.4590	0.1072	2.0500e-003	0.0634	5.1600e-003	0.0686	0.0174	4.9400e-003	0.0224	0.0000	196.7748	196.7748	5.8000e-004	0.0309	206.0074
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	3.2000e-004	3.7100e-003	1.0000e-005	9.2000e-004	0.0000	9.3000e-004	2.5000e-004	0.0000	2.5000e-004	0.0000	0.7519	0.7519	3.0000e-005	3.0000e-005	0.7603
Total	**0.0114**	**0.4594**	**0.1109**	**2.0600e-003**	**0.0644**	**5.1600e-003**	**0.0695**	**0.0177**	**4.9400e-003**	**0.0226**	**0.0000**	**197.5268**	**197.5268**	**6.1000e-004**	**0.0310**	**206.7677**

3.3 Power Plant Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5150	0.0000	0.5150	0.2742	0.0000	0.2742	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2385	2.3744	1.6104	4.2300e-003		0.0993	0.0993		0.0914	0.0914	0.0000	371.9142	371.9142	0.1203	0.0000	374.9213
Total	**0.2385**	**2.3744**	**1.6104**	**4.2300e-003**	**0.5150**	**0.0993**	**0.6143**	**0.2742**	**0.0914**	**0.3656**	**0.0000**	**371.9142**	**371.9142**	**0.1203**	**0.0000**	**374.9213**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0132	0.5619	0.1313	2.5100e-003	0.0777	6.3200e-003	0.0840	0.0213	6.0400e-003	0.0274	0.0000	240.8785	240.8785	7.1000e-004	0.0379	252.1805
Vendor	6.4000e-004	0.0133	4.8800e-003	6.0000e-005	2.2500e-003	1.9000e-004	2.4400e-003	6.5000e-004	1.8000e-004	8.3000e-004	0.0000	6.0488	6.0488	3.0000e-005	8.4000e-004	6.3003
Worker	0.0108	6.6400e-003	0.0761	1.7000e-004	0.0190	1.0000e-004	0.0191	5.0300e-003	9.0000e-005	5.1200e-003	0.0000	15.4145	15.4145	5.6000e-004	5.3000e-004	15.5854
Total	**0.0247**	**0.5818**	**0.2122**	**2.7400e-003**	**0.0989**	**6.6100e-003**	**0.1055**	**0.0270**	**6.3100e-003**	**0.0333**	**0.0000**	**262.3419**	**262.3419**	**1.3000e-003**	**0.0392**	**274.0661**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2008	0.0000	0.2008	0.1070	0.0000	0.1070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0519	0.2248	1.9772	4.2300e-003		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	371.9137	371.9137	0.1203	0.0000	374.9208
Total	**0.0519**	**0.2248**	**1.9772**	**4.2300e-003**	**0.2008**	**1.0400e-003**	**0.2019**	**0.1070**	**1.0400e-003**	**0.1080**	**0.0000**	**371.9137**	**371.9137**	**0.1203**	**0.0000**	**374.9208**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0132	0.5619	0.1313	2.5100e-003	0.0777	6.3200e-003	0.0840	0.0213	6.0400e-003	0.0274	0.0000	240.8785	240.8785	7.1000e-004	0.0379	252.1805
Vendor	6.4000e-004	0.0133	4.8800e-003	6.0000e-005	2.2500e-003	1.9000e-004	2.4400e-003	6.5000e-004	1.8000e-004	8.3000e-004	0.0000	6.0488	6.0488	3.0000e-005	8.4000e-004	6.3003
Worker	0.0108	6.6400e-003	0.0761	1.7000e-004	0.0190	1.0000e-004	0.0191	5.0300e-003	9.0000e-005	5.1200e-003	0.0000	15.4145	15.4145	5.6000e-004	5.3000e-004	15.5854
Total	**0.0247**	**0.5818**	**0.2122**	**2.7400e-003**	**0.0989**	**6.6100e-003**	**0.1055**	**0.0270**	**6.3100e-003**	**0.0333**	**0.0000**	**262.3419**	**262.3419**	**1.3000e-003**	**0.0392**	**274.0661**

3.3 Power Plant Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3343	0.0000	0.3343	0.1749	0.0000	0.1749	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1385	1.3302	0.9729	2.6900e-003		0.0543	0.0543		0.0499	0.0499	0.0000	235.9031	235.9031	0.0763	0.0000	237.8105
Total	**0.1385**	**1.3302**	**0.9729**	**2.6900e-003**	**0.3343**	**0.0543**	**0.3886**	**0.1749**	**0.0499**	**0.2249**	**0.0000**	**235.9031**	**235.9031**	**0.0763**	**0.0000**	**237.8105**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.5300e-003	0.2923	0.0819	1.5300e-003	0.0492	3.4400e-003	0.0527	0.0135	3.3000e-003	0.0168	0.0000	146.8024	146.8024	3.9000e-004	0.0231	153.6891
Vendor	3.1000e-004	6.5000e-003	2.7600e-003	4.0000e-005	1.4300e-003	6.0000e-005	1.4900e-003	4.1000e-004	6.0000e-005	4.7000e-004	0.0000	3.7061	3.7061	1.0000e-005	5.1000e-004	3.8588
Worker	6.3200e-003	3.7100e-003	0.0439	1.0000e-004	0.0120	6.0000e-005	0.0121	3.1900e-003	6.0000e-005	3.2400e-003	0.0000	9.5162	9.5162	3.2000e-004	3.1000e-004	9.6154
Total	**0.0132**	**0.3025**	**0.1285**	**1.6700e-003**	**0.0627**	**3.5600e-003**	**0.0663**	**0.0171**	**3.4200e-003**	**0.0205**	**0.0000**	**160.0246**	**160.0246**	**7.2000e-004**	**0.0239**	**167.1632**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1304	0.0000	0.1304	0.0682	0.0000	0.0682	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0329	0.1426	1.2538	2.6900e-003		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004	0.0000	235.9028	235.9028	0.0763	0.0000	237.8102
Total	**0.0329**	**0.1426**	**1.2538**	**2.6900e-003**	**0.1304**	**6.6000e-004**	**0.1310**	**0.0682**	**6.6000e-004**	**0.0689**	**0.0000**	**235.9028**	**235.9028**	**0.0763**	**0.0000**	**237.8102**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.5300e-003	0.2923	0.0819	1.5300e-003	0.0492	3.4400e-003	0.0527	0.0135	3.3000e-003	0.0168	0.0000	146.8024	146.8024	3.9000e-004	0.0231	153.6891
Vendor	3.1000e-004	6.5000e-003	2.7600e-003	4.0000e-005	1.4300e-003	6.0000e-005	1.4900e-003	4.1000e-004	6.0000e-005	4.7000e-004	0.0000	3.7061	3.7061	1.0000e-005	5.1000e-004	3.8588
Worker	6.3200e-003	3.7100e-003	0.0439	1.0000e-004	0.0120	6.0000e-005	0.0121	3.1900e-003	6.0000e-005	3.2400e-003	0.0000	9.5162	9.5162	3.2000e-004	3.1000e-004	9.6154
Total	**0.0132**	**0.3025**	**0.1285**	**1.6700e-003**	**0.0627**	**3.5600e-003**	**0.0663**	**0.0171**	**3.4200e-003**	**0.0205**	**0.0000**	**160.0246**	**160.0246**	**7.2000e-004**	**0.0239**	**167.1632**

3.4 Lithium Plant Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1753	0.0000	0.1753	0.0833	0.0000	0.0833	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0201	0.2079	0.1281	2.8000e-004		9.5200e-003	9.5200e-003		8.7600e-003	8.7600e-003	0.0000	24.5719	24.5719	7.9500e-003	0.0000	24.7706
Total	**0.0201**	**0.2079**	**0.1281**	**2.8000e-004**	**0.1753**	**9.5200e-003**	**0.1848**	**0.0833**	**8.7600e-003**	**0.0920**	**0.0000**	**24.5719**	**24.5719**	**7.9500e-003**	**0.0000**	**24.7706**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Lithium Plant Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0169	0.7581	0.2123	3.9600e-003	0.1277	8.9300e-003	0.1366	0.0351	8.5500e-003	0.0436	0.0000	380.7409	380.7409	1.0100e-003	0.0599	398.6019
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	5.7000e-004	6.7500e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4640	1.4640	5.0000e-005	5.0000e-005	1.4793
Total	**0.0179**	**0.7587**	**0.2190**	**3.9800e-003**	**0.1296**	**8.9400e-003**	**0.1385**	**0.0356**	**8.5600e-003**	**0.0441**	**0.0000**	**382.2049**	**382.2049**	**1.0600e-003**	**0.0599**	**400.0812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0684	0.0000	0.0684	0.0325	0.0000	0.0325	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4200e-003	0.0148	0.1482	2.8000e-004		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	24.5718	24.5718	7.9500e-003	0.0000	24.7705
Total	**3.4200e-003**	**0.0148**	**0.1482**	**2.8000e-004**	**0.0684**	**7.0000e-005**	**0.0684**	**0.0325**	**7.0000e-005**	**0.0326**	**0.0000**	**24.5718**	**24.5718**	**7.9500e-003**	**0.0000**	**24.7705**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Lithium Plant Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0169	0.7581	0.2123	3.9600e-003	0.1277	8.9300e-003	0.1366	0.0351	8.5500e-003	0.0436	0.0000	380.7409	380.7409	1.0100e-003	0.0599	398.6019
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	5.7000e-004	6.7500e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4640	1.4640	5.0000e-005	5.0000e-005	1.4793
Total	**0.0179**	**0.7587**	**0.2190**	**3.9800e-003**	**0.1296**	**8.9400e-003**	**0.1385**	**0.0356**	**8.5600e-003**	**0.0441**	**0.0000**	**382.2049**	**382.2049**	**1.0600e-003**	**0.0599**	**400.0812**

3.5 Power Plant Foundation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0781	0.5530	0.5097	2.0500e-003		0.0200	0.0200		0.0184	0.0184	0.0000	179.9698	179.9698	0.0582	0.0000	181.4249
Total	**0.0781**	**0.5530**	**0.5097**	**2.0500e-003**		**0.0200**	**0.0200**		**0.0184**	**0.0184**	**0.0000**	**179.9698**	**179.9698**	**0.0582**	**0.0000**	**181.4249**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Power Plant Foundation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0857	0.0240	4.5000e-004	0.0144	1.0100e-003	0.0154	3.9600e-003	9.7000e-004	4.9300e-003	0.0000	43.0292	43.0292	1.1000e-004	6.7600e-003	45.0478
Vendor	1.1200e-003	0.0232	9.8800e-003	1.4000e-004	5.1000e-003	2.3000e-004	5.3300e-003	1.4700e-003	2.2000e-004	1.6900e-003	0.0000	13.2565	13.2565	5.0000e-005	1.8300e-003	13.8025
Worker	0.0314	0.0184	0.2179	5.1000e-004	0.0597	3.0000e-004	0.0600	0.0158	2.8000e-004	0.0161	0.0000	47.2758	47.2758	1.5700e-003	1.5200e-003	47.7687
Total	**0.0344**	**0.1273**	**0.2517**	**1.1000e-003**	**0.0792**	**1.5400e-003**	**0.0808**	**0.0213**	**1.4700e-003**	**0.0227**	**0.0000**	**103.5614**	**103.5614**	**1.7300e-003**	**0.0101**	**106.6189**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0251	0.1086	0.9187	2.0500e-003		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	179.9696	179.9696	0.0582	0.0000	181.4247
Total	**0.0251**	**0.1086**	**0.9187**	**2.0500e-003**		**5.0000e-004**	**5.0000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**179.9696**	**179.9696**	**0.0582**	**0.0000**	**181.4247**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Power Plant Foundation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0857	0.0240	4.5000e-004	0.0144	1.0100e-003	0.0154	3.9600e-003	9.7000e-004	4.9300e-003	0.0000	43.0292	43.0292	1.1000e-004	6.7600e-003	45.0478
Vendor	1.1200e-003	0.0232	9.8800e-003	1.4000e-004	5.1000e-003	2.3000e-004	5.3300e-003	1.4700e-003	2.2000e-004	1.6900e-003	0.0000	13.2565	13.2565	5.0000e-005	1.8300e-003	13.8025
Worker	0.0314	0.0184	0.2179	5.1000e-004	0.0597	3.0000e-004	0.0600	0.0158	2.8000e-004	0.0161	0.0000	47.2758	47.2758	1.5700e-003	1.5200e-003	47.7687
Total	**0.0344**	**0.1273**	**0.2517**	**1.1000e-003**	**0.0792**	**1.5400e-003**	**0.0808**	**0.0213**	**1.4700e-003**	**0.0227**	**0.0000**	**103.5614**	**103.5614**	**1.7300e-003**	**0.0101**	**106.6189**

3.6 Power Plant Process Equipment Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4407	3.0532	3.1435	6.5400e-003		0.1228	0.1228		0.1181	0.1181	0.0000	536.3024	536.3024	0.1233	0.0000	539.3845
Total	**0.4407**	**3.0532**	**3.1435**	**6.5400e-003**		**0.1228**	**0.1228**		**0.1181**	**0.1181**	**0.0000**	**536.3024**	**536.3024**	**0.1233**	**0.0000**	**539.3845**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Power Plant Process Equipment Installation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	5.0100e-003	0.1040	0.0442	6.2000e-004	0.0228	1.0200e-003	0.0239	6.5800e-003	9.8000e-004	7.5500e-003	0.0000	59.2978	59.2978	2.3000e-004	8.1800e-003	61.7400
Worker	0.1475	0.0865	1.0232	2.3900e-003	0.2804	1.4000e-003	0.2818	0.0744	1.2900e-003	0.0757	0.0000	222.0435	222.0435	7.3700e-003	7.1500e-003	224.3588
Total	**0.1525**	**0.1910**	**1.0675**	**3.0100e-003**	**0.3033**	**2.4300e-003**	**0.3058**	**0.0810**	**2.2800e-003**	**0.0833**	**0.0000**	**281.6012**	**281.6012**	**7.6000e-003**	**0.0154**	**286.3709**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3147	1.8136	3.7266	6.5400e-003		0.0583	0.0583		0.0583	0.0583	0.0000	536.3017	536.3017	0.1233	0.0000	539.3838
Total	**0.3147**	**1.8136**	**3.7266**	**6.5400e-003**		**0.0583**	**0.0583**		**0.0583**	**0.0583**	**0.0000**	**536.3017**	**536.3017**	**0.1233**	**0.0000**	**539.3838**

3.6 Power Plant Process Equipment Installation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	5.0100e-003	0.1040	0.0442	6.2000e-004	0.0228	1.0200e-003	0.0239	6.5800e-003	9.8000e-004	7.5500e-003	0.0000	59.2978	59.2978	2.3000e-004	8.1800e-003	61.7400
Worker	0.1475	0.0865	1.0232	2.3900e-003	0.2804	1.4000e-003	0.2818	0.0744	1.2900e-003	0.0757	0.0000	222.0435	222.0435	7.3700e-003	7.1500e-003	224.3588
Total	**0.1525**	**0.1910**	**1.0675**	**3.0100e-003**	**0.3033**	**2.4300e-003**	**0.3058**	**0.0810**	**2.2800e-003**	**0.0833**	**0.0000**	**281.6012**	**281.6012**	**7.6000e-003**	**0.0154**	**286.3709**

3.7 Lithium Plant Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3071	0.0000	1.3071	0.7007	0.0000	0.7007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5593	5.3719	3.9288	0.0109		0.2192	0.2192		0.2017	0.2017	0.0000	952.6856	952.6856	0.3081	0.0000	960.3885
Total	**0.5593**	**5.3719**	**3.9288**	**0.0109**	**1.3071**	**0.2192**	**1.5263**	**0.7007**	**0.2017**	**0.9024**	**0.0000**	**952.6856**	**952.6856**	**0.3081**	**0.0000**	**960.3885**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Lithium Plant Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0339	1.5164	0.4246	7.9300e-003	0.2555	0.0179	0.2733	0.0701	0.0171	0.0872	0.0000	761.5857	761.5857	2.0200e-003	0.1197	797.3126
Vendor	1.2600e-003	0.0262	0.0112	1.6000e-004	5.7600e-003	2.6000e-004	6.0200e-003	1.6600e-003	2.5000e-004	1.9100e-003	0.0000	14.9670	14.9670	6.0000e-005	2.0600e-003	15.5834
Worker	0.0255	0.0150	0.1771	4.1000e-004	0.0485	2.4000e-004	0.0488	0.0129	2.2000e-004	0.0131	0.0000	38.4306	38.4306	1.2800e-003	1.2400e-003	38.8313
Total	**0.0607**	**1.5576**	**0.6129**	**8.5000e-003**	**0.3098**	**0.0184**	**0.3281**	**0.0847**	**0.0176**	**0.1022**	**0.0000**	**814.9833**	**814.9833**	**3.3600e-003**	**0.1230**	**851.7274**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5098	0.0000	0.5098	0.2733	0.0000	0.2733	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1329	0.5758	5.0636	0.0109		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	952.6844	952.6844	0.3081	0.0000	960.3874
Total	**0.1329**	**0.5758**	**5.0636**	**0.0109**	**0.5098**	**2.6600e-003**	**0.5124**	**0.2733**	**2.6600e-003**	**0.2760**	**0.0000**	**952.6844**	**952.6844**	**0.3081**	**0.0000**	**960.3874**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Lithium Plant Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0339	1.5164	0.4246	7.9300e-003	0.2555	0.0179	0.2733	0.0701	0.0171	0.0872	0.0000	761.5857	761.5857	2.0200e-003	0.1197	797.3126
Vendor	1.2600e-003	0.0262	0.0112	1.6000e-004	5.7600e-003	2.6000e-004	6.0200e-003	1.6600e-003	2.5000e-004	1.9100e-003	0.0000	14.9670	14.9670	6.0000e-005	2.0600e-003	15.5834
Worker	0.0255	0.0150	0.1771	4.1000e-004	0.0485	2.4000e-004	0.0488	0.0129	2.2000e-004	0.0131	0.0000	38.4306	38.4306	1.2800e-003	1.2400e-003	38.8313
Total	**0.0607**	**1.5576**	**0.6129**	**8.5000e-003**	**0.3098**	**0.0184**	**0.3281**	**0.0847**	**0.0176**	**0.1022**	**0.0000**	**814.9833**	**814.9833**	**3.3600e-003**	**0.1230**	**851.7274**

3.8 Power Plant Structural Steel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1420	1.1414	1.1290	3.0000e-003		0.0459	0.0459		0.0430	0.0430	0.0000	259.2302	259.2302	0.0747	0.0000	261.0978
Total	**0.1420**	**1.1414**	**1.1290**	**3.0000e-003**		**0.0459**	**0.0459**		**0.0430**	**0.0430**	**0.0000**	**259.2302**	**259.2302**	**0.0747**	**0.0000**	**261.0978**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Power Plant Structural Steel - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	1.5800e-003	0.0327	0.0139	2.0000e-004	7.1900e-003	3.2000e-004	7.5100e-003	2.0700e-003	3.1000e-004	2.3800e-003	0.0000	18.6731	18.6731	7.0000e-005	2.5700e-003	19.4422
Worker	0.0478	0.0280	0.3314	7.7000e-004	0.0908	4.5000e-004	0.0913	0.0241	4.2000e-004	0.0245	0.0000	71.9201	71.9201	2.3900e-003	2.3200e-003	72.6701
Total	**0.0494**	**0.0613**	**0.3455**	**9.7000e-004**	**0.0981**	**7.8000e-004**	**0.0989**	**0.0262**	**7.4000e-004**	**0.0269**	**0.0000**	**90.8531**	**90.8531**	**2.4600e-003**	**4.9300e-003**	**92.3843**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0609	0.3951	1.5636	3.0000e-003		6.0800e-003	6.0800e-003		6.0800e-003	6.0800e-003	0.0000	259.2299	259.2299	0.0747	0.0000	261.0975
Total	**0.0609**	**0.3951**	**1.5636**	**3.0000e-003**		**6.0800e-003**	**6.0800e-003**		**6.0800e-003**	**6.0800e-003**	**0.0000**	**259.2299**	**259.2299**	**0.0747**	**0.0000**	**261.0975**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Power Plant Structural Steel - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	1.5800e-003	0.0327	0.0139	2.0000e-004	7.1900e-003	3.2000e-004	7.5100e-003	2.0700e-003	3.1000e-004	2.3800e-003	0.0000	18.6731	18.6731	7.0000e-005	2.5700e-003	19.4422
Worker	0.0478	0.0280	0.3314	7.7000e-004	0.0908	4.5000e-004	0.0913	0.0241	4.2000e-004	0.0245	0.0000	71.9201	71.9201	2.3900e-003	2.3200e-003	72.6701
Total	**0.0494**	**0.0613**	**0.3455**	**9.7000e-004**	**0.0981**	**7.8000e-004**	**0.0989**	**0.0262**	**7.4000e-004**	**0.0269**	**0.0000**	**90.8531**	**90.8531**	**2.4600e-003**	**4.9300e-003**	**92.3843**

3.9 Power Plant Electrical - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2336	2.1341	1.9858	4.9700e-003		0.0900	0.0900		0.0832	0.0832	0.0000	436.2561	436.2561	0.1338	0.0000	439.6019
Total	**0.2336**	**2.1341**	**1.9858**	**4.9700e-003**		**0.0900**	**0.0900**		**0.0832**	**0.0832**	**0.0000**	**436.2561**	**436.2561**	**0.1338**	**0.0000**	**439.6019**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Power Plant Electrical - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.1000e-004	9.0000e-005	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1559	0.1559	0.0000	2.0000e-005	0.1632
Vendor	1.3300e-003	0.0276	0.0117	1.6000e-004	6.0600e-003	2.7000e-004	6.3300e-003	1.7500e-003	2.6000e-004	2.0000e-003	0.0000	15.7367	15.7367	6.0000e-005	2.1700e-003	16.3849
Worker	0.0522	0.0306	0.3621	8.5000e-004	0.0992	5.0000e-004	0.0997	0.0263	4.6000e-004	0.0268	0.0000	78.5693	78.5693	2.6100e-003	2.5300e-003	79.3885
Total	**0.0535**	**0.0585**	**0.3739**	**1.0100e-003**	**0.1053**	**7.7000e-004**	**0.1061**	**0.0281**	**7.2000e-004**	**0.0288**	**0.0000**	**94.4619**	**94.4619**	**2.6700e-003**	**4.7200e-003**	**95.9366**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0621	0.3393	2.6718	4.9700e-003		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	436.2556	436.2556	0.1338	0.0000	439.6013
Total	**0.0621**	**0.3393**	**2.6718**	**4.9700e-003**		**1.2000e-003**	**1.2000e-003**		**1.2000e-003**	**1.2000e-003**	**0.0000**	**436.2556**	**436.2556**	**0.1338**	**0.0000**	**439.6013**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Power Plant Electrical - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.1000e-004	9.0000e-005	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1559	0.1559	0.0000	2.0000e-005	0.1632
Vendor	1.3300e-003	0.0276	0.0117	1.6000e-004	6.0600e-003	2.7000e-004	6.3300e-003	1.7500e-003	2.6000e-004	2.0000e-003	0.0000	15.7367	15.7367	6.0000e-005	2.1700e-003	16.3849
Worker	0.0522	0.0306	0.3621	8.5000e-004	0.0992	5.0000e-004	0.0997	0.0263	4.6000e-004	0.0268	0.0000	78.5693	78.5693	2.6100e-003	2.5300e-003	79.3885
Total	**0.0535**	**0.0585**	**0.3739**	**1.0100e-003**	**0.1053**	**7.7000e-004**	**0.1061**	**0.0281**	**7.2000e-004**	**0.0288**	**0.0000**	**94.4619**	**94.4619**	**2.6700e-003**	**4.7200e-003**	**95.9366**

3.10 Lithium Plant Foundation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1320	0.9348	0.8616	3.4600e-003		0.0338	0.0338		0.0311	0.0311	0.0000	304.2070	304.2070	0.0984	0.0000	306.6666
Total	**0.1320**	**0.9348**	**0.8616**	**3.4600e-003**		**0.0338**	**0.0338**		**0.0311**	**0.0311**	**0.0000**	**304.2070**	**304.2070**	**0.0984**	**0.0000**	**306.6666**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3600e-003	0.1055	0.0296	5.5000e-004	0.0178	1.2400e-003	0.0190	4.8800e-003	1.1900e-003	6.0700e-003	0.0000	53.0016	53.0016	1.4000e-004	8.3300e-003	55.4880
Vendor	1.8900e-003	0.0393	0.0167	2.3000e-004	8.6300e-003	3.9000e-004	9.0100e-003	2.4800e-003	3.7000e-004	2.8500e-003	0.0000	22.4077	22.4077	9.0000e-005	3.0900e-003	23.3306
Worker	0.0531	0.0311	0.3682	8.6000e-004	0.1009	5.1000e-004	0.1014	0.0268	4.7000e-004	0.0273	0.0000	79.9113	79.9113	2.6500e-003	2.5700e-003	80.7445
Total	**0.0573**	**0.1760**	**0.4145**	**1.6400e-003**	**0.1273**	**2.1400e-003**	**0.1295**	**0.0341**	**2.0300e-003**	**0.0362**	**0.0000**	**155.3206**	**155.3206**	**2.8800e-003**	**0.0140**	**159.5631**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0424	0.1835	1.5530	3.4600e-003		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	304.2066	304.2066	0.0984	0.0000	306.6663
Total	**0.0424**	**0.1835**	**1.5530**	**3.4600e-003**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**304.2066**	**304.2066**	**0.0984**	**0.0000**	**306.6663**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3600e-003	0.1055	0.0296	5.5000e-004	0.0178	1.2400e-003	0.0190	4.8800e-003	1.1900e-003	6.0700e-003	0.0000	53.0016	53.0016	1.4000e-004	8.3300e-003	55.4880
Vendor	1.8900e-003	0.0393	0.0167	2.3000e-004	8.6300e-003	3.9000e-004	9.0100e-003	2.4800e-003	3.7000e-004	2.8500e-003	0.0000	22.4077	22.4077	9.0000e-005	3.0900e-003	23.3306
Worker	0.0531	0.0311	0.3682	8.6000e-004	0.1009	5.1000e-004	0.1014	0.0268	4.7000e-004	0.0273	0.0000	79.9113	79.9113	2.6500e-003	2.5700e-003	80.7445
Total	**0.0573**	**0.1760**	**0.4145**	**1.6400e-003**	**0.1273**	**2.1400e-003**	**0.1295**	**0.0341**	**2.0300e-003**	**0.0362**	**0.0000**	**155.3206**	**155.3206**	**2.8800e-003**	**0.0140**	**159.5631**

3.10 Lithium Plant Foundation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0134	0.0899	0.0878	3.6000e-004		3.2400e-003	3.2400e-003		2.9800e-003	2.9800e-003	0.0000	31.3609	31.3609	0.0101	0.0000	31.6145
Total	**0.0134**	**0.0899**	**0.0878**	**3.6000e-004**		**3.2400e-003**	**3.2400e-003**		**2.9800e-003**	**2.9800e-003**	**0.0000**	**31.3609**	**31.3609**	**0.0101**	**0.0000**	**31.6145**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	0.0109	3.0600e-003	6.0000e-005	1.8300e-003	1.3000e-004	1.9600e-003	5.0000e-004	1.2000e-004	6.3000e-004	0.0000	5.3668	5.3668	2.0000e-005	8.4000e-004	5.6186
Vendor	1.9000e-004	4.0300e-003	1.6500e-003	2.0000e-005	8.9000e-004	4.0000e-005	9.3000e-004	2.6000e-004	4.0000e-005	2.9000e-004	0.0000	2.2781	2.2781	1.0000e-005	3.1000e-004	2.3715
Worker	5.0900e-003	2.8500e-003	0.0351	9.0000e-005	0.0104	5.0000e-005	0.0105	2.7600e-003	5.0000e-005	2.8100e-003	0.0000	8.0525	8.0525	2.5000e-004	2.4000e-004	8.1317
Total	**5.5200e-003**	**0.0178**	**0.0398**	**1.7000e-004**	**0.0131**	**2.2000e-004**	**0.0133**	**3.5200e-003**	**2.1000e-004**	**3.7300e-003**	**0.0000**	**15.6974**	**15.6974**	**2.8000e-004**	**1.3900e-003**	**16.1217**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3600e-003	0.0189	0.1600	3.6000e-004		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	31.3609	31.3609	0.0101	0.0000	31.6144
Total	**4.3600e-003**	**0.0189**	**0.1600**	**3.6000e-004**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**31.3609**	**31.3609**	**0.0101**	**0.0000**	**31.6144**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	0.0109	3.0600e-003	6.0000e-005	1.8300e-003	1.3000e-004	1.9600e-003	5.0000e-004	1.2000e-004	6.3000e-004	0.0000	5.3668	5.3668	2.0000e-005	8.4000e-004	5.6186
Vendor	1.9000e-004	4.0300e-003	1.6500e-003	2.0000e-005	8.9000e-004	4.0000e-005	9.3000e-004	2.6000e-004	4.0000e-005	2.9000e-004	0.0000	2.2781	2.2781	1.0000e-005	3.1000e-004	2.3715
Worker	5.0900e-003	2.8500e-003	0.0351	9.0000e-005	0.0104	5.0000e-005	0.0105	2.7600e-003	5.0000e-005	2.8100e-003	0.0000	8.0525	8.0525	2.5000e-004	2.4000e-004	8.1317
Total	**5.5200e-003**	**0.0178**	**0.0398**	**1.7000e-004**	**0.0131**	**2.2000e-004**	**0.0133**	**3.5200e-003**	**2.1000e-004**	**3.7300e-003**	**0.0000**	**15.6974**	**15.6974**	**2.8000e-004**	**1.3900e-003**	**16.1217**

3.11 Power Plant Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0314	0.3170	0.3058	6.1000e-004		0.0141	0.0141		0.0134	0.0134	0.0000	53.4821	53.4821	0.0111	0.0000	53.7586
Total	**0.0314**	**0.3170**	**0.3058**	**6.1000e-004**		**0.0141**	**0.0141**		**0.0134**	**0.0134**	**0.0000**	**53.4821**	**53.4821**	**0.0111**	**0.0000**	**53.7586**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Power Plant Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0260	0.0260	0.0000	0.0000	0.0272
Vendor	3.8000e-004	7.9000e-003	3.3600e-003	5.0000e-005	1.7300e-003	8.0000e-005	1.8100e-003	5.0000e-004	7.0000e-005	5.7000e-004	0.0000	4.5044	4.5044	2.0000e-005	6.2000e-004	4.6899
Worker	0.0384	0.0225	0.2665	6.2000e-004	0.0730	3.7000e-004	0.0734	0.0194	3.4000e-004	0.0197	0.0000	57.8289	57.8289	1.9200e-003	1.8600e-003	58.4319
Total	**0.0388**	**0.0305**	**0.2699**	**6.7000e-004**	**0.0748**	**4.5000e-004**	**0.0752**	**0.0199**	**4.1000e-004**	**0.0203**	**0.0000**	**62.3593**	**62.3593**	**1.9400e-003**	**2.4800e-003**	**63.1490**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7800e-003	0.0639	0.3591	6.1000e-004		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	53.4820	53.4820	0.0111	0.0000	53.7585
Total	**7.7800e-003**	**0.0639**	**0.3591**	**6.1000e-004**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**53.4820**	**53.4820**	**0.0111**	**0.0000**	**53.7585**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Power Plant Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0260	0.0260	0.0000	0.0000	0.0272
Vendor	3.8000e-004	7.9000e-003	3.3600e-003	5.0000e-005	1.7300e-003	8.0000e-005	1.8100e-003	5.0000e-004	7.0000e-005	5.7000e-004	0.0000	4.5044	4.5044	2.0000e-005	6.2000e-004	4.6899
Worker	0.0384	0.0225	0.2665	6.2000e-004	0.0730	3.7000e-004	0.0734	0.0194	3.4000e-004	0.0197	0.0000	57.8289	57.8289	1.9200e-003	1.8600e-003	58.4319
Total	**0.0388**	**0.0305**	**0.2699**	**6.7000e-004**	**0.0748**	**4.5000e-004**	**0.0752**	**0.0199**	**4.1000e-004**	**0.0203**	**0.0000**	**62.3593**	**62.3593**	**1.9400e-003**	**2.4800e-003**	**63.1490**

3.12 Power Plant Piping - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2483	1.7642	1.7752	3.8100e-003		0.0723	0.0723		0.0692	0.0692	0.0000	315.0639	315.0639	0.0754	0.0000	316.9485
Total	**0.2483**	**1.7642**	**1.7752**	**3.8100e-003**		**0.0723**	**0.0723**		**0.0692**	**0.0692**	**0.0000**	**315.0639**	**315.0639**	**0.0754**	**0.0000**	**316.9485**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Power Plant Piping - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	3.1800e-003	0.0660	0.0280	3.9000e-004	0.0145	6.5000e-004	0.0151	4.1700e-003	6.2000e-004	4.7900e-003	0.0000	37.6313	37.6313	1.5000e-004	5.1900e-003	39.1812
Worker	0.0936	0.0549	0.6493	1.5200e-003	0.1780	8.9000e-004	0.1788	0.0472	8.2000e-004	0.0481	0.0000	140.9122	140.9122	4.6800e-003	4.5400e-003	142.3816
Total	**0.0968**	**0.1214**	**0.6775**	**1.9100e-003**	**0.1925**	**1.5500e-003**	**0.1941**	**0.0514**	**1.4500e-003**	**0.0529**	**0.0000**	**178.8034**	**178.8034**	**4.8300e-003**	**9.7700e-003**	**181.8348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1654	0.9350	2.1397	3.8100e-003		0.0297	0.0297		0.0297	0.0297	0.0000	315.0635	315.0635	0.0754	0.0000	316.9481
Total	**0.1654**	**0.9350**	**2.1397**	**3.8100e-003**		**0.0297**	**0.0297**		**0.0297**	**0.0297**	**0.0000**	**315.0635**	**315.0635**	**0.0754**	**0.0000**	**316.9481**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Power Plant Piping - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	3.1800e-003	0.0660	0.0280	3.9000e-004	0.0145	6.5000e-004	0.0151	4.1700e-003	6.2000e-004	4.7900e-003	0.0000	37.6313	37.6313	1.5000e-004	5.1900e-003	39.1812
Worker	0.0936	0.0549	0.6493	1.5200e-003	0.1780	8.9000e-004	0.1788	0.0472	8.2000e-004	0.0481	0.0000	140.9122	140.9122	4.6800e-003	4.5400e-003	142.3816
Total	**0.0968**	**0.1214**	**0.6775**	**1.9100e-003**	**0.1925**	**1.5500e-003**	**0.1941**	**0.0514**	**1.4500e-003**	**0.0529**	**0.0000**	**178.8034**	**178.8034**	**4.8300e-003**	**9.7700e-003**	**181.8348**

3.13 Lithium Plant Electrical - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1514	1.3685	1.1946	3.2400e-003		0.0566	0.0566		0.0524	0.0524	0.0000	283.7156	283.7156	0.0866	0.0000	285.8803
Total	**0.1514**	**1.3685**	**1.1946**	**3.2400e-003**		**0.0566**	**0.0566**		**0.0524**	**0.0524**	**0.0000**	**283.7156**	**283.7156**	**0.0866**	**0.0000**	**285.8803**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.9000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0977	0.0977	0.0000	2.0000e-005	0.1023
Vendor	9.5000e-004	0.0196	8.3500e-003	1.2000e-004	4.3100e-003	1.9000e-004	4.5100e-003	1.2400e-003	1.8000e-004	1.4300e-003	0.0000	11.2039	11.2039	4.0000e-005	1.5400e-003	11.6653
Worker	0.0372	0.0218	0.2578	6.0000e-004	0.0706	3.5000e-004	0.0710	0.0188	3.3000e-004	0.0191	0.0000	55.9379	55.9379	1.8600e-003	1.8000e-003	56.5212
Total	**0.0381**	**0.0416**	**0.2662**	**7.2000e-004**	**0.0750**	**5.4000e-004**	**0.0756**	**0.0200**	**5.1000e-004**	**0.0205**	**0.0000**	**67.2395**	**67.2395**	**1.9000e-003**	**3.3600e-003**	**68.2888**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0405	0.2254	1.6721	3.2400e-003		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	283.7153	283.7153	0.0866	0.0000	285.8799
Total	**0.0405**	**0.2254**	**1.6721**	**3.2400e-003**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**283.7153**	**283.7153**	**0.0866**	**0.0000**	**285.8799**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.9000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0977	0.0977	0.0000	2.0000e-005	0.1023
Vendor	9.5000e-004	0.0196	8.3500e-003	1.2000e-004	4.3100e-003	1.9000e-004	4.5100e-003	1.2400e-003	1.8000e-004	1.4300e-003	0.0000	11.2039	11.2039	4.0000e-005	1.5400e-003	11.6653
Worker	0.0372	0.0218	0.2578	6.0000e-004	0.0706	3.5000e-004	0.0710	0.0188	3.3000e-004	0.0191	0.0000	55.9379	55.9379	1.8600e-003	1.8000e-003	56.5212
Total	**0.0381**	**0.0416**	**0.2662**	**7.2000e-004**	**0.0750**	**5.4000e-004**	**0.0756**	**0.0200**	**5.1000e-004**	**0.0205**	**0.0000**	**67.2395**	**67.2395**	**1.9000e-003**	**3.3600e-003**	**68.2888**

3.13 Lithium Plant Electrical - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0876	0.7670	0.7068	1.9300e-003		0.0311	0.0311		0.0287	0.0287	0.0000	168.9667	168.9667	0.0515	0.0000	170.2549
Total	**0.0876**	**0.7670**	**0.7068**	**1.9300e-003**		**0.0311**	**0.0311**		**0.0287**	**0.0287**	**0.0000**	**168.9667**	**168.9667**	**0.0515**	**0.0000**	**170.2549**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.2000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0572	0.0572	0.0000	1.0000e-005	0.0599
Vendor	5.4000e-004	0.0117	4.7700e-003	7.0000e-005	2.5700e-003	1.1000e-004	2.6800e-003	7.4000e-004	1.1000e-004	8.5000e-004	0.0000	6.5813	6.5813	3.0000e-005	9.0000e-004	6.8509
Worker	0.0206	0.0115	0.1419	3.5000e-004	0.0421	2.0000e-004	0.0423	0.0112	1.8000e-004	0.0114	0.0000	32.5679	32.5679	1.0000e-003	9.9000e-004	32.8881
Total	**0.0211**	**0.0233**	**0.1467**	**4.2000e-004**	**0.0447**	**3.1000e-004**	**0.0450**	**0.0119**	**2.9000e-004**	**0.0122**	**0.0000**	**39.2063**	**39.2063**	**1.0300e-003**	**1.9000e-003**	**39.7988**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0241	0.1342	0.9956	1.9300e-003		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	168.9665	168.9665	0.0515	0.0000	170.2547
Total	**0.0241**	**0.1342**	**0.9956**	**1.9300e-003**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**168.9665**	**168.9665**	**0.0515**	**0.0000**	**170.2547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.2000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0572	0.0572	0.0000	1.0000e-005	0.0599
Vendor	5.4000e-004	0.0117	4.7700e-003	7.0000e-005	2.5700e-003	1.1000e-004	2.6800e-003	7.4000e-004	1.1000e-004	8.5000e-004	0.0000	6.5813	6.5813	3.0000e-005	9.0000e-004	6.8509
Worker	0.0206	0.0115	0.1419	3.5000e-004	0.0421	2.0000e-004	0.0423	0.0112	1.8000e-004	0.0114	0.0000	32.5679	32.5679	1.0000e-003	9.9000e-004	32.8881
Total	**0.0211**	**0.0233**	**0.1467**	**4.2000e-004**	**0.0447**	**3.1000e-004**	**0.0450**	**0.0119**	**2.9000e-004**	**0.0122**	**0.0000**	**39.2063**	**39.2063**	**1.0300e-003**	**1.9000e-003**	**39.7988**

3.14 Lithium Plant Process Equipment Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2204	1.5266	1.5718	3.2700e-003		0.0614	0.0614		0.0590	0.0590	0.0000	268.1512	268.1512	0.0616	0.0000	269.6922
Total	**0.2204**	**1.5266**	**1.5718**	**3.2700e-003**		**0.0614**	**0.0614**		**0.0590**	**0.0590**	**0.0000**	**268.1512**	**268.1512**	**0.0616**	**0.0000**	**269.6922**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.7000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0861	0.0861	0.0000	1.0000e-005	0.0901
Vendor	2.5100e-003	0.0520	0.0221	3.1000e-004	0.0114	5.1000e-004	0.0119	3.2900e-003	4.9000e-004	3.7800e-003	0.0000	29.6489	29.6489	1.2000e-004	4.0900e-003	30.8700
Worker	0.0738	0.0433	0.5116	1.2000e-003	0.1402	7.0000e-004	0.1409	0.0372	6.5000e-004	0.0379	0.0000	111.0218	111.0218	3.6900e-003	3.5800e-003	112.1794
Total	**0.0763**	**0.0954**	**0.5337**	**1.5100e-003**	**0.1516**	**1.2100e-003**	**0.1529**	**0.0405**	**1.1400e-003**	**0.0417**	**0.0000**	**140.7567**	**140.7567**	**3.8100e-003**	**7.6800e-003**	**143.1395**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1574	0.9068	1.8633	3.2700e-003		0.0291	0.0291		0.0291	0.0291	0.0000	268.1509	268.1509	0.0616	0.0000	269.6919
Total	**0.1574**	**0.9068**	**1.8633**	**3.2700e-003**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**268.1509**	**268.1509**	**0.0616**	**0.0000**	**269.6919**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.7000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0861	0.0861	0.0000	1.0000e-005	0.0901
Vendor	2.5100e-003	0.0520	0.0221	3.1000e-004	0.0114	5.1000e-004	0.0119	3.2900e-003	4.9000e-004	3.7800e-003	0.0000	29.6489	29.6489	1.2000e-004	4.0900e-003	30.8700
Worker	0.0738	0.0433	0.5116	1.2000e-003	0.1402	7.0000e-004	0.1409	0.0372	6.5000e-004	0.0379	0.0000	111.0218	111.0218	3.6900e-003	3.5800e-003	112.1794
Total	**0.0763**	**0.0954**	**0.5337**	**1.5100e-003**	**0.1516**	**1.2100e-003**	**0.1529**	**0.0405**	**1.1400e-003**	**0.0417**	**0.0000**	**140.7567**	**140.7567**	**3.8100e-003**	**7.6800e-003**	**143.1395**

3.14 Lithium Plant Process Equipment Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4184	2.9279	3.1420	6.6100e-003		0.1096	0.1096		0.1053	0.1053	0.0000	541.5234	541.5234	0.1230	0.0000	544.5983
Total	**0.4184**	**2.9279**	**3.1420**	**6.6100e-003**		**0.1096**	**0.1096**		**0.1053**	**0.1053**	**0.0000**	**541.5234**	**541.5234**	**0.1230**	**0.0000**	**544.5983**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	1.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1708	0.1708	0.0000	3.0000e-005	0.1788
Vendor	4.8500e-003	0.1046	0.0428	6.2000e-004	0.0231	1.0300e-003	0.0241	6.6400e-003	9.9000e-004	7.6200e-003	0.0000	59.0626	59.0626	2.3000e-004	8.1000e-003	61.4821
Worker	0.1384	0.0775	0.9549	2.3400e-003	0.2831	1.3500e-003	0.2845	0.0751	1.2400e-003	0.0764	0.0000	219.2069	219.2069	6.7300e-003	6.6700e-003	221.3623
Total	**0.1433**	**0.1824**	**0.9978**	**2.9600e-003**	**0.3062**	**2.3800e-003**	**0.3086**	**0.0818**	**2.2300e-003**	**0.0840**	**0.0000**	**278.4402**	**278.4402**	**6.9600e-003**	**0.0148**	**283.0231**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2982	1.7893	3.7474	6.6100e-003		0.0508	0.0508		0.0508	0.0508	0.0000	541.5228	541.5228	0.1230	0.0000	544.5977
Total	**0.2982**	**1.7893**	**3.7474**	**6.6100e-003**		**0.0508**	**0.0508**		**0.0508**	**0.0508**	**0.0000**	**541.5228**	**541.5228**	**0.1230**	**0.0000**	**544.5977**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	1.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1708	0.1708	0.0000	3.0000e-005	0.1788
Vendor	4.8500e-003	0.1046	0.0428	6.2000e-004	0.0231	1.0300e-003	0.0241	6.6400e-003	9.9000e-004	7.6200e-003	0.0000	59.0626	59.0626	2.3000e-004	8.1000e-003	61.4821
Worker	0.1384	0.0775	0.9549	2.3400e-003	0.2831	1.3500e-003	0.2845	0.0751	1.2400e-003	0.0764	0.0000	219.2069	219.2069	6.7300e-003	6.6700e-003	221.3623
Total	**0.1433**	**0.1824**	**0.9978**	**2.9600e-003**	**0.3062**	**2.3800e-003**	**0.3086**	**0.0818**	**2.2300e-003**	**0.0840**	**0.0000**	**278.4402**	**278.4402**	**6.9600e-003**	**0.0148**	**283.0231**

3.15 Power Plant Onsite Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0270	0.2699	0.2050	5.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	43.4829	43.4829	0.0141	0.0000	43.8345
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0270**	**0.2699**	**0.2050**	**5.0000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**43.4829**	**43.4829**	**0.0141**	**0.0000**	**43.8345**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Power Plant Onsite Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	2.5000e-004	5.2000e-003	2.2100e-003	3.0000e-005	1.1400e-003	5.0000e-005	1.1900e-003	3.3000e-004	5.0000e-005	3.8000e-004	0.0000	2.9649	2.9649	1.0000e-005	4.1000e-004	3.0870
Worker	3.1600e-003	1.8500e-003	0.0219	5.0000e-005	6.0100e-003	3.0000e-005	6.0400e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.7581	4.7581	1.6000e-004	1.5000e-004	4.8077
Total	**3.4200e-003**	**7.5700e-003**	**0.0243**	**8.0000e-005**	**7.2400e-003**	**9.0000e-005**	**7.3200e-003**	**1.9400e-003**	**9.0000e-005**	**2.0300e-003**	**0.0000**	**7.9828**	**7.9828**	**1.7000e-004**	**6.0000e-004**	**8.1667**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.0700e-003	0.0263	0.2744	5.0000e-004		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	43.4829	43.4829	0.0141	0.0000	43.8345
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.0700e-003**	**0.0263**	**0.2744**	**5.0000e-004**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**43.4829**	**43.4829**	**0.0141**	**0.0000**	**43.8345**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Power Plant Onsite Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.4000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2598	0.2598	0.0000	4.0000e-005	0.2720
Vendor	2.5000e-004	5.2000e-003	2.2100e-003	3.0000e-005	1.1400e-003	5.0000e-005	1.1900e-003	3.3000e-004	5.0000e-005	3.8000e-004	0.0000	2.9649	2.9649	1.0000e-005	4.1000e-004	3.0870
Worker	3.1600e-003	1.8500e-003	0.0219	5.0000e-005	6.0100e-003	3.0000e-005	6.0400e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.7581	4.7581	1.6000e-004	1.5000e-004	4.8077
Total	**3.4200e-003**	**7.5700e-003**	**0.0243**	**8.0000e-005**	**7.2400e-003**	**9.0000e-005**	**7.3200e-003**	**1.9400e-003**	**9.0000e-005**	**2.0300e-003**	**0.0000**	**7.9828**	**7.9828**	**1.7000e-004**	**6.0000e-004**	**8.1667**

3.16 Lithium Plant Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0155	0.1565	0.1509	3.0000e-004		6.9400e-003	6.9400e-003		6.5900e-003	6.5900e-003	0.0000	26.4026	26.4026	5.4600e-003	0.0000	26.5390
Total	**0.0155**	**0.1565**	**0.1509**	**3.0000e-004**		**6.9400e-003**	**6.9400e-003**		**6.5900e-003**	**6.5900e-003**	**0.0000**	**26.4026**	**26.4026**	**5.4600e-003**	**0.0000**	**26.5390**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	2.0000e-005	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9.7000e-003	9.7000e-003	0.0000	0.0000	0.0102
Vendor	1.9000e-004	3.9000e-003	1.6600e-003	2.0000e-005	8.6000e-004	4.0000e-005	8.9000e-004	2.5000e-004	4.0000e-005	2.8000e-004	0.0000	2.2237	2.2237	1.0000e-005	3.1000e-004	2.3153
Worker	0.0190	0.0111	0.1316	3.1000e-004	0.0361	1.8000e-004	0.0362	9.5700e-003	1.7000e-004	9.7300e-003	0.0000	28.5485	28.5485	9.5000e-004	9.2000e-004	28.8461
Total	**0.0192**	**0.0150**	**0.1332**	**3.3000e-004**	**0.0369**	**2.2000e-004**	**0.0371**	**9.8200e-003**	**2.1000e-004**	**0.0100**	**0.0000**	**30.7818**	**30.7818**	**9.6000e-004**	**1.2300e-003**	**31.1715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8400e-003	0.0315	0.1773	3.0000e-004		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	26.4025	26.4025	5.4600e-003	0.0000	26.5390
Total	**3.8400e-003**	**0.0315**	**0.1773**	**3.0000e-004**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**26.4025**	**26.4025**	**5.4600e-003**	**0.0000**	**26.5390**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	2.0000e-005	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9.7000e-003	9.7000e-003	0.0000	0.0000	0.0102
Vendor	1.9000e-004	3.9000e-003	1.6600e-003	2.0000e-005	8.6000e-004	4.0000e-005	8.9000e-004	2.5000e-004	4.0000e-005	2.8000e-004	0.0000	2.2237	2.2237	1.0000e-005	3.1000e-004	2.3153
Worker	0.0190	0.0111	0.1316	3.1000e-004	0.0361	1.8000e-004	0.0362	9.5700e-003	1.7000e-004	9.7300e-003	0.0000	28.5485	28.5485	9.5000e-004	9.2000e-004	28.8461
Total	**0.0192**	**0.0150**	**0.1332**	**3.3000e-004**	**0.0369**	**2.2000e-004**	**0.0371**	**9.8200e-003**	**2.1000e-004**	**0.0100**	**0.0000**	**30.7818**	**30.7818**	**9.6000e-004**	**1.2300e-003**	**31.1715**

3.16 Lithium Plant Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0244	0.2443	0.2512	5.1000e-004		0.0104	0.0104		9.8300e-003	9.8300e-003	0.0000	44.3424	44.3424	9.1000e-003	0.0000	44.5700
Total	**0.0244**	**0.2443**	**0.2512**	**5.1000e-004**		**0.0104**	**0.0104**		**9.8300e-003**	**9.8300e-003**	**0.0000**	**44.3424**	**44.3424**	**9.1000e-003**	**0.0000**	**44.5700**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0160	0.0160	0.0000	0.0000	0.0168
Vendor	3.0000e-004	6.5200e-003	2.6700e-003	4.0000e-005	1.4400e-003	6.0000e-005	1.5000e-003	4.1000e-004	6.0000e-005	4.8000e-004	0.0000	3.6844	3.6844	1.0000e-005	5.1000e-004	3.8353
Worker	0.0296	0.0166	0.2042	5.0000e-004	0.0606	2.9000e-004	0.0608	0.0161	2.7000e-004	0.0163	0.0000	46.8834	46.8834	1.4400e-003	1.4300e-003	47.3444
Total	**0.0299**	**0.0231**	**0.2069**	**5.4000e-004**	**0.0620**	**3.5000e-004**	**0.0624**	**0.0165**	**3.3000e-004**	**0.0168**	**0.0000**	**50.5838**	**50.5838**	**1.4500e-003**	**1.9400e-003**	**51.1965**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4500e-003	0.0530	0.2978	5.1000e-004		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	44.3424	44.3424	9.1000e-003	0.0000	44.5699
Total	**6.4500e-003**	**0.0530**	**0.2978**	**5.1000e-004**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**44.3424**	**44.3424**	**9.1000e-003**	**0.0000**	**44.5699**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0160	0.0160	0.0000	0.0000	0.0168
Vendor	3.0000e-004	6.5200e-003	2.6700e-003	4.0000e-005	1.4400e-003	6.0000e-005	1.5000e-003	4.1000e-004	6.0000e-005	4.8000e-004	0.0000	3.6844	3.6844	1.0000e-005	5.1000e-004	3.8353
Worker	0.0296	0.0166	0.2042	5.0000e-004	0.0606	2.9000e-004	0.0608	0.0161	2.7000e-004	0.0163	0.0000	46.8834	46.8834	1.4400e-003	1.4300e-003	47.3444
Total	**0.0299**	**0.0231**	**0.2069**	**5.4000e-004**	**0.0620**	**3.5000e-004**	**0.0624**	**0.0165**	**3.3000e-004**	**0.0168**	**0.0000**	**50.5838**	**50.5838**	**1.4500e-003**	**1.9400e-003**	**51.1965**

3.17 Lithum Plant Structural Steel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0564	0.4531	0.4482	1.1900e-003		0.0182	0.0182		0.0171	0.0171	0.0000	102.9005	102.9005	0.0297	0.0000	103.6419
Total	**0.0564**	**0.4531**	**0.4482**	**1.1900e-003**		**0.0182**	**0.0182**		**0.0171**	**0.0171**	**0.0000**	**102.9005**	**102.9005**	**0.0297**	**0.0000**	**103.6419**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0650	0.0650	0.0000	1.0000e-005	0.0680
Vendor	6.3000e-004	0.0130	5.5200e-003	8.0000e-005	2.8500e-003	1.3000e-004	2.9800e-003	8.2000e-004	1.2000e-004	9.4000e-004	0.0000	7.4122	7.4122	3.0000e-005	1.0200e-003	7.7175
Worker	0.0190	0.0111	0.1316	3.1000e-004	0.0361	1.8000e-004	0.0362	9.5700e-003	1.7000e-004	9.7300e-003	0.0000	28.5485	28.5485	9.5000e-004	9.2000e-004	28.8461
Total	**0.0196**	**0.0243**	**0.1371**	**3.9000e-004**	**0.0389**	**3.1000e-004**	**0.0392**	**0.0104**	**2.9000e-004**	**0.0107**	**0.0000**	**36.0256**	**36.0256**	**9.8000e-004**	**1.9500e-003**	**36.6317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0242	0.1568	0.6207	1.1900e-003		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003	0.0000	102.9004	102.9004	0.0297	0.0000	103.6418
Total	**0.0242**	**0.1568**	**0.6207**	**1.1900e-003**		**2.4100e-003**	**2.4100e-003**		**2.4100e-003**	**2.4100e-003**	**0.0000**	**102.9004**	**102.9004**	**0.0297**	**0.0000**	**103.6418**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.3000e-004	4.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0650	0.0650	0.0000	1.0000e-005	0.0680
Vendor	6.3000e-004	0.0130	5.5200e-003	8.0000e-005	2.8500e-003	1.3000e-004	2.9800e-003	8.2000e-004	1.2000e-004	9.4000e-004	0.0000	7.4122	7.4122	3.0000e-005	1.0200e-003	7.7175
Worker	0.0190	0.0111	0.1316	3.1000e-004	0.0361	1.8000e-004	0.0362	9.5700e-003	1.7000e-004	9.7300e-003	0.0000	28.5485	28.5485	9.5000e-004	9.2000e-004	28.8461
Total	**0.0196**	**0.0243**	**0.1371**	**3.9000e-004**	**0.0389**	**3.1000e-004**	**0.0392**	**0.0104**	**2.9000e-004**	**0.0107**	**0.0000**	**36.0256**	**36.0256**	**9.8000e-004**	**1.9500e-003**	**36.6317**

3.17 Lithum Plant Structural Steel - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1622	1.2732	1.3312	3.5700e-003		0.0493	0.0493		0.0462	0.0462	0.0000	308.7661	308.7661	0.0888	0.0000	310.9849
Total	**0.1622**	**1.2732**	**1.3312**	**3.5700e-003**		**0.0493**	**0.0493**		**0.0462**	**0.0462**	**0.0000**	**308.7661**	**308.7661**	**0.0888**	**0.0000**	**310.9849**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.9000e-004	1.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1915	0.1915	0.0000	3.0000e-005	0.2005
Vendor	1.8000e-003	0.0389	0.0159	2.3000e-004	8.5600e-003	3.8000e-004	8.9400e-003	2.4700e-003	3.7000e-004	2.8300e-003	0.0000	21.9375	21.9375	8.0000e-005	3.0100e-003	22.8362
Worker	0.0529	0.0296	0.3648	8.9000e-004	0.1082	5.1000e-004	0.1087	0.0287	4.7000e-004	0.0292	0.0000	83.7460	83.7460	2.5700e-003	2.5500e-003	84.5694
Total	**0.0547**	**0.0688**	**0.3808**	**1.1200e-003**	**0.1168**	**8.9000e-004**	**0.1177**	**0.0312**	**8.4000e-004**	**0.0320**	**0.0000**	**105.8750**	**105.8750**	**2.6500e-003**	**5.5900e-003**	**107.6061**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0703	0.4659	1.8603	3.5700e-003		6.3400e-003	6.3400e-003		6.3400e-003	6.3400e-003	0.0000	308.7658	308.7658	0.0888	0.0000	310.9845
Total	**0.0703**	**0.4659**	**1.8603**	**3.5700e-003**		**6.3400e-003**	**6.3400e-003**		**6.3400e-003**	**6.3400e-003**	**0.0000**	**308.7658**	**308.7658**	**0.0888**	**0.0000**	**310.9845**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.9000e-004	1.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1915	0.1915	0.0000	3.0000e-005	0.2005
Vendor	1.8000e-003	0.0389	0.0159	2.3000e-004	8.5600e-003	3.8000e-004	8.9400e-003	2.4700e-003	3.7000e-004	2.8300e-003	0.0000	21.9375	21.9375	8.0000e-005	3.0100e-003	22.8362
Worker	0.0529	0.0296	0.3648	8.9000e-004	0.1082	5.1000e-004	0.1087	0.0287	4.7000e-004	0.0292	0.0000	83.7460	83.7460	2.5700e-003	2.5500e-003	84.5694
Total	**0.0547**	**0.0688**	**0.3808**	**1.1200e-003**	**0.1168**	**8.9000e-004**	**0.1177**	**0.0312**	**8.4000e-004**	**0.0320**	**0.0000**	**105.8750**	**105.8750**	**2.6500e-003**	**5.5900e-003**	**107.6061**

3.18 Lithium Plant Piping - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0978	0.6950	0.6993	1.5000e-003		0.0285	0.0285		0.0273	0.0273	0.0000	124.1161	124.1161	0.0297	0.0000	124.8585
Total	**0.0978**	**0.6950**	**0.6993**	**1.5000e-003**		**0.0285**	**0.0285**		**0.0273**	**0.0273**	**0.0000**	**124.1161**	**124.1161**	**0.0297**	**0.0000**	**124.8585**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0516	0.0516	0.0000	1.0000e-005	0.0540
Vendor	1.2500e-003	0.0260	0.0111	1.6000e-004	5.7100e-003	2.6000e-004	5.9600e-003	1.6400e-003	2.4000e-004	1.8900e-003	0.0000	14.8245	14.8245	6.0000e-005	2.0400e-003	15.4350
Worker	0.0369	0.0216	0.2558	6.0000e-004	0.0701	3.5000e-004	0.0705	0.0186	3.2000e-004	0.0189	0.0000	55.5109	55.5109	1.8400e-003	1.7900e-003	56.0897
Total	**0.0381**	**0.0477**	**0.2669**	**7.6000e-004**	**0.0758**	**6.1000e-004**	**0.0764**	**0.0202**	**5.6000e-004**	**0.0208**	**0.0000**	**70.3869**	**70.3869**	**1.9000e-003**	**3.8400e-003**	**71.5787**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0652	0.3683	0.8429	1.5000e-003		0.0117	0.0117		0.0117	0.0117	0.0000	124.1159	124.1159	0.0297	0.0000	124.8584
Total	**0.0652**	**0.3683**	**0.8429**	**1.5000e-003**		**0.0117**	**0.0117**		**0.0117**	**0.0117**	**0.0000**	**124.1159**	**124.1159**	**0.0297**	**0.0000**	**124.8584**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0516	0.0516	0.0000	1.0000e-005	0.0540
Vendor	1.2500e-003	0.0260	0.0111	1.6000e-004	5.7100e-003	2.6000e-004	5.9600e-003	1.6400e-003	2.4000e-004	1.8900e-003	0.0000	14.8245	14.8245	6.0000e-005	2.0400e-003	15.4350
Worker	0.0369	0.0216	0.2558	6.0000e-004	0.0701	3.5000e-004	0.0705	0.0186	3.2000e-004	0.0189	0.0000	55.5109	55.5109	1.8400e-003	1.7900e-003	56.0897
Total	**0.0381**	**0.0477**	**0.2669**	**7.6000e-004**	**0.0758**	**6.1000e-004**	**0.0764**	**0.0202**	**5.6000e-004**	**0.0208**	**0.0000**	**70.3869**	**70.3869**	**1.9000e-003**	**3.8400e-003**	**71.5787**

3.18 Lithium Plant Piping - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3720	2.6567	2.7951	6.0600e-003		0.1019	0.1019		0.0974	0.0974	0.0000	501.3022	501.3022	0.1187	0.0000	504.2707
Total	**0.3720**	**2.6567**	**2.7951**	**6.0600e-003**		**0.1019**	**0.1019**		**0.0974**	**0.0974**	**0.0000**	**501.3022**	**501.3022**	**0.1187**	**0.0000**	**504.2707**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.2000e-004	1.2000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2046	0.2046	0.0000	3.0000e-005	0.2142
Vendor	4.8500e-003	0.1046	0.0428	6.2000e-004	0.0231	1.0300e-003	0.0241	6.6400e-003	9.9000e-004	7.6200e-003	0.0000	59.0626	59.0626	2.3000e-004	8.1000e-003	61.4821
Worker	0.1384	0.0775	0.9549	2.3400e-003	0.2831	1.3500e-003	0.2845	0.0751	1.2400e-003	0.0764	0.0000	219.2069	219.2069	6.7300e-003	6.6700e-003	221.3623
Total	**0.1433**	**0.1825**	**0.9979**	**2.9600e-003**	**0.3062**	**2.3800e-003**	**0.3086**	**0.0818**	**2.2300e-003**	**0.0840**	**0.0000**	**278.4741**	**278.4741**	**6.9600e-003**	**0.0148**	**283.0586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2475	1.4540	3.3921	6.0600e-003		0.0408	0.0408		0.0408	0.0408	0.0000	501.3017	501.3017	0.1187	0.0000	504.2701
Total	**0.2475**	**1.4540**	**3.3921**	**6.0600e-003**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**501.3017**	**501.3017**	**0.1187**	**0.0000**	**504.2701**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.2000e-004	1.2000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2046	0.2046	0.0000	3.0000e-005	0.2142
Vendor	4.8500e-003	0.1046	0.0428	6.2000e-004	0.0231	1.0300e-003	0.0241	6.6400e-003	9.9000e-004	7.6200e-003	0.0000	59.0626	59.0626	2.3000e-004	8.1000e-003	61.4821
Worker	0.1384	0.0775	0.9549	2.3400e-003	0.2831	1.3500e-003	0.2845	0.0751	1.2400e-003	0.0764	0.0000	219.2069	219.2069	6.7300e-003	6.6700e-003	221.3623
Total	**0.1433**	**0.1825**	**0.9979**	**2.9600e-003**	**0.3062**	**2.3800e-003**	**0.3086**	**0.0818**	**2.2300e-003**	**0.0840**	**0.0000**	**278.4741**	**278.4741**	**6.9600e-003**	**0.0148**	**283.0586**

3.19 Lithium Plant Onsite Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0273	0.2658	0.2126	5.1000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	45.1553	45.1553	0.0146	0.0000	45.5204
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0273**	**0.2658**	**0.2126**	**5.1000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**45.1553**	**45.1553**	**0.0146**	**0.0000**	**45.5204**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Lithium Plant Onsite Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.5000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2553	0.2553	0.0000	4.0000e-005	0.2673
Vendor	2.5000e-004	5.3800e-003	2.2000e-003	3.0000e-005	1.1900e-003	5.0000e-005	1.2400e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	3.0375	3.0375	1.0000e-005	4.2000e-004	3.1619
Worker	3.0500e-003	1.7100e-003	0.0211	5.0000e-005	6.2400e-003	3.0000e-005	6.2700e-003	1.6600e-003	3.0000e-005	1.6800e-003	0.0000	4.8315	4.8315	1.5000e-004	1.5000e-004	4.8790
Total	**3.3100e-003**	**7.6100e-003**	**0.0234**	**8.0000e-005**	**7.5200e-003**	**9.0000e-005**	**7.6000e-003**	**2.0200e-003**	**9.0000e-005**	**2.1000e-003**	**0.0000**	**8.1243**	**8.1243**	**1.6000e-004**	**6.1000e-004**	**8.3082**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-003	0.0273	0.2850	5.1000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	45.1553	45.1553	0.0146	0.0000	45.5204
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.3000e-003**	**0.0273**	**0.2850**	**5.1000e-004**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**45.1553**	**45.1553**	**0.0146**	**0.0000**	**45.5204**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Lithium Plant Onsite Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.2000e-004	1.5000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2553	0.2553	0.0000	4.0000e-005	0.2673
Vendor	2.5000e-004	5.3800e-003	2.2000e-003	3.0000e-005	1.1900e-003	5.0000e-005	1.2400e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	3.0375	3.0375	1.0000e-005	4.2000e-004	3.1619
Worker	3.0500e-003	1.7100e-003	0.0211	5.0000e-005	6.2400e-003	3.0000e-005	6.2700e-003	1.6600e-003	3.0000e-005	1.6800e-003	0.0000	4.8315	4.8315	1.5000e-004	1.5000e-004	4.8790
Total	**3.3100e-003**	**7.6100e-003**	**0.0234**	**8.0000e-005**	**7.5200e-003**	**9.0000e-005**	**7.6000e-003**	**2.0200e-003**	**9.0000e-005**	**2.1000e-003**	**0.0000**	**8.1243**	**8.1243**	**1.6000e-004**	**6.1000e-004**	**8.3082**

3.20 Lithium Plant Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7964					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**0.7980**	**0.0110**	**0.0163**	**3.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Lithium Plant Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	6.3000e-004	7.7200e-003	2.0000e-005	2.2900e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.7716	1.7716	5.0000e-005	5.0000e-005	1.7890
Total	**1.1200e-003**	**6.3000e-004**	**7.7200e-003**	**2.0000e-005**	**2.2900e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.7716**	**1.7716**	**5.0000e-005**	**5.0000e-005**	**1.7890**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7964					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.1600e-003	0.0165	3.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**0.7967**	**1.1600e-003**	**0.0165**	**3.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Lithium Plant Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	6.3000e-004	7.7200e-003	2.0000e-005	2.2900e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.7716	1.7716	5.0000e-005	5.0000e-005	1.7890
Total	**1.1200e-003**	**6.3000e-004**	**7.7200e-003**	**2.0000e-005**	**2.2900e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.7716**	**1.7716**	**5.0000e-005**	**5.0000e-005**	**1.7890**

3.21 Lithium Plant Offsite Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0278	0.2660	0.2208	5.4000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	47.2790	47.2790	0.0153	0.0000	47.6613
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0278**	**0.2660**	**0.2208**	**5.4000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**47.2790**	**47.2790**	**0.0153**	**0.0000**	**47.6613**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Lithium Plant Offsite Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.0400e-003	2.9000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5106	0.5106	0.0000	8.0000e-005	0.5346
Vendor	2.3000e-004	4.9800e-003	2.0400e-003	3.0000e-005	1.1000e-003	5.0000e-005	1.1500e-003	3.2000e-004	5.0000e-005	3.6000e-004	0.0000	2.8125	2.8125	1.0000e-005	3.9000e-004	2.9277
Worker	1.8800e-003	1.0500e-003	0.0130	3.0000e-005	3.8500e-003	2.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0400e-003	0.0000	2.9824	2.9824	9.0000e-005	9.0000e-005	3.0117
Total	**2.1300e-003**	**7.0700e-003**	**0.0153**	**7.0000e-005**	**5.1200e-003**	**8.0000e-005**	**5.2100e-003**	**1.3900e-003**	**8.0000e-005**	**1.4600e-003**	**0.0000**	**6.3055**	**6.3055**	**1.0000e-004**	**5.6000e-004**	**6.4740**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.6000e-003	0.0286	0.2983	5.4000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	47.2790	47.2790	0.0153	0.0000	47.6612
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.6000e-003**	**0.0286**	**0.2983**	**5.4000e-004**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**47.2790**	**47.2790**	**0.0153**	**0.0000**	**47.6612**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Lithium Plant Offsite Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.0400e-003	2.9000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5106	0.5106	0.0000	8.0000e-005	0.5346
Vendor	2.3000e-004	4.9800e-003	2.0400e-003	3.0000e-005	1.1000e-003	5.0000e-005	1.1500e-003	3.2000e-004	5.0000e-005	3.6000e-004	0.0000	2.8125	2.8125	1.0000e-005	3.9000e-004	2.9277
Worker	1.8800e-003	1.0500e-003	0.0130	3.0000e-005	3.8500e-003	2.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0400e-003	0.0000	2.9824	2.9824	9.0000e-005	9.0000e-005	3.0117
Total	**2.1300e-003**	**7.0700e-003**	**0.0153**	**7.0000e-005**	**5.1200e-003**	**8.0000e-005**	**5.2100e-003**	**1.3900e-003**	**8.0000e-005**	**1.4600e-003**	**0.0000**	**6.3055**	**6.3055**	**1.0000e-004**	**5.6000e-004**	**6.4740**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hell's Kitchen Geothermal and Lithium Plants Construction

Imperial County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	789.00	1000sqft	18.11	789,000.00	0
Other Non-Asphalt Surfaces	395.00	1000sqft	9.07	395,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Conditional Use Permit Application Project Description, November 2021

Construction Phase - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Project Description

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Trips and VMT - Conditional Use Permit Application Project Description, November 2021

On-road Fugitive Dust - Trips use Highway 11, McDonald Road, and Davis Road, all paved except two miles on Davis and a portion of McDonald Roads, prior to construction. This unpaved portion will be improved with 12-18" base and would have a dedicated water truck.

Grading - Conditional Use Permit Application Project Description, November 2021 and Table of Quantities for Water Resources Permit Application, December 7, 2021

Architectural Coating - Conditional Use Permit Application Project Description, November 2021

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Construction Off-road Equipment Mitigation - Basic and Enhanced Emission Reduction Measures

Area Mitigation - Conditional Use Permit Application Project Description, November 2021

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	394,500.00	47,400.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,183,500.00	158,000.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	150	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	394500	247333
tblAreaCoating	Area_Nonresidential_Interior	1183500	742000
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	0	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	0	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	0	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	0	100
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	32.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	37.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	17.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	27.00
tblConstructionPhase	NumDays	440.00	158.00
tblConstructionPhase	NumDays	440.00	132.00
tblConstructionPhase	NumDays	440.00	209.00
tblConstructionPhase	NumDays	440.00	314.00
tblConstructionPhase	NumDays	440.00	209.00
tblConstructionPhase	NumDays	440.00	208.00
tblConstructionPhase	NumDays	440.00	262.00
tblConstructionPhase	NumDays	440.00	155.00
tblConstructionPhase	NumDays	440.00	208.00
tblConstructionPhase	NumDays	440.00	131.00
tblConstructionPhase	NumDays	440.00	184.00
tblConstructionPhase	NumDays	440.00	289.00
tblConstructionPhase	NumDays	45.00	67.00
tblConstructionPhase	NumDays	45.00	105.00
tblConstructionPhase	NumDays	35.00	26.00
tblConstructionPhase	NumDays	35.00	27.00
tblConstructionPhase	NumDays	35.00	25.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	20.00	24.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblGrading	AcresOfGrading	536.00	18.00
tblGrading	AcresOfGrading	840.00	36.00
tblGrading	AcresOfGrading	12.00	18.00
tblGrading	AcresOfGrading	24.00	36.00
tblGrading	MaterialExported	0.00	15,801.00
tblGrading	MaterialExported	0.00	47,602.00

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	MaterialExported	0.00	7,899.00
tblGrading	MaterialExported	0.00	23,798.00
tblGrading	MaterialImported	0.00	100,672.00
tblGrading	MaterialImported	0.00	186,876.00
tblGrading	MaterialImported	0.00	50,328.00
tblGrading	MaterialImported	0.00	93,424.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
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tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
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tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
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tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblSolidWaste	SolidWasteGenerationRate	978.36	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	20.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,656.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,250.00
tblTripsAndVMT	VendorTripNumber	194.00	2.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	194.00	2.00
tblTripsAndVMT	VendorTripNumber	194.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	497.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	497.00	140.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	18.00	60.00
tblTripsAndVMT	WorkerTripNumber	497.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	180.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	18.00	60.00
tblTripsAndVMT	WorkerTripNumber	99.00	22.00
tblTripsAndVMT	WorkerTripNumber	53.00	120.00
tblTripsAndVMT	WorkerTripNumber	20.00	40.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	497.00	100.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	53.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	180.00
tblTripsAndVMT	WorkerTripNumber	497.00	140.00
tblTripsAndVMT	WorkerTripNumber	497.00	100.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00
tblWater	IndoorWaterUseRate	182,456,250.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.9799	142.0311	89.7485	0.3660	29.5723	5.1658	34.7380	14.6485	4.7641	19.4126	0.0000	38,543.0058	38,543.0058	6.5396	5.6849	40,258.2130
2023	34.0051	252.8548	249.2171	0.7779	42.3321	9.2824	51.6145	18.0398	8.6663	26.7061	0.0000	76,736.5495	76,736.5495	14.0990	5.8030	78,083.9357
2024	76.2866	105.8216	143.7501	0.3598	10.4668	3.9271	14.3938	2.7936	3.7106	6.5042	0.0000	34,766.3455	34,766.3455	6.4966	0.5874	35,103.8057
Maximum	**76.2866**	**252.8548**	**249.2171**	**0.7779**	**42.3321**	**9.2824**	**51.6145**	**18.0398**	**8.6663**	**26.7061**	**0.0000**	**76,736.5495**	**76,736.5495**	**14.0990**	**5.8030**	**78,083.9357**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.8777	71.8917	107.6402	0.3660	16.4875	0.8660	17.3535	6.5208	0.8288	6.8793	0.0000	38,543.0058	38,543.0058	6.5396	5.6849	40,258.2130
2023	18.6445	91.4441	307.2820	0.7779	27.1451	1.7214	28.7852	9.8978	1.7146	11.5160	0.0000	76,736.5495	76,736.5495	14.0990	5.8030	78,083.9357
2024	70.8485	48.7736	175.4531	0.3598	10.4668	1.0602	11.5270	2.7936	1.0548	3.8484	0.0000	34,766.3455	34,766.3455	6.4966	0.5874	35,103.8057
Maximum	**70.8485**	**91.4441**	**307.2820**	**0.7779**	**27.1451**	**1.7214**	**28.7852**	**9.8978**	**1.7146**	**11.5160**	**0.0000**	**76,736.5495**	**76,736.5495**	**14.0990**	**5.8030**	**78,083.9357**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	24.26	57.64	-22.30	0.00	34.32	80.15	42.76	45.85	79.01	57.73	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**	**0.0000**	**4.3000e-004**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**	**0.0000**	**0.2760**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**	**0.0000**	**4.3000e-004**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**	**0.0000**	**0.2760**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Power Plant Site Preparation	Site Preparation	11/1/2022	11/14/2022	6	12	
2	Power Plant Grading	Grading	11/15/2022	1/31/2023	6	67	
3	Lithium Plant Site Preparation	Site Preparation	2/1/2023	2/28/2023	6	24	
4	Power Plant Foundation	Building Construction	2/1/2023	7/31/2023	6	155	
5	Power Plant Process Equipment Installation	Building Construction	2/1/2023	9/30/2023	6	208	
6	Lithium Plant Grading	Grading	3/1/2023	6/30/2023	6	105	
7	Power Plant Structural Steel	Building Construction	3/1/2023	7/31/2023	6	131	
8	Power Plant Electrical	Building Construction	3/1/2023	9/30/2023	6	184	
9	Lithium Plant Foundation	Building Construction	3/1/2023	1/31/2024	6	289	
10	Power Plant Building Construction	Building Construction	3/1/2023	8/31/2023	6	158	
11	Power Plant Piping	Building Construction	5/1/2023	9/30/2023	6	132	
12	Lithium Plant Electrical	Building Construction	8/1/2023	3/31/2024	6	209	
13	Lithium Plant Process Equipment Installation	Building Construction	9/1/2023	8/31/2024	6	314	
14	Power Plant Onsite Paving	Paving	9/1/2023	9/30/2023	6	26	
15	Lithium Plant Building Construction	Building Construction	10/1/2023	5/31/2024	6	209	
16	Lithum Plant Structural Steel	Building Construction	11/1/2023	6/30/2024	6	208	
17	Lithium Plant Piping	Building Construction	11/1/2023	8/31/2024	6	262	
18	Lithium Plant Onsite Paving	Paving	5/1/2024	5/31/2024	6	27	
19	Lithium Plant Coating	Architectural Coating	5/1/2024	5/31/2024	6	27	
20	Lithium Plant Offsite Paving	Paving	9/1/2024	9/30/2024	6	25	

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 18

Acres of Paving: 9.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,000; Non-Residential Outdoor: 47,400; Striped Parking Area: 23,700 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Power Plant Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Power Plant Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Power Plant Grading	Excavators	1	4.00	158	0.38
Power Plant Grading	Graders	0	8.00	187	0.41
Power Plant Grading	Off-Highway Trucks	7	6.00	402	0.38
Power Plant Grading	Rubber Tired Dozers	4	8.00	247	0.40
Power Plant Grading	Scrapers	6	8.00	367	0.48
Power Plant Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Lithium Plant Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Lithium Plant Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Power Plant Foundation	Cranes	0	7.00	231	0.29
Power Plant Foundation	Forklifts	0	8.00	89	0.20
Power Plant Foundation	Generator Sets	0	8.00	84	0.74
Power Plant Foundation	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Foundation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Foundation	Welders	0	8.00	46	0.45
Power Plant Process Equipment Installation	Aerial Lifts	3	4.00	63	0.31
Power Plant Process Equipment Installation	Cranes	3	4.00	231	0.29
Power Plant Process Equipment Installation	Forklifts	4	4.00	89	0.20

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Process Equipment Installation	Generator Sets	1	4.00	84	0.74
Power Plant Process Equipment Installation	Off-Highway Trucks	2	6.00	402	0.38
Power Plant Process Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Process Equipment Installation	Welders	10	8.00	46	0.45
Lithium Plant Grading	Excavators	1	4.00	158	0.38
Lithium Plant Grading	Graders	0	8.00	187	0.41
Lithium Plant Grading	Off-Highway Trucks	7	6.00	402	0.38
Lithium Plant Grading	Rubber Tired Dozers	4	8.00	247	0.40
Lithium Plant Grading	Scrapers	6	8.00	367	0.48
Lithium Plant Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Power Plant Structural Steel	Aerial Lifts	4	4.00	63	0.31
Power Plant Structural Steel	Cranes	2	4.00	231	0.29
Power Plant Structural Steel	Forklifts	4	4.00	89	0.20
Power Plant Structural Steel	Generator Sets	1	4.00	84	0.74
Power Plant Structural Steel	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Structural Steel	Welders	3	4.00	46	0.45
Power Plant Electrical	Aerial Lifts	2	4.00	63	0.31
Power Plant Electrical	Cranes	1	4.00	231	0.29
Power Plant Electrical	Forklifts	2	4.00	89	0.20
Power Plant Electrical	Generator Sets	1	4.00	84	0.74
Power Plant Electrical	Graders	1	4.00	187	0.41
Power Plant Electrical	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Electrical	Rollers	1	4.00	80	0.38
Power Plant Electrical	Rubber Tired Dozers	1	4.00	247	0.40
Power Plant Electrical	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Power Plant Electrical	Welders	0	8.00	46	0.45
Lithium Plant Foundation	Cranes	0	7.00	231	0.29

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Foundation	Forklifts	0	8.00	89	0.20
Lithium Plant Foundation	Generator Sets	0	8.00	84	0.74
Lithium Plant Foundation	Off-Highway Trucks	2	8.00	402	0.38
Lithium Plant Foundation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Foundation	Welders	0	8.00	46	0.45
Power Plant Building Construction	Aerial Lifts	1	4.00	63	0.31
Power Plant Building Construction	Cranes	1	4.00	231	0.29
Power Plant Building Construction	Forklifts	1	4.00	89	0.20
Power Plant Building Construction	Generator Sets	1	4.00	84	0.74
Power Plant Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Building Construction	Welders	0	8.00	46	0.45
Power Plant Piping	Aerial Lifts	2	4.00	63	0.31
Power Plant Piping	Cranes	3	4.00	231	0.29
Power Plant Piping	Forklifts	5	4.00	89	0.20
Power Plant Piping	Generator Sets	1	4.00	84	0.74
Power Plant Piping	Off-Highway Trucks	2	6.00	402	0.38
Power Plant Piping	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Piping	Welders	8	8.00	46	0.45
Lithium Plant Electrical	Aerial Lifts	2	4.00	63	0.31
Lithium Plant Electrical	Cranes	1	4.00	231	0.29
Lithium Plant Electrical	Forklifts	2	4.00	89	0.20
Lithium Plant Electrical	Generator Sets	1	4.00	84	0.74
Lithium Plant Electrical	Graders	1	4.00	187	0.41
Lithium Plant Electrical	Off-Highway Trucks	2	8.00	402	0.38
Lithium Plant Electrical	Rollers	1	4.00	80	0.38
Lithium Plant Electrical	Rubber Tired Dozers	1	4.00	247	0.40
Lithium Plant Electrical	Tractors/Loaders/Backhoes	3	4.00	97	0.37
Lithium Plant Electrical	Welders	0	8.00	46	0.45
Lithium Plant Process Equipment Installation	Aerial Lifts	3	4.00	63	0.31

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Process Equipment Installation	Cranes	3	4.00	231	0.29
Lithium Plant Process Equipment Installation	Forklifts	4	4.00	89	0.20
Lithium Plant Process Equipment Installation	Generator Sets	1	4.00	84	0.74
Lithium Plant Process Equipment Installation	Off-Highway Trucks	2	6.00	402	0.38
Lithium Plant Process Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Process Equipment Installation	Welders	10	8.00	46	0.45
Power Plant Onsite Paving	Graders	1	8.00	187	0.41
Power Plant Onsite Paving	Off-Highway Trucks	1	6.00	402	0.38
Power Plant Onsite Paving	Pavers	1	8.00	130	0.42
Power Plant Onsite Paving	Paving Equipment	1	6.00	132	0.36
Power Plant Onsite Paving	Rollers	2	8.00	80	0.38
Power Plant Onsite Paving	Rubber Tired Dozers	1	8.00	247	0.40
Lithium Plant Building Construction	Aerial Lifts	1	4.00	63	0.31
Lithium Plant Building Construction	Cranes	1	4.00	231	0.29
Lithium Plant Building Construction	Forklifts	1	4.00	89	0.20
Lithium Plant Building Construction	Generator Sets	1	4.00	84	0.74
Lithium Plant Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Building Construction	Welders	0	8.00	46	0.45
Lithum Plant Structural Steel	Aerial Lifts	4	4.00	63	0.31
Lithum Plant Structural Steel	Cranes	2	4.00	231	0.29
Lithum Plant Structural Steel	Forklifts	4	4.00	89	0.20
Lithum Plant Structural Steel	Generator Sets	1	4.00	84	0.74
Lithum Plant Structural Steel	Off-Highway Trucks	2	8.00	402	0.38
Lithum Plant Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithum Plant Structural Steel	Welders	3	4.00	46	0.45
Lithium Plant Piping	Aerial Lifts	2	4.00	63	0.31
Lithium Plant Piping	Cranes	3	4.00	231	0.29

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Piping	Forklifts	5	4.00	89	0.20
Lithium Plant Piping	Generator Sets	1	4.00	84	0.74
Lithium Plant Piping	Off-Highway Trucks	2	6.00	402	0.38
Lithium Plant Piping	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Piping	Welders	8	8.00	46	0.45
Lithium Plant Onsite Paving	Graders	1	8.00	187	0.41
Lithium Plant Onsite Paving	Off-Highway Trucks	1	6.00	402	0.38
Lithium Plant Onsite Paving	Pavers	1	8.00	130	0.42
Lithium Plant Onsite Paving	Paving Equipment	1	6.00	132	0.36
Lithium Plant Onsite Paving	Rollers	2	8.00	80	0.38
Lithium Plant Onsite Paving	Rubber Tired Dozers	1	8.00	247	0.40
Lithium Plant Coating	Air Compressors	2	2.00	78	0.48
Lithium Plant Offsite Paving	Graders	1	8.00	187	0.41
Lithium Plant Offsite Paving	Off-Highway Trucks	1	8.00	402	0.38
Lithium Plant Offsite Paving	Pavers	1	8.00	130	0.42
Lithium Plant Offsite Paving	Paving Equipment	1	8.00	132	0.36
Lithium Plant Offsite Paving	Rollers	3	6.00	80	0.38
Lithium Plant Offsite Paving	Rubber Tired Dozers	1	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Power Plant Site Preparation	4	20.00	0.00	7,278.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Grading	21	120.00	10.00	14,559.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Site Preparation	4	20.00	0.00	14,653.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Foundation	2	100.00	6.00	1,656.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Process Equipment Installation	23	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Grading	21	120.00	10.00	29,310.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Structural Steel	16	180.00	10.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Electrical	14	140.00	6.00	6.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Foundation	2	100.00	6.00	2,250.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Building Construction	4	120.00	2.00	1.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Piping	21	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Electrical	14	140.00	6.00	6.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Process Equipment Installation	23	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Onsite Paving	7	60.00	8.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Building Construction	4	120.00	2.00	1.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithum Plant Structural Steel	16	180.00	10.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Piping	21	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Onsite Paving	7	60.00	8.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Coating	2	22.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Offsite Paving	8	40.00	8.00	20.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Power Plant Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.6013	0.0000	14.6013	6.9386	0.0000	6.9386			0.0000			0.0000
Off-Road	2.0036	20.9386	11.6399	0.0233		1.0150	1.0150		0.9338	0.9338		2,256.5486	2,256.5486	0.7298		2,274.7939
Total	**2.0036**	**20.9386**	**11.6399**	**0.0233**	**14.6013**	**1.0150**	**15.6163**	**6.9386**	**0.9338**	**7.8723**		**2,256.5486**	**2,256.5486**	**0.7298**		**2,274.7939**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8518	70.6038	17.6395	0.3412	10.6378	0.8595	11.4973	2.9185	0.8223	3.7408		36,134.8491	36,134.8491	0.1094	5.6802	37,830.2902
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1085	0.0526	0.7726	1.4900e-003	0.1552	8.3000e-004	0.1560	0.0412	7.6000e-004	0.0419		151.6081	151.6081	5.1600e-003	4.6700e-003	153.1288
Total	**1.9603**	**70.6564**	**18.4121**	**0.3427**	**10.7930**	**0.8604**	**11.6533**	**2.9596**	**0.8231**	**3.7827**		**36,286.4572**	**36,286.4572**	**0.1145**	**5.6849**	**37,983.4191**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Power Plant Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6945	0.0000	5.6945	2.7060	0.0000	2.7060			0.0000			0.0000
Off-Road	0.2851	1.2353	12.3513	0.0233		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	2,256.5486	2,256.5486	0.7298		2,274.7939
Total	**0.2851**	**1.2353**	**12.3513**	**0.0233**	**5.6945**	**5.7000e-003**	**5.7002**	**2.7060**	**5.7000e-003**	**2.7117**	**0.0000**	**2,256.5486**	**2,256.5486**	**0.7298**		**2,274.7939**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8518	70.6038	17.6395	0.3412	10.6378	0.8595	11.4973	2.9185	0.8223	3.7408		36,134.8491	36,134.8491	0.1094	5.6802	37,830.2902
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1085	0.0526	0.7726	1.4900e-003	0.1552	8.3000e-004	0.1560	0.0412	7.6000e-004	0.0419		151.6081	151.6081	5.1600e-003	4.6700e-003	153.1288
Total	**1.9603**	**70.6564**	**18.4121**	**0.3427**	**10.7930**	**0.8604**	**11.6533**	**2.9596**	**0.8231**	**3.7827**		**36,286.4572**	**36,286.4572**	**0.1145**	**5.6849**	**37,983.4191**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.7195	0.0000	24.7195	13.3241	0.0000	13.3241			0.0000			0.0000
Off-Road	11.6334	115.8230	78.5575	0.2065		4.8438	4.8438		4.4563	4.4563		19,998.3021	19,998.3021	6.4679		20,159.9985
Total	**11.6334**	**115.8230**	**78.5575**	**0.2065**	**24.7195**	**4.8438**	**29.5632**	**13.3241**	**4.4563**	**17.7804**		**19,998.3021**	**19,998.3021**	**6.4679**		**20,159.9985**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6635	25.2961	6.3199	0.1223	3.8113	0.3080	4.1193	1.0456	0.2946	1.3403		12,946.4943	12,946.4943	0.0392	2.0351	13,553.9416
Vendor	0.0322	0.5964	0.2355	3.0900e-003	0.1104	9.0600e-003	0.1195	0.0318	8.6700e-003	0.0404		325.1324	325.1324	1.5800e-003	0.0451	338.6198
Worker	0.6510	0.3156	4.6355	8.9400e-003	0.9311	4.9600e-003	0.9360	0.2470	4.5700e-003	0.2515		909.6487	909.6487	0.0310	0.0280	918.7730
Total	**1.3466**	**26.2081**	**11.1909**	**0.1343**	**4.8528**	**0.3220**	**5.1748**	**1.3244**	**0.3079**	**1.6322**		**14,181.2754**	**14,181.2754**	**0.0717**	**2.1083**	**14,811.3345**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.6406	0.0000	9.6406	5.1964	0.0000	5.1964			0.0000			0.0000
Off-Road	2.5311	10.9681	96.4493	0.2065		0.0506	0.0506		0.0506	0.0506	0.0000	19,998.3021	19,998.3021	6.4679		20,159.9985
Total	**2.5311**	**10.9681**	**96.4493**	**0.2065**	**9.6406**	**0.0506**	**9.6912**	**5.1964**	**0.0506**	**5.2470**	**0.0000**	**19,998.3021**	**19,998.3021**	**6.4679**		**20,159.9985**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6635	25.2961	6.3199	0.1223	3.8113	0.3080	4.1193	1.0456	0.2946	1.3403		12,946.4943	12,946.4943	0.0392	2.0351	13,553.9416
Vendor	0.0322	0.5964	0.2355	3.0900e-003	0.1104	9.0600e-003	0.1195	0.0318	8.6700e-003	0.0404		325.1324	325.1324	1.5800e-003	0.0451	338.6198
Worker	0.6510	0.3156	4.6355	8.9400e-003	0.9311	4.9600e-003	0.9360	0.2470	4.5700e-003	0.2515		909.6487	909.6487	0.0310	0.0280	918.7730
Total	**1.3466**	**26.2081**	**11.1909**	**0.1343**	**4.8528**	**0.3220**	**5.1748**	**1.3244**	**0.3079**	**1.6322**		**14,181.2754**	**14,181.2754**	**0.0717**	**2.1083**	**14,811.3345**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.7195	0.0000	24.7195	13.3241	0.0000	13.3241			0.0000			0.0000
Off-Road	10.6530	102.3218	74.8349	0.2066		4.1751	4.1751		3.8411	3.8411		20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**10.6530**	**102.3218**	**74.8349**	**0.2066**	**24.7195**	**4.1751**	**28.8946**	**13.3241**	**3.8411**	**17.1652**		**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5224	20.7618	6.2318	0.1174	3.8114	0.2648	4.0762	1.0457	0.2533	1.2990		12,437.6902	12,437.6902	0.0339	1.9551	13,021.1665
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**1.1488**	**21.5020**	**10.6493**	**0.1291**	**4.8529**	**0.2743**	**5.1272**	**1.3244**	**0.2623**	**1.5867**		**13,637.0087**	**13,637.0087**	**0.0628**	**2.0241**	**14,241.7514**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.6406	0.0000	9.6406	5.1964	0.0000	5.1964			0.0000			0.0000
Off-Road	2.5311	10.9681	96.4493	0.2066		0.0506	0.0506		0.0506	0.0506	0.0000	20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**2.5311**	**10.9681**	**96.4493**	**0.2066**	**9.6406**	**0.0506**	**9.6912**	**5.1964**	**0.0506**	**5.2470**	**0.0000**	**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5224	20.7618	6.2318	0.1174	3.8114	0.2648	4.0762	1.0457	0.2533	1.2990		12,437.6902	12,437.6902	0.0339	1.9551	13,021.1665
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**1.1488**	**21.5020**	**10.6493**	**0.1291**	**4.8529**	**0.2743**	**5.1272**	**1.3244**	**0.2623**	**1.5867**		**13,637.0087**	**13,637.0087**	**0.0628**	**2.0241**	**14,241.7514**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Lithium Plant Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.6077	0.0000	14.6077	6.9395	0.0000	6.9395			0.0000			0.0000
Off-Road	1.6721	17.3257	10.6753	0.0233		0.7935	0.7935		0.7300	0.7300		2,257.1544	2,257.1544	0.7300		2,275.4046
Total	**1.6721**	**17.3257**	**10.6753**	**0.0233**	**14.6077**	**0.7935**	**15.4011**	**6.9395**	**0.7300**	**7.6695**		**2,257.1544**	**2,257.1544**	**0.7300**		**2,275.4046**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.4678	58.3341	17.5093	0.3300	10.7089	0.7439	11.4528	2.9380	0.7118	3.6497		34,946.0665	34,946.0665	0.0951	5.4933	36,585.4546
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1002	0.0464	0.7013	1.4400e-003	0.1552	7.7000e-004	0.1560	0.0412	7.1000e-004	0.0419		147.5490	147.5490	4.6100e-003	4.2900e-003	148.9424
Total	**1.5680**	**58.3805**	**18.2106**	**0.3314**	**10.8640**	**0.7447**	**11.6088**	**2.9791**	**0.7125**	**3.6916**		**35,093.6155**	**35,093.6155**	**0.0998**	**5.4976**	**36,734.3969**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Lithium Plant Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6970	0.0000	5.6970	2.7064	0.0000	2.7064			0.0000			0.0000
Off-Road	0.2851	1.2353	12.3513	0.0233		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	2,257.1544	2,257.1544	0.7300		2,275.4046
Total	**0.2851**	**1.2353**	**12.3513**	**0.0233**	**5.6970**	**5.7000e-003**	**5.7027**	**2.7064**	**5.7000e-003**	**2.7121**	**0.0000**	**2,257.1544**	**2,257.1544**	**0.7300**		**2,275.4046**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.4678	58.3341	17.5093	0.3300	10.7089	0.7439	11.4528	2.9380	0.7118	3.6497		34,946.0665	34,946.0665	0.0951	5.4933	36,585.4546
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1002	0.0464	0.7013	1.4400e-003	0.1552	7.7000e-004	0.1560	0.0412	7.1000e-004	0.0419		147.5490	147.5490	4.6100e-003	4.2900e-003	148.9424
Total	**1.5680**	**58.3805**	**18.2106**	**0.3314**	**10.8640**	**0.7447**	**11.6088**	**2.9791**	**0.7125**	**3.6916**		**35,093.6155**	**35,093.6155**	**0.0998**	**5.4976**	**36,734.3969**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Power Plant Foundation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374		2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**1.0077**	**7.1358**	**6.5770**	**0.0265**		**0.2580**	**0.2580**		**0.2374**	**0.2374**		**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0257	1.0208	0.3064	5.7700e-003	0.1874	0.0130	0.2004	0.0514	0.0125	0.0639		611.5214	611.5214	1.6600e-003	0.0961	640.2090
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.5011	0.2319	3.5063	7.2100e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		737.7449	737.7449	0.0231	0.0214	744.7117
Total	**0.5418**	**1.5299**	**3.9387**	**0.0148**	**1.0295**	**0.0198**	**1.0493**	**0.2763**	**0.0188**	**0.2951**		**1,537.6810**	**1,537.6810**	**0.0255**	**0.1435**	**1,581.0793**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Power Plant Foundation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3233	1.4010	11.8546	0.0265		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**0.3233**	**1.4010**	**11.8546**	**0.0265**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0257	1.0208	0.3064	5.7700e-003	0.1874	0.0130	0.2004	0.0514	0.0125	0.0639		611.5214	611.5214	1.6600e-003	0.0961	640.2090
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.5011	0.2319	3.5063	7.2100e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		737.7449	737.7449	0.0231	0.0214	744.7117
Total	**0.5418**	**1.5299**	**3.9387**	**0.0148**	**1.0295**	**0.0198**	**1.0493**	**0.2763**	**0.0188**	**0.2951**		**1,537.6810**	**1,537.6810**	**0.0255**	**0.1435**	**1,581.0793**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Power Plant Process Equipment Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2375	29.3576	30.2260	0.0629		1.1804	1.1804		1.1352	1.1352		5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**4.2375**	**29.3576**	**30.2260**	**0.0629**		**1.1804**	**1.1804**		**1.1352**	**1.1352**		**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2000e-004	4.5900e-003	1.3800e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7518	2.7518	1.0000e-005	4.3000e-004	2.8809
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8041**	**1.7402**	**12.6934**	**0.0312**	**2.9372**	**0.0234**	**2.9606**	**0.7841**	**0.0219**	**0.8060**		**3,212.9082**	**3,212.9082**	**0.0832**	**0.1619**	**3,263.2338**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Power Plant Process Equipment Installation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.0260	17.4385	35.8323	0.0629		0.5603	0.5603		0.5603	0.5603	0.0000	5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**3.0260**	**17.4385**	**35.8323**	**0.0629**		**0.5603**	**0.5603**		**0.5603**	**0.5603**	**0.0000**	**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2000e-004	4.5900e-003	1.3800e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7518	2.7518	1.0000e-005	4.3000e-004	2.8809
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8041**	**1.7402**	**12.6934**	**0.0312**	**2.9372**	**0.0234**	**2.9606**	**0.7841**	**0.0219**	**0.8060**		**3,212.9082**	**3,212.9082**	**0.0832**	**0.1619**	**3,263.2338**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Lithium Plant Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.8967	0.0000	24.8967	13.3475	0.0000	13.3475			0.0000			0.0000
Off-Road	10.6530	102.3218	74.8349	0.2066		4.1751	4.1751		3.8411	3.8411		20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**10.6530**	**102.3218**	**74.8349**	**0.2066**	**24.8967**	**4.1751**	**29.0718**	**13.3475**	**3.8411**	**17.1886**		**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6711	26.6707	8.0054	0.1509	4.8961	0.3401	5.2363	1.3433	0.3254	1.6687		15,977.5252	15,977.5252	0.0435	2.5116	16,727.0620
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**1.2975**	**27.4109**	**12.4229**	**0.1625**	**5.9376**	**0.3497**	**6.2873**	**1.6220**	**0.3344**	**1.9564**		**17,176.8437**	**17,176.8437**	**0.0724**	**2.5805**	**17,947.6470**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Lithium Plant Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7097	0.0000	9.7097	5.2055	0.0000	5.2055			0.0000			0.0000
Off-Road	2.5311	10.9681	96.4493	0.2066		0.0506	0.0506		0.0506	0.0506	0.0000	20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**2.5311**	**10.9681**	**96.4493**	**0.2066**	**9.7097**	**0.0506**	**9.7603**	**5.2055**	**0.0506**	**5.2562**	**0.0000**	**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6711	26.6707	8.0054	0.1509	4.8961	0.3401	5.2363	1.3433	0.3254	1.6687		15,977.5252	15,977.5252	0.0435	2.5116	16,727.0620
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**1.2975**	**27.4109**	**12.4229**	**0.1625**	**5.9376**	**0.3497**	**6.2873**	**1.6220**	**0.3344**	**1.9564**		**17,176.8437**	**17,176.8437**	**0.0724**	**2.5805**	**17,947.6470**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Power Plant Structural Steel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1681	17.4258	17.2366	0.0458		0.7012	0.7012		0.6569	0.6569		4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**2.1681**	**17.4258**	**17.2366**	**0.0458**		**0.7012**	**0.7012**		**0.6569**	**0.6569**		**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8000e-004	7.2900e-003	2.1900e-003	4.0000e-005	1.3400e-003	9.0000e-005	1.4300e-003	3.7000e-004	9.0000e-005	4.6000e-004		4.3693	4.3693	1.0000e-005	6.9000e-004	4.5743
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.9019	0.4174	6.3113	0.0130	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,327.9407	1,327.9407	0.0415	0.0386	1,340.4811
Total	**0.9272**	**0.8867**	**6.5235**	**0.0160**	**1.5083**	**0.0120**	**1.5203**	**0.4026**	**0.0112**	**0.4138**		**1,646.3348**	**1,646.3348**	**0.0428**	**0.0825**	**1,671.9863**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Power Plant Structural Steel - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9291	6.0324	23.8711	0.0458		0.0928	0.0928		0.0928	0.0928	0.0000	4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**0.9291**	**6.0324**	**23.8711**	**0.0458**		**0.0928**	**0.0928**		**0.0928**	**0.0928**	**0.0000**	**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8000e-004	7.2900e-003	2.1900e-003	4.0000e-005	1.3400e-003	9.0000e-005	1.4300e-003	3.7000e-004	9.0000e-005	4.6000e-004		4.3693	4.3693	1.0000e-005	6.9000e-004	4.5743
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.9019	0.4174	6.3113	0.0130	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,327.9407	1,327.9407	0.0415	0.0386	1,340.4811
Total	**0.9272**	**0.8867**	**6.5235**	**0.0160**	**1.5083**	**0.0120**	**1.5203**	**0.4026**	**0.0112**	**0.4138**		**1,646.3348**	**1,646.3348**	**0.0428**	**0.0825**	**1,671.9863**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Power Plant Electrical - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5385	23.1965	21.5852	0.0541		0.9779	0.9779		0.9048	0.9048		5,227.0658	5,227.0658	1.6035		5,267.1531
Total	**2.5385**	**23.1965**	**21.5852**	**0.0541**		**0.9779**	**0.9779**		**0.9048**	**0.9048**		**5,227.0658**	**5,227.0658**	**1.6035**		**5,267.1531**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	3.1200e-003	9.4000e-004	2.0000e-005	5.7000e-004	4.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	1.9000e-004		1.8665	1.8665	1.0000e-005	2.9000e-004	1.9540
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.7015	0.3247	4.9088	0.0101	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		1,032.8428	1,032.8428	0.0323	0.0300	1,042.5964
Total	**0.7166**	**0.6050**	**5.0357**	**0.0119**	**1.1531**	**8.3900e-003**	**1.1614**	**0.3074**	**7.8400e-003**	**0.3152**		**1,223.1241**	**1,223.1241**	**0.0330**	**0.0562**	**1,240.7090**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Power Plant Electrical - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6747	3.6883	29.0408	0.0541		0.0131	0.0131		0.0131	0.0131	0.0000	5,227.0658	5,227.0658	1.6035		5,267.1531
Total	**0.6747**	**3.6883**	**29.0408**	**0.0541**		**0.0131**	**0.0131**		**0.0131**	**0.0131**	**0.0000**	**5,227.0658**	**5,227.0658**	**1.6035**		**5,267.1531**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	3.1200e-003	9.4000e-004	2.0000e-005	5.7000e-004	4.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	1.9000e-004		1.8665	1.8665	1.0000e-005	2.9000e-004	1.9540
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.7015	0.3247	4.9088	0.0101	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		1,032.8428	1,032.8428	0.0323	0.0300	1,042.5964
Total	**0.7166**	**0.6050**	**5.0357**	**0.0119**	**1.1531**	**8.3900e-003**	**1.1614**	**0.3074**	**7.8400e-003**	**0.3152**		**1,223.1241**	**1,223.1241**	**0.0330**	**0.0562**	**1,240.7090**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374		2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**1.0077**	**7.1358**	**6.5770**	**0.0265**		**0.2580**	**0.2580**		**0.2374**	**0.2374**		**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0187	0.7439	0.2233	4.2100e-003	0.1366	9.4900e-003	0.1460	0.0375	9.0800e-003	0.0465		445.6231	445.6231	1.2100e-003	0.0701	466.5281
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.5011	0.2319	3.5063	7.2100e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		737.7449	737.7449	0.0231	0.0214	744.7117
Total	**0.5349**	**1.2530**	**3.8556**	**0.0132**	**0.9787**	**0.0163**	**0.9950**	**0.2623**	**0.0155**	**0.2778**		**1,371.7827**	**1,371.7827**	**0.0250**	**0.1174**	**1,407.3984**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3233	1.4010	11.8546	0.0265		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**0.3233**	**1.4010**	**11.8546**	**0.0265**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0187	0.7439	0.2233	4.2100e-003	0.1366	9.4900e-003	0.1460	0.0375	9.0800e-003	0.0465		445.6231	445.6231	1.2100e-003	0.0701	466.5281
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.5011	0.2319	3.5063	7.2100e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		737.7449	737.7449	0.0231	0.0214	744.7117
Total	**0.5349**	**1.2530**	**3.8556**	**0.0132**	**0.9787**	**0.0163**	**0.9950**	**0.2623**	**0.0155**	**0.2778**		**1,371.7827**	**1,371.7827**	**0.0250**	**0.1174**	**1,407.3984**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9941	6.6557	6.5005	0.0265		0.2396	0.2396		0.2205	0.2205		2,560.7009	2,560.7009	0.8282		2,581.4054
Total	**0.9941**	**6.6557**	**6.5005**	**0.0265**		**0.2396**	**0.2396**		**0.2205**	**0.2205**		**2,560.7009**	**2,560.7009**	**0.8282**		**2,581.4054**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0188	0.7448	0.2246	4.1300e-003	0.1366	9.4700e-003	0.1460	0.0375	9.0600e-003	0.0465		437.8528	437.8528	1.2600e-003	0.0688	458.3948
Vendor	0.0145	0.2763	0.1209	1.7700e-003	0.0662	2.9400e-003	0.0692	0.0191	2.8100e-003	0.0219		185.8783	185.8783	7.3000e-004	0.0254	193.4780
Worker	0.4645	0.2060	3.2388	6.9900e-003	0.7759	3.6600e-003	0.7796	0.2058	3.3700e-003	0.2092		721.2291	721.2291	0.0208	0.0198	727.6573
Total	**0.4978**	**1.2271**	**3.5843**	**0.0129**	**0.9787**	**0.0161**	**0.9948**	**0.2623**	**0.0152**	**0.2776**		**1,344.9601**	**1,344.9601**	**0.0228**	**0.1141**	**1,379.5301**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3233	1.4010	11.8546	0.0265		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	2,560.7009	2,560.7009	0.8282		2,581.4054
Total	**0.3233**	**1.4010**	**11.8546**	**0.0265**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**2,560.7009**	**2,560.7009**	**0.8282**		**2,581.4054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0188	0.7448	0.2246	4.1300e-003	0.1366	9.4700e-003	0.1460	0.0375	9.0600e-003	0.0465		437.8528	437.8528	1.2600e-003	0.0688	458.3948
Vendor	0.0145	0.2763	0.1209	1.7700e-003	0.0662	2.9400e-003	0.0692	0.0191	2.8100e-003	0.0219		185.8783	185.8783	7.3000e-004	0.0254	193.4780
Worker	0.4645	0.2060	3.2388	6.9900e-003	0.7759	3.6600e-003	0.7796	0.2058	3.3700e-003	0.2092		721.2291	721.2291	0.0208	0.0198	727.6573
Total	**0.4978**	**1.2271**	**3.5843**	**0.0129**	**0.9787**	**0.0161**	**0.9948**	**0.2623**	**0.0152**	**0.2776**		**1,344.9601**	**1,344.9601**	**0.0228**	**0.1141**	**1,379.5301**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Power Plant Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3972	4.0120	3.8703	7.7800e-003		0.1781	0.1781		0.1690	0.1690		746.2523	746.2523	0.1543		750.1099
Total	**0.3972**	**4.0120**	**3.8703**	**7.7800e-003**		**0.1781**	**0.1781**		**0.1690**	**0.1690**		**746.2523**	**746.2523**	**0.1543**		**750.1099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.0000e-005	6.0000e-004	1.8000e-004	0.0000	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005		0.3623	0.3623	0.0000	6.0000e-005	0.3793
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**0.6063**	**0.3713**	**4.2497**	**9.2500e-003**	**0.9533**	**5.6200e-003**	**0.9589**	**0.2534**	**5.2100e-003**	**0.2586**		**948.4610**	**948.4610**	**0.0279**	**0.0344**	**959.4195**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Power Plant Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0984	0.8088	4.5459	7.7800e-003		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	746.2523	746.2523	0.1543		750.1099
Total	**0.0984**	**0.8088**	**4.5459**	**7.7800e-003**		**1.7600e-003**	**1.7600e-003**		**1.7600e-003**	**1.7600e-003**	**0.0000**	**746.2523**	**746.2523**	**0.1543**		**750.1099**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.0000e-005	6.0000e-004	1.8000e-004	0.0000	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005		0.3623	0.3623	0.0000	6.0000e-005	0.3793
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**0.6063**	**0.3713**	**4.2497**	**9.2500e-003**	**0.9533**	**5.6200e-003**	**0.9589**	**0.2534**	**5.2100e-003**	**0.2586**		**948.4610**	**948.4610**	**0.0279**	**0.0344**	**959.4195**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Power Plant Piping - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7625	26.7297	26.8965	0.0577		1.0952	1.0952		1.0480	1.0480		5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**3.7625**	**26.7297**	**26.8965**	**0.0577**		**1.0952**	**1.0952**		**1.0480**	**1.0480**		**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8000e-004	7.2400e-003	2.1700e-003	4.0000e-005	1.3300e-003	9.0000e-005	1.4200e-003	3.6000e-004	9.0000e-005	4.5000e-004		4.3362	4.3362	1.0000e-005	6.8000e-004	4.5396
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8042**	**1.7429**	**12.6942**	**0.0312**	**2.9377**	**0.0234**	**2.9612**	**0.7842**	**0.0219**	**0.8062**		**3,214.4926**	**3,214.4926**	**0.0832**	**0.1622**	**3,264.8925**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Power Plant Piping - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5059	14.1663	32.4199	0.0577		0.4500	0.4500		0.4500	0.4500	0.0000	5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**2.5059**	**14.1663**	**32.4199**	**0.0577**		**0.4500**	**0.4500**		**0.4500**	**0.4500**	**0.0000**	**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8000e-004	7.2400e-003	2.1700e-003	4.0000e-005	1.3300e-003	9.0000e-005	1.4200e-003	3.6000e-004	9.0000e-005	4.5000e-004		4.3362	4.3362	1.0000e-005	6.8000e-004	4.5396
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8042**	**1.7429**	**12.6942**	**0.0312**	**2.9377**	**0.0234**	**2.9612**	**0.7842**	**0.0219**	**0.8062**		**3,214.4926**	**3,214.4926**	**0.0832**	**0.1622**	**3,264.8925**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3115	20.8929	18.2383	0.0494		0.8642	0.8642		0.8002	0.8002		4,774.7011	4,774.7011	1.4572		4,811.1308
Total	**2.3115**	**20.8929**	**18.2383**	**0.0494**		**0.8642**	**0.8642**		**0.8002**	**0.8002**		**4,774.7011**	**4,774.7011**	**1.4572**		**4,811.1308**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.7400e-003	8.2000e-004	2.0000e-005	5.0000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6432	1.6432	0.0000	2.6000e-004	1.7203
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.7015	0.3247	4.9088	0.0101	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		1,032.8428	1,032.8428	0.0323	0.0300	1,042.5964
Total	**0.7166**	**0.6046**	**5.0356**	**0.0119**	**1.1530**	**8.3800e-003**	**1.1614**	**0.3073**	**7.8300e-003**	**0.3152**		**1,222.9008**	**1,222.9008**	**0.0330**	**0.0562**	**1,240.4753**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6177	3.4414	25.5277	0.0494		0.0119	0.0119		0.0119	0.0119	0.0000	4,774.7011	4,774.7011	1.4572		4,811.1308
Total	**0.6177**	**3.4414**	**25.5277**	**0.0494**		**0.0119**	**0.0119**		**0.0119**	**0.0119**	**0.0000**	**4,774.7011**	**4,774.7011**	**1.4572**		**4,811.1308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.7400e-003	8.2000e-004	2.0000e-005	5.0000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6432	1.6432	0.0000	2.6000e-004	1.7203
Vendor	0.0151	0.2772	0.1260	1.7900e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		188.4148	188.4148	7.5000e-004	0.0259	196.1585
Worker	0.7015	0.3247	4.9088	0.0101	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		1,032.8428	1,032.8428	0.0323	0.0300	1,042.5964
Total	**0.7166**	**0.6046**	**5.0356**	**0.0119**	**1.1530**	**8.3800e-003**	**1.1614**	**0.3073**	**7.8300e-003**	**0.3152**		**1,222.9008**	**1,222.9008**	**0.0330**	**0.0562**	**1,240.4753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2448	19.6662	18.1240	0.0494		0.7961	0.7961		0.7368	0.7368		4,775.7397	4,775.7397	1.4564		4,812.1504
Total	**2.2448**	**19.6662**	**18.1240**	**0.0494**		**0.7961**	**0.7961**		**0.7368**	**0.7368**		**4,775.7397**	**4,775.7397**	**1.4564**		**4,812.1504**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.7500e-003	8.3000e-004	2.0000e-005	5.0000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6145	1.6145	0.0000	2.5000e-004	1.6903
Vendor	0.0145	0.2763	0.1209	1.7700e-003	0.0662	2.9400e-003	0.0692	0.0191	2.8100e-003	0.0219		185.8783	185.8783	7.3000e-004	0.0254	193.4780
Worker	0.6503	0.2885	4.5344	9.7900e-003	1.0863	5.1300e-003	1.0914	0.2881	4.7200e-003	0.2929		1,009.7207	1,009.7207	0.0291	0.0278	1,018.7202
Total	**0.6649**	**0.5675**	**4.6560**	**0.0116**	**1.1530**	**8.1000e-003**	**1.1611**	**0.3073**	**7.5600e-003**	**0.3149**		**1,197.2135**	**1,197.2135**	**0.0298**	**0.0535**	**1,213.8884**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6177	3.4414	25.5277	0.0494		0.0119	0.0119		0.0119	0.0119	0.0000	4,775.7397	4,775.7397	1.4564		4,812.1504
Total	**0.6177**	**3.4414**	**25.5277**	**0.0494**		**0.0119**	**0.0119**		**0.0119**	**0.0119**	**0.0000**	**4,775.7397**	**4,775.7397**	**1.4564**		**4,812.1504**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	2.7500e-003	8.3000e-004	2.0000e-005	5.0000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6145	1.6145	0.0000	2.5000e-004	1.6903
Vendor	0.0145	0.2763	0.1209	1.7700e-003	0.0662	2.9400e-003	0.0692	0.0191	2.8100e-003	0.0219		185.8783	185.8783	7.3000e-004	0.0254	193.4780
Worker	0.6503	0.2885	4.5344	9.7900e-003	1.0863	5.1300e-003	1.0914	0.2881	4.7200e-003	0.2929		1,009.7207	1,009.7207	0.0291	0.0278	1,018.7202
Total	**0.6649**	**0.5675**	**4.6560**	**0.0116**	**1.1530**	**8.1000e-003**	**1.1611**	**0.3073**	**7.5600e-003**	**0.3149**		**1,197.2135**	**1,197.2135**	**0.0298**	**0.0535**	**1,213.8884**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2375	29.3576	30.2260	0.0629		1.1804	1.1804		1.1352	1.1352		5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**4.2375**	**29.3576**	**30.2260**	**0.0629**		**1.1804**	**1.1804**		**1.1352**	**1.1352**		**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	3.0400e-003	9.1000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.8229	1.8229	0.0000	2.9000e-004	1.9084
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8041**	**1.7387**	**12.6929**	**0.0312**	**2.9370**	**0.0234**	**2.9603**	**0.7840**	**0.0219**	**0.8059**		**3,211.9793**	**3,211.9793**	**0.0832**	**0.1618**	**3,262.2612**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.0260	17.4385	35.8323	0.0629		0.5603	0.5603		0.5603	0.5603	0.0000	5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**3.0260**	**17.4385**	**35.8323**	**0.0629**		**0.5603**	**0.5603**		**0.5603**	**0.5603**	**0.0000**	**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	3.0400e-003	9.1000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.8229	1.8229	0.0000	2.9000e-004	1.9084
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8041**	**1.7387**	**12.6929**	**0.0312**	**2.9370**	**0.0234**	**2.9603**	**0.7840**	**0.0219**	**0.8059**		**3,211.9793**	**3,211.9793**	**0.0832**	**0.1618**	**3,262.2612**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9844	27.8845	29.9241	0.0629		1.0441	1.0441		1.0030	1.0030		5,685.0227	5,685.0227	1.2912		5,717.3035
Total	**3.9844**	**27.8845**	**29.9241**	**0.0629**		**1.0441**	**1.0441**		**1.0030**	**1.0030**		**5,685.0227**	**5,685.0227**	**1.2912**		**5,717.3035**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	3.0500e-003	9.2000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.7911	1.7911	1.0000e-005	2.8000e-004	1.8751
Vendor	0.0483	0.9210	0.4028	5.8900e-003	0.2208	9.8000e-003	0.2306	0.0635	9.3700e-003	0.0729		619.5942	619.5942	2.4200e-003	0.0848	644.9267
Worker	1.6259	0.7211	11.3359	0.0245	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,524.3018	2,524.3018	0.0728	0.0694	2,546.8004
Total	**1.6742**	**1.6451**	**11.7396**	**0.0304**	**2.9370**	**0.0227**	**2.9596**	**0.7840**	**0.0212**	**0.8053**		**3,145.6871**	**3,145.6871**	**0.0752**	**0.1545**	**3,193.6022**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8398	17.0405	35.6899	0.0629		0.4836	0.4836		0.4836	0.4836	0.0000	5,685.0227	5,685.0227	1.2912		5,717.3035
Total	**2.8398**	**17.0405**	**35.6899**	**0.0629**		**0.4836**	**0.4836**		**0.4836**	**0.4836**	**0.0000**	**5,685.0227**	**5,685.0227**	**1.2912**		**5,717.3035**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	3.0500e-003	9.2000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.7911	1.7911	1.0000e-005	2.8000e-004	1.8751
Vendor	0.0483	0.9210	0.4028	5.8900e-003	0.2208	9.8000e-003	0.2306	0.0635	9.3700e-003	0.0729		619.5942	619.5942	2.4200e-003	0.0848	644.9267
Worker	1.6259	0.7211	11.3359	0.0245	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,524.3018	2,524.3018	0.0728	0.0694	2,546.8004
Total	**1.6742**	**1.6451**	**11.7396**	**0.0304**	**2.9370**	**0.0227**	**2.9596**	**0.7840**	**0.0212**	**0.8053**		**3,145.6871**	**3,145.6871**	**0.0752**	**0.1545**	**3,193.6022**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Power Plant Onsite Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0734	20.7613	15.7705	0.0381		0.8926	0.8926		0.8212	0.8212		3,687.0552	3,687.0552	1.1925		3,716.8669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0734**	**20.7613**	**15.7705**	**0.0381**		**0.8926**	**0.8926**		**0.8212**	**0.8212**		**3,687.0552**	**3,687.0552**	**1.1925**		**3,716.8669**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.2000e-004	0.0368	0.0110	2.1000e-004	6.7500e-003	4.7000e-004	7.2100e-003	1.8500e-003	4.5000e-004	2.3000e-003		22.0145	22.0145	6.0000e-005	3.4600e-003	23.0473
Vendor	0.0201	0.3696	0.1680	2.3900e-003	0.0883	3.9300e-003	0.0922	0.0254	3.7600e-003	0.0292		251.2198	251.2198	1.0000e-003	0.0346	261.5447
Worker	0.3006	0.1391	2.1038	4.3300e-003	0.4655	2.3200e-003	0.4679	0.1235	2.1300e-003	0.1256		442.6469	442.6469	0.0138	0.0129	446.8270
Total	**0.3217**	**0.5455**	**2.2828**	**6.9300e-003**	**0.5606**	**6.7200e-003**	**0.5673**	**0.1508**	**6.3400e-003**	**0.1571**		**715.8812**	**715.8812**	**0.0149**	**0.0509**	**731.4191**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Power Plant Onsite Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4668	2.0226	21.1103	0.0381		9.3400e-003	9.3400e-003		9.3400e-003	9.3400e-003	0.0000	3,687.0552	3,687.0552	1.1925		3,716.8669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4668**	**2.0226**	**21.1103**	**0.0381**		**9.3400e-003**	**9.3400e-003**		**9.3400e-003**	**9.3400e-003**	**0.0000**	**3,687.0552**	**3,687.0552**	**1.1925**		**3,716.8669**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.2000e-004	0.0368	0.0110	2.1000e-004	6.7500e-003	4.7000e-004	7.2100e-003	1.8500e-003	4.5000e-004	2.3000e-003		22.0145	22.0145	6.0000e-005	3.4600e-003	23.0473
Vendor	0.0201	0.3696	0.1680	2.3900e-003	0.0883	3.9300e-003	0.0922	0.0254	3.7600e-003	0.0292		251.2198	251.2198	1.0000e-003	0.0346	261.5447
Worker	0.3006	0.1391	2.1038	4.3300e-003	0.4655	2.3200e-003	0.4679	0.1235	2.1300e-003	0.1256		442.6469	442.6469	0.0138	0.0129	446.8270
Total	**0.3217**	**0.5455**	**2.2828**	**6.9300e-003**	**0.5606**	**6.7200e-003**	**0.5673**	**0.1508**	**6.3400e-003**	**0.1571**		**715.8812**	**715.8812**	**0.0149**	**0.0509**	**731.4191**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3972	4.0120	3.8703	7.7800e-003		0.1781	0.1781		0.1690	0.1690		746.2523	746.2523	0.1543		750.1099
Total	**0.3972**	**4.0120**	**3.8703**	**7.7800e-003**		**0.1781**	**0.1781**		**0.1690**	**0.1690**		**746.2523**	**746.2523**	**0.1543**		**750.1099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	4.6000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2739	0.2739	0.0000	4.0000e-005	0.2867
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**0.6063**	**0.3712**	**4.2497**	**9.2500e-003**	**0.9532**	**5.6200e-003**	**0.9589**	**0.2533**	**5.2100e-003**	**0.2586**		**948.3726**	**948.3726**	**0.0279**	**0.0344**	**959.3270**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0984	0.8088	4.5459	7.7800e-003		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	746.2523	746.2523	0.1543		750.1099
Total	**0.0984**	**0.8088**	**4.5459**	**7.7800e-003**		**1.7600e-003**	**1.7600e-003**		**1.7600e-003**	**1.7600e-003**	**0.0000**	**746.2523**	**746.2523**	**0.1543**		**750.1099**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	4.6000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2739	0.2739	0.0000	4.0000e-005	0.2867
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	0.6013	0.2783	4.2075	8.6500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		885.2938	885.2938	0.0277	0.0257	893.6541
Total	**0.6063**	**0.3712**	**4.2497**	**9.2500e-003**	**0.9532**	**5.6200e-003**	**0.9589**	**0.2533**	**5.2100e-003**	**0.2586**		**948.3726**	**948.3726**	**0.0279**	**0.0344**	**959.3270**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3728	3.7293	3.8353	7.7800e-003		0.1583	0.1583		0.1501	0.1501		746.2463	746.2463	0.1532		750.0765
Total	**0.3728**	**3.7293**	**3.8353**	**7.7800e-003**		**0.1583**	**0.1583**		**0.1501**	**0.1501**		**746.2463**	**746.2463**	**0.1532**		**750.0765**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	4.6000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2691	0.2691	0.0000	4.0000e-005	0.2817
Vendor	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5574	0.2473	3.8866	8.3900e-003	0.9311	4.3900e-003	0.9355	0.2470	4.0500e-003	0.2510		865.4749	865.4749	0.0249	0.0238	873.1887
Total	**0.5623**	**0.3398**	**3.9270**	**8.9800e-003**	**0.9532**	**5.3800e-003**	**0.9586**	**0.2533**	**5.0000e-003**	**0.2583**		**927.7034**	**927.7034**	**0.0252**	**0.0323**	**937.9631**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0984	0.8088	4.5459	7.7800e-003		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	746.2463	746.2463	0.1532		750.0765
Total	**0.0984**	**0.8088**	**4.5459**	**7.7800e-003**		**1.7600e-003**	**1.7600e-003**		**1.7600e-003**	**1.7600e-003**	**0.0000**	**746.2463**	**746.2463**	**0.1532**		**750.0765**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	4.6000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2691	0.2691	0.0000	4.0000e-005	0.2817
Vendor	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5574	0.2473	3.8866	8.3900e-003	0.9311	4.3900e-003	0.9355	0.2470	4.0500e-003	0.2510		865.4749	865.4749	0.0249	0.0238	873.1887
Total	**0.5623**	**0.3398**	**3.9270**	**8.9800e-003**	**0.9532**	**5.3800e-003**	**0.9586**	**0.2533**	**5.0000e-003**	**0.2583**		**927.7034**	**927.7034**	**0.0252**	**0.0323**	**937.9631**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1681	17.4258	17.2366	0.0458		0.7012	0.7012		0.6569	0.6569		4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**2.1681**	**17.4258**	**17.2366**	**0.0458**		**0.7012**	**0.7012**		**0.6569**	**0.6569**		**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2000e-004	4.5900e-003	1.3800e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7518	2.7518	1.0000e-005	4.3000e-004	2.8809
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.9019	0.4174	6.3113	0.0130	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,327.9407	1,327.9407	0.0415	0.0386	1,340.4811
Total	**0.9272**	**0.8840**	**6.5227**	**0.0160**	**1.5078**	**0.0119**	**1.5198**	**0.4025**	**0.0112**	**0.4136**		**1,644.7173**	**1,644.7173**	**0.0428**	**0.0822**	**1,670.2929**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9291	6.0324	23.8711	0.0458		0.0928	0.0928		0.0928	0.0928	0.0000	4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**0.9291**	**6.0324**	**23.8711**	**0.0458**		**0.0928**	**0.0928**		**0.0928**	**0.0928**	**0.0000**	**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2000e-004	4.5900e-003	1.3800e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7518	2.7518	1.0000e-005	4.3000e-004	2.8809
Vendor	0.0252	0.4620	0.2101	2.9900e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		314.0247	314.0247	1.2500e-003	0.0432	326.9309
Worker	0.9019	0.4174	6.3113	0.0130	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,327.9407	1,327.9407	0.0415	0.0386	1,340.4811
Total	**0.9272**	**0.8840**	**6.5227**	**0.0160**	**1.5078**	**0.0119**	**1.5198**	**0.4025**	**0.0112**	**0.4136**		**1,644.7173**	**1,644.7173**	**0.0428**	**0.0822**	**1,670.2929**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0797	16.3230	17.0668	0.0458		0.6323	0.6323		0.5918	0.5918		4,363.5434	4,363.5434	1.2542		4,394.8990
Total	**2.0797**	**16.3230**	**17.0668**	**0.0458**		**0.6323**	**0.6323**		**0.5918**	**0.5918**		**4,363.5434**	**4,363.5434**	**1.2542**		**4,394.8990**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2000e-004	4.6000e-003	1.3900e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7038	2.7038	1.0000e-005	4.3000e-004	2.8307
Vendor	0.0242	0.4605	0.2014	2.9500e-003	0.1104	4.9000e-003	0.1153	0.0318	4.6900e-003	0.0365		309.7971	309.7971	1.2100e-003	0.0424	322.4633
Worker	0.8362	0.3709	5.8299	0.0126	1.3966	6.5900e-003	1.4032	0.3705	6.0700e-003	0.3765		1,298.2123	1,298.2123	0.0374	0.0357	1,309.7831
Total	**0.8604**	**0.8360**	**6.0327**	**0.0156**	**1.5078**	**0.0116**	**1.5194**	**0.4025**	**0.0108**	**0.4133**		**1,610.7133**	**1,610.7133**	**0.0386**	**0.0785**	**1,635.0771**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9012	5.9727	23.8497	0.0458		0.0813	0.0813		0.0813	0.0813	0.0000	4,363.5434	4,363.5434	1.2542		4,394.8990
Total	**0.9012**	**5.9727**	**23.8497**	**0.0458**		**0.0813**	**0.0813**		**0.0813**	**0.0813**	**0.0000**	**4,363.5434**	**4,363.5434**	**1.2542**		**4,394.8990**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2000e-004	4.6000e-003	1.3900e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7038	2.7038	1.0000e-005	4.3000e-004	2.8307
Vendor	0.0242	0.4605	0.2014	2.9500e-003	0.1104	4.9000e-003	0.1153	0.0318	4.6900e-003	0.0365		309.7971	309.7971	1.2100e-003	0.0424	322.4633
Worker	0.8362	0.3709	5.8299	0.0126	1.3966	6.5900e-003	1.4032	0.3705	6.0700e-003	0.3765		1,298.2123	1,298.2123	0.0374	0.0357	1,309.7831
Total	**0.8604**	**0.8360**	**6.0327**	**0.0156**	**1.5078**	**0.0116**	**1.5194**	**0.4025**	**0.0108**	**0.4133**		**1,610.7133**	**1,610.7133**	**0.0386**	**0.0785**	**1,635.0771**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7625	26.7297	26.8965	0.0577		1.0952	1.0952		1.0480	1.0480		5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**3.7625**	**26.7297**	**26.8965**	**0.0577**		**1.0952**	**1.0952**		**1.0480**	**1.0480**		**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0000e-005	3.6500e-003	1.0900e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1847	2.1847	1.0000e-005	3.4000e-004	2.2871
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8041**	**1.7393**	**12.6931**	**0.0312**	**2.9371**	**0.0234**	**2.9605**	**0.7841**	**0.0219**	**0.8059**		**3,212.3411**	**3,212.3411**	**0.0832**	**0.1618**	**3,262.6400**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5059	14.1663	32.4199	0.0577		0.4500	0.4500		0.4500	0.4500	0.0000	5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**2.5059**	**14.1663**	**32.4199**	**0.0577**		**0.4500**	**0.4500**		**0.4500**	**0.4500**	**0.0000**	**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0000e-005	3.6500e-003	1.0900e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1847	2.1847	1.0000e-005	3.4000e-004	2.2871
Vendor	0.0504	0.9240	0.4201	5.9700e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		628.0494	628.0494	2.5100e-003	0.0864	653.8618
Worker	1.7537	0.8117	12.2719	0.0252	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,582.1070	2,582.1070	0.0807	0.0751	2,606.4911
Total	**1.8041**	**1.7393**	**12.6931**	**0.0312**	**2.9371**	**0.0234**	**2.9605**	**0.7841**	**0.0219**	**0.8059**		**3,212.3411**	**3,212.3411**	**0.0832**	**0.1618**	**3,262.6400**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5425	25.3016	26.6200	0.0577		0.9702	0.9702		0.9274	0.9274		5,262.7727	5,262.7727	1.2465		5,293.9358
Total	**3.5425**	**25.3016**	**26.6200**	**0.0577**		**0.9702**	**0.9702**		**0.9274**	**0.9274**		**5,262.7727**	**5,262.7727**	**1.2465**		**5,293.9358**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0000e-005	3.6500e-003	1.1000e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1466	2.1466	1.0000e-005	3.4000e-004	2.2473
Vendor	0.0483	0.9210	0.4028	5.8900e-003	0.2208	9.8000e-003	0.2306	0.0635	9.3700e-003	0.0729		619.5942	619.5942	2.4200e-003	0.0848	644.9267
Worker	1.6259	0.7211	11.3359	0.0245	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,524.3018	2,524.3018	0.0728	0.0694	2,546.8004
Total	**1.6743**	**1.6457**	**11.7398**	**0.0304**	**2.9371**	**0.0227**	**2.9597**	**0.7841**	**0.0212**	**0.8053**		**3,146.0425**	**3,146.0425**	**0.0752**	**0.1546**	**3,193.9743**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3569	13.8479	32.3060	0.0577		0.3887	0.3887		0.3887	0.3887	0.0000	5,262.7727	5,262.7727	1.2465		5,293.9358
Total	**2.3569**	**13.8479**	**32.3060**	**0.0577**		**0.3887**	**0.3887**		**0.3887**	**0.3887**	**0.0000**	**5,262.7727**	**5,262.7727**	**1.2465**		**5,293.9358**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0000e-005	3.6500e-003	1.1000e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1466	2.1466	1.0000e-005	3.4000e-004	2.2473
Vendor	0.0483	0.9210	0.4028	5.8900e-003	0.2208	9.8000e-003	0.2306	0.0635	9.3700e-003	0.0729		619.5942	619.5942	2.4200e-003	0.0848	644.9267
Worker	1.6259	0.7211	11.3359	0.0245	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,524.3018	2,524.3018	0.0728	0.0694	2,546.8004
Total	**1.6743**	**1.6457**	**11.7398**	**0.0304**	**2.9371**	**0.0227**	**2.9597**	**0.7841**	**0.0212**	**0.8053**		**3,146.0425**	**3,146.0425**	**0.0752**	**0.1546**	**3,193.9743**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Lithium Plant Onsite Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0210	19.6918	15.7457	0.0381		0.8427	0.8427		0.7753	0.7753		3,687.0542	3,687.0542	1.1925		3,716.8659
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0210**	**19.6918**	**15.7457**	**0.0381**		**0.8427**	**0.8427**		**0.7753**	**0.7753**		**3,687.0542**	**3,687.0542**	**1.1925**		**3,716.8659**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.9000e-004	0.0354	0.0107	2.0000e-004	6.5000e-003	4.5000e-004	6.9500e-003	1.7800e-003	4.3000e-004	2.2100e-003		20.8295	20.8295	6.0000e-005	3.2700e-003	21.8068
Vendor	0.0193	0.3684	0.1611	2.3600e-003	0.0883	3.9200e-003	0.0922	0.0254	3.7500e-003	0.0292		247.8377	247.8377	9.7000e-004	0.0339	257.9707
Worker	0.2787	0.1236	1.9433	4.1900e-003	0.4655	2.2000e-003	0.4677	0.1235	2.0200e-003	0.1255		432.7374	432.7374	0.0125	0.0119	436.5944
Total	**0.2989**	**0.5274**	**2.1151**	**6.7500e-003**	**0.5604**	**6.5700e-003**	**0.5669**	**0.1507**	**6.2000e-003**	**0.1569**		**701.4047**	**701.4047**	**0.0135**	**0.0491**	**716.3718**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Lithium Plant Onsite Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4668	2.0226	21.1103	0.0381		9.3400e-003	9.3400e-003		9.3400e-003	9.3400e-003	0.0000	3,687.0542	3,687.0542	1.1925		3,716.8659
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4668**	**2.0226**	**21.1103**	**0.0381**		**9.3400e-003**	**9.3400e-003**		**9.3400e-003**	**9.3400e-003**	**0.0000**	**3,687.0542**	**3,687.0542**	**1.1925**		**3,716.8659**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.9000e-004	0.0354	0.0107	2.0000e-004	6.5000e-003	4.5000e-004	6.9500e-003	1.7800e-003	4.3000e-004	2.2100e-003		20.8295	20.8295	6.0000e-005	3.2700e-003	21.8068
Vendor	0.0193	0.3684	0.1611	2.3600e-003	0.0883	3.9200e-003	0.0922	0.0254	3.7500e-003	0.0292		247.8377	247.8377	9.7000e-004	0.0339	257.9707
Worker	0.2787	0.1236	1.9433	4.1900e-003	0.4655	2.2000e-003	0.4677	0.1235	2.0200e-003	0.1255		432.7374	432.7374	0.0125	0.0119	436.5944
Total	**0.2989**	**0.5274**	**2.1151**	**6.7500e-003**	**0.5604**	**6.5700e-003**	**0.5669**	**0.1507**	**6.2000e-003**	**0.1569**		**701.4047**	**701.4047**	**0.0135**	**0.0491**	**716.3718**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Lithium Plant Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	58.9933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1205	0.8125	1.2068	1.9800e-003		0.0406	0.0406		0.0406	0.0406		187.6320	187.6320	0.0106		187.8962
Total	**59.1138**	**0.8125**	**1.2068**	**1.9800e-003**		**0.0406**	**0.0406**		**0.0406**	**0.0406**		**187.6320**	**187.6320**	**0.0106**		**187.8962**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1022	0.0453	0.7125	1.5400e-003	0.1707	8.1000e-004	0.1715	0.0453	7.4000e-004	0.0460		158.6704	158.6704	4.5700e-003	4.3600e-003	160.0846
Total	**0.1022**	**0.0453**	**0.7125**	**1.5400e-003**	**0.1707**	**8.1000e-004**	**0.1715**	**0.0453**	**7.4000e-004**	**0.0460**		**158.6704**	**158.6704**	**4.5700e-003**	**4.3600e-003**	**160.0846**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Lithium Plant Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	58.9933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0198	0.0858	1.2216	1.9800e-003		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	187.6320	187.6320	0.0106		187.8962
Total	**59.0131**	**0.0858**	**1.2216**	**1.9800e-003**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**187.6320**	**187.6320**	**0.0106**		**187.8962**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1022	0.0453	0.7125	1.5400e-003	0.1707	8.1000e-004	0.1715	0.0453	7.4000e-004	0.0460		158.6704	158.6704	4.5700e-003	4.3600e-003	160.0846
Total	**0.1022**	**0.0453**	**0.7125**	**1.5400e-003**	**0.1707**	**8.1000e-004**	**0.1715**	**0.0453**	**7.4000e-004**	**0.0460**		**158.6704**	**158.6704**	**4.5700e-003**	**4.3600e-003**	**160.0846**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Lithium Plant Offsite Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2229	21.2789	17.6632	0.0431		0.9109	0.9109		0.8380	0.8380		4,169.2946	4,169.2946	1.3484		4,203.0055
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2229**	**21.2789**	**17.6632**	**0.0431**		**0.9109**	**0.9109**		**0.8380**	**0.8380**		**4,169.2946**	**4,169.2946**	**1.3484**		**4,203.0055**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.9300e-003	0.0765	0.0231	4.2000e-004	0.0140	9.7000e-004	0.0150	3.8500e-003	9.3000e-004	4.7800e-003		44.9918	44.9918	1.3000e-004	7.0700e-003	47.1026
Vendor	0.0193	0.3684	0.1611	2.3600e-003	0.0883	3.9200e-003	0.0922	0.0254	3.7500e-003	0.0292		247.8377	247.8377	9.7000e-004	0.0339	257.9707
Worker	0.1858	0.0824	1.2955	2.8000e-003	0.3104	1.4600e-003	0.3118	0.0823	1.3500e-003	0.0837		288.4916	288.4916	8.3100e-003	7.9300e-003	291.0629
Total	**0.2071**	**0.5273**	**1.4797**	**5.5800e-003**	**0.4127**	**6.3500e-003**	**0.4191**	**0.1116**	**6.0300e-003**	**0.1176**		**581.3211**	**581.3211**	**9.4100e-003**	**0.0489**	**596.1362**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Lithium Plant Offsite Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5278	2.2871	23.8634	0.0431		0.0106	0.0106		0.0106	0.0106	0.0000	4,169.2946	4,169.2946	1.3484		4,203.0055
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5278**	**2.2871**	**23.8634**	**0.0431**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**4,169.2946**	**4,169.2946**	**1.3484**		**4,203.0055**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.9300e-003	0.0765	0.0231	4.2000e-004	0.0140	9.7000e-004	0.0150	3.8500e-003	9.3000e-004	4.7800e-003		44.9918	44.9918	1.3000e-004	7.0700e-003	47.1026
Vendor	0.0193	0.3684	0.1611	2.3600e-003	0.0883	3.9200e-003	0.0922	0.0254	3.7500e-003	0.0292		247.8377	247.8377	9.7000e-004	0.0339	257.9707
Worker	0.1858	0.0824	1.2955	2.8000e-003	0.3104	1.4600e-003	0.3118	0.0823	1.3500e-003	0.0837		288.4916	288.4916	8.3100e-003	7.9300e-003	291.0629
Total	**0.2071**	**0.5273**	**1.4797**	**5.5800e-003**	**0.4127**	**6.3500e-003**	**0.4191**	**0.1116**	**6.0300e-003**	**0.1176**		**581.3211**	**581.3211**	**9.4100e-003**	**0.0489**	**596.1362**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Unmitigated	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**		**0.2760**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**		**0.2760**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hell's Kitchen Geothermal and Lithium Plants Construction

Imperial County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	789.00	1000sqft	18.11	789,000.00	0
Other Non-Asphalt Surfaces	395.00	1000sqft	9.07	395,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Conditional Use Permit Application Project Description, November 2021

Construction Phase - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Project Description

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Off-road Equipment - Conditional Use Permit Application Project Description, November 2021

Trips and VMT - Conditional Use Permit Application Project Description, November 2021

On-road Fugitive Dust - Trips use Highway 11, McDonald Road, and Davis Road, all paved except two miles on Davis and a portion of McDonald Roads, prior to construction. This unpaved portion will be improved with 12-18" base and would have a dedicated water truck.

Grading - Conditional Use Permit Application Project Description, November 2021 and Table of Quantities for Water Resources Permit Application, December 7, 2021

Architectural Coating - Conditional Use Permit Application Project Description, November 2021

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Construction Off-road Equipment Mitigation - Basic and Enhanced Emission Reduction Measures

Area Mitigation - Conditional Use Permit Application Project Description, November 2021

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	394,500.00	47,400.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,183,500.00	158,000.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	150	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	394500	247333
tblAreaCoating	Area_Nonresidential_Interior	1183500	742000
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	0	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	0	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	0	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	0	100
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	32.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	37.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	17.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	27.00
tblConstructionPhase	NumDays	440.00	158.00
tblConstructionPhase	NumDays	440.00	132.00
tblConstructionPhase	NumDays	440.00	209.00
tblConstructionPhase	NumDays	440.00	314.00
tblConstructionPhase	NumDays	440.00	209.00
tblConstructionPhase	NumDays	440.00	208.00
tblConstructionPhase	NumDays	440.00	262.00
tblConstructionPhase	NumDays	440.00	155.00
tblConstructionPhase	NumDays	440.00	208.00
tblConstructionPhase	NumDays	440.00	131.00
tblConstructionPhase	NumDays	440.00	184.00
tblConstructionPhase	NumDays	440.00	289.00
tblConstructionPhase	NumDays	45.00	67.00
tblConstructionPhase	NumDays	45.00	105.00
tblConstructionPhase	NumDays	35.00	26.00
tblConstructionPhase	NumDays	35.00	27.00
tblConstructionPhase	NumDays	35.00	25.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	20.00	24.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblGrading	AcresOfGrading	536.00	18.00
tblGrading	AcresOfGrading	840.00	36.00
tblGrading	AcresOfGrading	12.00	18.00
tblGrading	AcresOfGrading	24.00	36.00
tblGrading	MaterialExported	0.00	15,801.00
tblGrading	MaterialExported	0.00	47,602.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	MaterialExported	0.00	7,899.00
tblGrading	MaterialExported	0.00	23,798.00
tblGrading	MaterialImported	0.00	100,672.00
tblGrading	MaterialImported	0.00	186,876.00
tblGrading	MaterialImported	0.00	50,328.00
tblGrading	MaterialImported	0.00	93,424.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
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tblOffRoadEquipment	UsageHours	8.00	4.00
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tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
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tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
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tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
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tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
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tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblSolidWaste	SolidWasteGenerationRate	978.36	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	20.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,656.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,250.00
tblTripsAndVMT	VendorTripNumber	194.00	2.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	194.00	2.00
tblTripsAndVMT	VendorTripNumber	194.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	20.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	10.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	VendorTripNumber	194.00	6.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	497.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	497.00	140.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	18.00	60.00
tblTripsAndVMT	WorkerTripNumber	497.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	180.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	18.00	60.00
tblTripsAndVMT	WorkerTripNumber	99.00	22.00
tblTripsAndVMT	WorkerTripNumber	53.00	120.00
tblTripsAndVMT	WorkerTripNumber	20.00	40.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	497.00	100.00
tblTripsAndVMT	WorkerTripNumber	497.00	350.00
tblTripsAndVMT	WorkerTripNumber	53.00	120.00
tblTripsAndVMT	WorkerTripNumber	497.00	180.00
tblTripsAndVMT	WorkerTripNumber	497.00	140.00
tblTripsAndVMT	WorkerTripNumber	497.00	100.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00
tblWater	IndoorWaterUseRate	182,456,250.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.7734	144.6692	88.6173	0.3661	29.5723	5.1663	34.7386	14.6485	4.7647	19.4131	0.0000	38,559.0932	38,559.0932	6.5377	5.6913	40,276.0885
2023	32.1099	256.3631	234.8965	0.7624	42.3321	9.2832	51.6152	18.0398	8.6670	26.7068	0.0000	75,158.2692	75,158.2692	14.0984	5.8170	76,509.8948
2024	75.0471	106.3195	132.4138	0.3469	10.4668	3.9272	14.3939	2.7936	3.7107	6.5043	0.0000	33,432.0958	33,432.0958	6.4996	0.5942	33,771.6695
Maximum	**75.0471**	**256.3631**	**234.8965**	**0.7624**	**42.3321**	**9.2832**	**51.6152**	**18.0398**	**8.6670**	**26.7068**	**0.0000**	**75,158.2692**	**75,158.2692**	**14.0984**	**5.8170**	**76,509.8948**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6711	79.0445	106.5091	0.3661	16.4875	0.8675	17.3550	6.5208	0.8302	6.8798	0.0000	38,559.0932	38,559.0932	6.5377	5.6913	40,276.0885
2023	16.7494	94.9524	292.9614	0.7624	27.1451	1.7215	28.7860	9.8978	1.7147	11.5168	0.0000	75,158.2691	75,158.2691	14.0984	5.8170	76,509.8947
2024	69.6090	49.2716	164.1168	0.3469	10.4668	1.0603	11.5271	2.7936	1.0549	3.8485	0.0000	33,432.0958	33,432.0958	6.4996	0.5942	33,771.6695
Maximum	**69.6090**	**94.9524**	**292.9614**	**0.7624**	**27.1451**	**1.7215**	**28.7860**	**9.8978**	**1.7147**	**11.5168**	**0.0000**	**75,158.2691**	**75,158.2691**	**14.0984**	**5.8170**	**76,509.8947**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**24.93**	**55.99**	**-23.61**	**0.00**	**34.32**	**80.14**	**42.76**	**45.85**	**79.00**	**57.73**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**	**0.0000**	**4.3000e-004**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**	**0.0000**	**0.2760**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**	**0.0000**	**4.3000e-004**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**	**0.0000**	**0.2760**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Power Plant Site Preparation	Site Preparation	11/1/2022	11/14/2022	6	12	
2	Power Plant Grading	Grading	11/15/2022	1/31/2023	6	67	
3	Lithium Plant Site Preparation	Site Preparation	2/1/2023	2/28/2023	6	24	
4	Power Plant Foundation	Building Construction	2/1/2023	7/31/2023	6	155	
5	Power Plant Process Equipment Installation	Building Construction	2/1/2023	9/30/2023	6	208	
6	Lithium Plant Grading	Grading	3/1/2023	6/30/2023	6	105	
7	Power Plant Structural Steel	Building Construction	3/1/2023	7/31/2023	6	131	
8	Power Plant Electrical	Building Construction	3/1/2023	9/30/2023	6	184	
9	Lithium Plant Foundation	Building Construction	3/1/2023	1/31/2024	6	289	
10	Power Plant Building Construction	Building Construction	3/1/2023	8/31/2023	6	158	
11	Power Plant Piping	Building Construction	5/1/2023	9/30/2023	6	132	
12	Lithium Plant Electrical	Building Construction	8/1/2023	3/31/2024	6	209	
13	Lithium Plant Process Equipment Installation	Building Construction	9/1/2023	8/31/2024	6	314	
14	Power Plant Onsite Paving	Paving	9/1/2023	9/30/2023	6	26	
15	Lithium Plant Building Construction	Building Construction	10/1/2023	5/31/2024	6	209	
16	Lithum Plant Structural Steel	Building Construction	11/1/2023	6/30/2024	6	208	
17	Lithium Plant Piping	Building Construction	11/1/2023	8/31/2024	6	262	
18	Lithium Plant Onsite Paving	Paving	5/1/2024	5/31/2024	6	27	
19	Lithium Plant Coating	Architectural Coating	5/1/2024	5/31/2024	6	27	
20	Lithium Plant Offsite Paving	Paving	9/1/2024	9/30/2024	6	25	

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 18

Acres of Paving: 9.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,000; Non-Residential Outdoor: 47,400; Striped Parking Area: 23,700 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Power Plant Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Power Plant Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Power Plant Grading	Excavators	1	4.00	158	0.38
Power Plant Grading	Graders	0	8.00	187	0.41
Power Plant Grading	Off-Highway Trucks	7	6.00	402	0.38
Power Plant Grading	Rubber Tired Dozers	4	8.00	247	0.40
Power Plant Grading	Scrapers	6	8.00	367	0.48
Power Plant Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Lithium Plant Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Lithium Plant Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Power Plant Foundation	Cranes	0	7.00	231	0.29
Power Plant Foundation	Forklifts	0	8.00	89	0.20
Power Plant Foundation	Generator Sets	0	8.00	84	0.74
Power Plant Foundation	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Foundation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Foundation	Welders	0	8.00	46	0.45
Power Plant Process Equipment Installation	Aerial Lifts	3	4.00	63	0.31
Power Plant Process Equipment Installation	Cranes	3	4.00	231	0.29
Power Plant Process Equipment Installation	Forklifts	4	4.00	89	0.20

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Process Equipment Installation	Generator Sets	1	4.00	84	0.74
Power Plant Process Equipment Installation	Off-Highway Trucks	2	6.00	402	0.38
Power Plant Process Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Process Equipment Installation	Welders	10	8.00	46	0.45
Lithium Plant Grading	Excavators	1	4.00	158	0.38
Lithium Plant Grading	Graders	0	8.00	187	0.41
Lithium Plant Grading	Off-Highway Trucks	7	6.00	402	0.38
Lithium Plant Grading	Rubber Tired Dozers	4	8.00	247	0.40
Lithium Plant Grading	Scrapers	6	8.00	367	0.48
Lithium Plant Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Power Plant Structural Steel	Aerial Lifts	4	4.00	63	0.31
Power Plant Structural Steel	Cranes	2	4.00	231	0.29
Power Plant Structural Steel	Forklifts	4	4.00	89	0.20
Power Plant Structural Steel	Generator Sets	1	4.00	84	0.74
Power Plant Structural Steel	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Structural Steel	Welders	3	4.00	46	0.45
Power Plant Electrical	Aerial Lifts	2	4.00	63	0.31
Power Plant Electrical	Cranes	1	4.00	231	0.29
Power Plant Electrical	Forklifts	2	4.00	89	0.20
Power Plant Electrical	Generator Sets	1	4.00	84	0.74
Power Plant Electrical	Graders	1	4.00	187	0.41
Power Plant Electrical	Off-Highway Trucks	2	8.00	402	0.38
Power Plant Electrical	Rollers	1	4.00	80	0.38
Power Plant Electrical	Rubber Tired Dozers	1	4.00	247	0.40
Power Plant Electrical	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Power Plant Electrical	Welders	0	8.00	46	0.45
Lithium Plant Foundation	Cranes	0	7.00	231	0.29

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Foundation	Forklifts	0	8.00	89	0.20
Lithium Plant Foundation	Generator Sets	0	8.00	84	0.74
Lithium Plant Foundation	Off-Highway Trucks	2	8.00	402	0.38
Lithium Plant Foundation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Foundation	Welders	0	8.00	46	0.45
Power Plant Building Construction	Aerial Lifts	1	4.00	63	0.31
Power Plant Building Construction	Cranes	1	4.00	231	0.29
Power Plant Building Construction	Forklifts	1	4.00	89	0.20
Power Plant Building Construction	Generator Sets	1	4.00	84	0.74
Power Plant Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Building Construction	Welders	0	8.00	46	0.45
Power Plant Piping	Aerial Lifts	2	4.00	63	0.31
Power Plant Piping	Cranes	3	4.00	231	0.29
Power Plant Piping	Forklifts	5	4.00	89	0.20
Power Plant Piping	Generator Sets	1	4.00	84	0.74
Power Plant Piping	Off-Highway Trucks	2	6.00	402	0.38
Power Plant Piping	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Power Plant Piping	Welders	8	8.00	46	0.45
Lithium Plant Electrical	Aerial Lifts	2	4.00	63	0.31
Lithium Plant Electrical	Cranes	1	4.00	231	0.29
Lithium Plant Electrical	Forklifts	2	4.00	89	0.20
Lithium Plant Electrical	Generator Sets	1	4.00	84	0.74
Lithium Plant Electrical	Graders	1	4.00	187	0.41
Lithium Plant Electrical	Off-Highway Trucks	2	8.00	402	0.38
Lithium Plant Electrical	Rollers	1	4.00	80	0.38
Lithium Plant Electrical	Rubber Tired Dozers	1	4.00	247	0.40
Lithium Plant Electrical	Tractors/Loaders/Backhoes	3	4.00	97	0.37
Lithium Plant Electrical	Welders	0	8.00	46	0.45
Lithium Plant Process Equipment Installation	Aerial Lifts	3	4.00	63	0.31

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Process Equipment Installation	Cranes	3	4.00	231	0.29
Lithium Plant Process Equipment Installation	Forklifts	4	4.00	89	0.20
Lithium Plant Process Equipment Installation	Generator Sets	1	4.00	84	0.74
Lithium Plant Process Equipment Installation	Off-Highway Trucks	2	6.00	402	0.38
Lithium Plant Process Equipment Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Process Equipment Installation	Welders	10	8.00	46	0.45
Power Plant Onsite Paving	Graders	1	8.00	187	0.41
Power Plant Onsite Paving	Off-Highway Trucks	1	6.00	402	0.38
Power Plant Onsite Paving	Pavers	1	8.00	130	0.42
Power Plant Onsite Paving	Paving Equipment	1	6.00	132	0.36
Power Plant Onsite Paving	Rollers	2	8.00	80	0.38
Power Plant Onsite Paving	Rubber Tired Dozers	1	8.00	247	0.40
Lithium Plant Building Construction	Aerial Lifts	1	4.00	63	0.31
Lithium Plant Building Construction	Cranes	1	4.00	231	0.29
Lithium Plant Building Construction	Forklifts	1	4.00	89	0.20
Lithium Plant Building Construction	Generator Sets	1	4.00	84	0.74
Lithium Plant Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Building Construction	Welders	0	8.00	46	0.45
Lithum Plant Structural Steel	Aerial Lifts	4	4.00	63	0.31
Lithum Plant Structural Steel	Cranes	2	4.00	231	0.29
Lithum Plant Structural Steel	Forklifts	4	4.00	89	0.20
Lithum Plant Structural Steel	Generator Sets	1	4.00	84	0.74
Lithum Plant Structural Steel	Off-Highway Trucks	2	8.00	402	0.38
Lithum Plant Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithum Plant Structural Steel	Welders	3	4.00	46	0.45
Lithium Plant Piping	Aerial Lifts	2	4.00	63	0.31
Lithium Plant Piping	Cranes	3	4.00	231	0.29

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Lithium Plant Piping	Forklifts	5	4.00	89	0.20
Lithium Plant Piping	Generator Sets	1	4.00	84	0.74
Lithium Plant Piping	Off-Highway Trucks	2	6.00	402	0.38
Lithium Plant Piping	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lithium Plant Piping	Welders	8	8.00	46	0.45
Lithium Plant Onsite Paving	Graders	1	8.00	187	0.41
Lithium Plant Onsite Paving	Off-Highway Trucks	1	6.00	402	0.38
Lithium Plant Onsite Paving	Pavers	1	8.00	130	0.42
Lithium Plant Onsite Paving	Paving Equipment	1	6.00	132	0.36
Lithium Plant Onsite Paving	Rollers	2	8.00	80	0.38
Lithium Plant Onsite Paving	Rubber Tired Dozers	1	8.00	247	0.40
Lithium Plant Coating	Air Compressors	2	2.00	78	0.48
Lithium Plant Offsite Paving	Graders	1	8.00	187	0.41
Lithium Plant Offsite Paving	Off-Highway Trucks	1	8.00	402	0.38
Lithium Plant Offsite Paving	Pavers	1	8.00	130	0.42
Lithium Plant Offsite Paving	Paving Equipment	1	8.00	132	0.36
Lithium Plant Offsite Paving	Rollers	3	6.00	80	0.38
Lithium Plant Offsite Paving	Rubber Tired Dozers	1	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Power Plant Site Preparation	4	20.00	0.00	7,278.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Grading	21	120.00	10.00	14,559.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Site Preparation	4	20.00	0.00	14,653.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Foundation	2	100.00	6.00	1,656.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Process Equipment Installation	23	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Grading	21	120.00	10.00	29,310.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Power Plant Structural Steel	16	180.00	10.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Electrical	14	140.00	6.00	6.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Foundation	2	100.00	6.00	2,250.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Building Construction	4	120.00	2.00	1.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Piping	21	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Electrical	14	140.00	6.00	6.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Process Equipment Installation	23	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Power Plant Onsite Paving	7	60.00	8.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Building Construction	4	120.00	2.00	1.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithum Plant Structural Steel	16	180.00	10.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Piping	21	350.00	20.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Onsite Paving	7	60.00	8.00	10.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Coating	2	22.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Lithium Plant Offsite Paving	8	40.00	8.00	20.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Power Plant Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.6013	0.0000	14.6013	6.9386	0.0000	6.9386			0.0000			0.0000
Off-Road	2.0036	20.9386	11.6399	0.0233		1.0150	1.0150		0.9338	0.9338		2,256.5486	2,256.5486	0.7298		2,274.7939
Total	**2.0036**	**20.9386**	**11.6399**	**0.0233**	**14.6013**	**1.0150**	**15.6163**	**6.9386**	**0.9338**	**7.8723**		**2,256.5486**	**2,256.5486**	**0.7298**		**2,274.7939**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7369	77.7541	18.1844	0.3416	10.6378	0.8610	11.4988	2.9185	0.8238	3.7422		36,173.7444	36,173.7444	0.1040	5.6866	37,870.9393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0811	0.0551	0.5504	1.2700e-003	0.1552	8.3000e-004	0.1560	0.0412	7.6000e-004	0.0419		128.8002	128.8002	5.1700e-003	4.7800e-003	130.3553
Total	**1.8181**	**77.8092**	**18.7348**	**0.3429**	**10.7930**	**0.8618**	**11.6548**	**2.9596**	**0.8245**	**3.7841**		**36,302.5446**	**36,302.5446**	**0.1092**	**5.6913**	**38,001.2945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Power Plant Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6945	0.0000	5.6945	2.7060	0.0000	2.7060			0.0000			0.0000
Off-Road	0.2851	1.2353	12.3513	0.0233		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	2,256.5486	2,256.5486	0.7298		2,274.7939
Total	**0.2851**	**1.2353**	**12.3513**	**0.0233**	**5.6945**	**5.7000e-003**	**5.7002**	**2.7060**	**5.7000e-003**	**2.7117**	**0.0000**	**2,256.5486**	**2,256.5486**	**0.7298**		**2,274.7939**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7369	77.7541	18.1844	0.3416	10.6378	0.8610	11.4988	2.9185	0.8238	3.7422		36,173.7444	36,173.7444	0.1040	5.6866	37,870.9393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0811	0.0551	0.5504	1.2700e-003	0.1552	8.3000e-004	0.1560	0.0412	7.6000e-004	0.0419		128.8002	128.8002	5.1700e-003	4.7800e-003	130.3553
Total	**1.8181**	**77.8092**	**18.7348**	**0.3429**	**10.7930**	**0.8618**	**11.6548**	**2.9596**	**0.8245**	**3.7841**		**36,302.5446**	**36,302.5446**	**0.1092**	**5.6913**	**38,001.2945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.7195	0.0000	24.7195	13.3241	0.0000	13.3241			0.0000			0.0000
Off-Road	11.6334	115.8230	78.5575	0.2065		4.8438	4.8438		4.4563	4.4563		19,998.3021	19,998.3021	6.4679		20,159.9985
Total	**11.6334**	**115.8230**	**78.5575**	**0.2065**	**24.7195**	**4.8438**	**29.5632**	**13.3241**	**4.4563**	**17.7804**		**19,998.3021**	**19,998.3021**	**6.4679**		**20,159.9985**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6223	27.8580	6.5152	0.1224	3.8113	0.3085	4.1198	1.0456	0.2951	1.3408		12,960.4298	12,960.4298	0.0373	2.0374	13,568.5055
Vendor	0.0310	0.6576	0.2420	3.0900e-003	0.1104	9.0800e-003	0.1195	0.0318	8.6900e-003	0.0405		325.4173	325.4173	1.5400e-003	0.0453	338.9572
Worker	0.4867	0.3306	3.3026	7.6000e-003	0.9311	4.9600e-003	0.9360	0.2470	4.5700e-003	0.2515		772.8014	772.8014	0.0310	0.0287	782.1315
Total	**1.1400**	**28.8462**	**10.0598**	**0.1331**	**4.8528**	**0.3225**	**5.1753**	**1.3244**	**0.3084**	**1.6328**		**14,058.6484**	**14,058.6484**	**0.0698**	**2.1114**	**14,689.5942**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.6406	0.0000	9.6406	5.1964	0.0000	5.1964			0.0000			0.0000
Off-Road	2.5311	10.9681	96.4493	0.2065		0.0506	0.0506		0.0506	0.0506	0.0000	19,998.3021	19,998.3021	6.4679		20,159.9985
Total	**2.5311**	**10.9681**	**96.4493**	**0.2065**	**9.6406**	**0.0506**	**9.6912**	**5.1964**	**0.0506**	**5.2470**	**0.0000**	**19,998.3021**	**19,998.3021**	**6.4679**		**20,159.9985**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6223	27.8580	6.5152	0.1224	3.8113	0.3085	4.1198	1.0456	0.2951	1.3408		12,960.4298	12,960.4298	0.0373	2.0374	13,568.5055
Vendor	0.0310	0.6576	0.2420	3.0900e-003	0.1104	9.0800e-003	0.1195	0.0318	8.6900e-003	0.0405		325.4173	325.4173	1.5400e-003	0.0453	338.9572
Worker	0.4867	0.3306	3.3026	7.6000e-003	0.9311	4.9600e-003	0.9360	0.2470	4.5700e-003	0.2515		772.8014	772.8014	0.0310	0.0287	782.1315
Total	**1.1400**	**28.8462**	**10.0598**	**0.1331**	**4.8528**	**0.3225**	**5.1753**	**1.3244**	**0.3084**	**1.6328**		**14,058.6484**	**14,058.6484**	**0.0698**	**2.1114**	**14,689.5942**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.7195	0.0000	24.7195	13.3241	0.0000	13.3241			0.0000			0.0000
Off-Road	10.6530	102.3218	74.8349	0.2066		4.1751	4.1751		3.8411	3.8411		20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**10.6530**	**102.3218**	**74.8349**	**0.2066**	**24.7195**	**4.1751**	**28.8946**	**13.3241**	**3.8411**	**17.1652**		**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4751	22.9260	6.3847	0.1177	3.8114	0.2653	4.0767	1.0457	0.2538	1.2994		12,461.8524	12,461.8524	0.0317	1.9590	13,046.4259
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**0.9507**	**23.7274**	**9.6100**	**0.1280**	**4.8529**	**0.2748**	**5.1277**	**1.3244**	**0.2627**	**1.5872**		**13,528.9134**	**13,528.9134**	**0.0608**	**2.0288**	**14,134.9989**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Power Plant Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.6406	0.0000	9.6406	5.1964	0.0000	5.1964			0.0000			0.0000
Off-Road	2.5311	10.9681	96.4493	0.2066		0.0506	0.0506		0.0506	0.0506	0.0000	20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**2.5311**	**10.9681**	**96.4493**	**0.2066**	**9.6406**	**0.0506**	**9.6912**	**5.1964**	**0.0506**	**5.2470**	**0.0000**	**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4751	22.9260	6.3847	0.1177	3.8114	0.2653	4.0767	1.0457	0.2538	1.2994		12,461.8524	12,461.8524	0.0317	1.9590	13,046.4259
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**0.9507**	**23.7274**	**9.6100**	**0.1280**	**4.8529**	**0.2748**	**5.1277**	**1.3244**	**0.2627**	**1.5872**		**13,528.9134**	**13,528.9134**	**0.0608**	**2.0288**	**14,134.9989**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Lithium Plant Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.6077	0.0000	14.6077	6.9395	0.0000	6.9395			0.0000			0.0000
Off-Road	1.6721	17.3257	10.6753	0.0233		0.7935	0.7935		0.7300	0.7300		2,257.1544	2,257.1544	0.7300		2,275.4046
Total	**1.6721**	**17.3257**	**10.6753**	**0.0233**	**14.6077**	**0.7935**	**15.4011**	**6.9395**	**0.7300**	**7.6695**		**2,257.1544**	**2,257.1544**	**0.7300**		**2,275.4046**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.3350	64.4150	17.9389	0.3306	10.7089	0.7453	11.4541	2.9380	0.7130	3.6510		35,013.9549	35,013.9549	0.0889	5.5042	36,656.4259
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0753	0.0485	0.5016	1.2300e-003	0.1552	7.7000e-004	0.1560	0.0412	7.1000e-004	0.0419		125.4154	125.4154	4.6500e-003	4.3900e-003	126.8396
Total	**1.4102**	**64.4635**	**18.4405**	**0.3318**	**10.8640**	**0.7460**	**11.6101**	**2.9791**	**0.7137**	**3.6929**		**35,139.3703**	**35,139.3703**	**0.0936**	**5.5086**	**36,783.2655**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Lithium Plant Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6970	0.0000	5.6970	2.7064	0.0000	2.7064			0.0000			0.0000
Off-Road	0.2851	1.2353	12.3513	0.0233		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	2,257.1544	2,257.1544	0.7300		2,275.4046
Total	**0.2851**	**1.2353**	**12.3513**	**0.0233**	**5.6970**	**5.7000e-003**	**5.7027**	**2.7064**	**5.7000e-003**	**2.7121**	**0.0000**	**2,257.1544**	**2,257.1544**	**0.7300**		**2,275.4046**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.3350	64.4150	17.9389	0.3306	10.7089	0.7453	11.4541	2.9380	0.7130	3.6510		35,013.9549	35,013.9549	0.0889	5.5042	36,656.4259
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0753	0.0485	0.5016	1.2300e-003	0.1552	7.7000e-004	0.1560	0.0412	7.1000e-004	0.0419		125.4154	125.4154	4.6500e-003	4.3900e-003	126.8396
Total	**1.4102**	**64.4635**	**18.4405**	**0.3318**	**10.8640**	**0.7460**	**11.6101**	**2.9791**	**0.7137**	**3.6929**		**35,139.3703**	**35,139.3703**	**0.0936**	**5.5086**	**36,783.2655**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Power Plant Foundation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374		2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**1.0077**	**7.1358**	**6.5770**	**0.0265**		**0.2580**	**0.2580**		**0.2374**	**0.2374**		**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0234	1.1272	0.3139	5.7900e-003	0.1874	0.0130	0.2004	0.0514	0.0125	0.0639		612.7093	612.7093	1.5600e-003	0.0963	641.4509
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.3764	0.2425	2.5078	6.1300e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		627.0770	627.0770	0.0233	0.0220	634.1981
Total	**0.4141**	**1.6759**	**2.9513**	**0.0137**	**1.0295**	**0.0199**	**1.0494**	**0.2763**	**0.0189**	**0.2951**		**1,428.5275**	**1,428.5275**	**0.0255**	**0.1443**	**1,472.1702**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Power Plant Foundation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3233	1.4010	11.8546	0.0265		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**0.3233**	**1.4010**	**11.8546**	**0.0265**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0234	1.1272	0.3139	5.7900e-003	0.1874	0.0130	0.2004	0.0514	0.0125	0.0639		612.7093	612.7093	1.5600e-003	0.0963	641.4509
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.3764	0.2425	2.5078	6.1300e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		627.0770	627.0770	0.0233	0.0220	634.1981
Total	**0.4141**	**1.6759**	**2.9513**	**0.0137**	**1.0295**	**0.0199**	**1.0494**	**0.2763**	**0.0189**	**0.2951**		**1,428.5275**	**1,428.5275**	**0.0255**	**0.1443**	**1,472.1702**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Power Plant Process Equipment Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2375	29.3576	30.2260	0.0629		1.1804	1.1804		1.1352	1.1352		5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**4.2375**	**29.3576**	**30.2260**	**0.0629**		**1.1804**	**1.1804**		**1.1352**	**1.1352**		**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-004	5.0700e-003	1.4100e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7572	2.7572	1.0000e-005	4.3000e-004	2.8865
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3652**	**1.8746**	**9.2106**	**0.0275**	**2.9372**	**0.0234**	**2.9607**	**0.7841**	**0.0219**	**0.8060**		**2,826.6639**	**2,826.6639**	**0.0838**	**0.1641**	**2,877.6504**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Power Plant Process Equipment Installation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.0260	17.4385	35.8323	0.0629		0.5603	0.5603		0.5603	0.5603	0.0000	5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**3.0260**	**17.4385**	**35.8323**	**0.0629**		**0.5603**	**0.5603**		**0.5603**	**0.5603**	**0.0000**	**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-004	5.0700e-003	1.4100e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7572	2.7572	1.0000e-005	4.3000e-004	2.8865
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3652**	**1.8746**	**9.2106**	**0.0275**	**2.9372**	**0.0234**	**2.9607**	**0.7841**	**0.0219**	**0.8060**		**2,826.6639**	**2,826.6639**	**0.0838**	**0.1641**	**2,877.6504**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Lithium Plant Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.8967	0.0000	24.8967	13.3475	0.0000	13.3475			0.0000			0.0000
Off-Road	10.6530	102.3218	74.8349	0.2066		4.1751	4.1751		3.8411	3.8411		20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**10.6530**	**102.3218**	**74.8349**	**0.2066**	**24.8967**	**4.1751**	**29.0718**	**13.3475**	**3.8411**	**17.1886**		**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6104	29.4509	8.2018	0.1512	4.8961	0.3407	5.2369	1.3433	0.3260	1.6693		16,008.5641	16,008.5641	0.0407	2.5165	16,759.5105
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**1.0859**	**30.2522**	**11.4271**	**0.1615**	**5.9376**	**0.3503**	**6.2879**	**1.6220**	**0.3350**	**1.9570**		**17,075.6251**	**17,075.6251**	**0.0698**	**2.5863**	**17,848.0834**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Lithium Plant Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7097	0.0000	9.7097	5.2055	0.0000	5.2055			0.0000			0.0000
Off-Road	2.5311	10.9681	96.4493	0.2066		0.0506	0.0506		0.0506	0.0506	0.0000	20,002.9725	20,002.9725	6.4694		20,164.7067
Total	**2.5311**	**10.9681**	**96.4493**	**0.2066**	**9.7097**	**0.0506**	**9.7603**	**5.2055**	**0.0506**	**5.2562**	**0.0000**	**20,002.9725**	**20,002.9725**	**6.4694**		**20,164.7067**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6104	29.4509	8.2018	0.1512	4.8961	0.3407	5.2369	1.3433	0.3260	1.6693		16,008.5641	16,008.5641	0.0407	2.5165	16,759.5105
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**1.0859**	**30.2522**	**11.4271**	**0.1615**	**5.9376**	**0.3503**	**6.2879**	**1.6220**	**0.3350**	**1.9570**		**17,075.6251**	**17,075.6251**	**0.0698**	**2.5863**	**17,848.0834**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Power Plant Structural Steel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1681	17.4258	17.2366	0.0458		0.7012	0.7012		0.6569	0.6569		4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**2.1681**	**17.4258**	**17.2366**	**0.0458**		**0.7012**	**0.7012**		**0.6569**	**0.6569**		**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7000e-004	8.0500e-003	2.2400e-003	4.0000e-005	1.3400e-003	9.0000e-005	1.4300e-003	3.7000e-004	9.0000e-005	4.6000e-004		4.3778	4.3778	1.0000e-005	6.9000e-004	4.5831
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.6775	0.4366	4.5140	0.0110	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,128.7385	1,128.7385	0.0419	0.0395	1,141.5566
Total	**0.7016**	**0.9549**	**4.7323**	**0.0141**	**1.5083**	**0.0120**	**1.5203**	**0.4026**	**0.0112**	**0.4138**		**1,447.6850**	**1,447.6850**	**0.0431**	**0.0836**	**1,473.6750**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Power Plant Structural Steel - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9291	6.0324	23.8711	0.0458		0.0928	0.0928		0.0928	0.0928	0.0000	4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**0.9291**	**6.0324**	**23.8711**	**0.0458**		**0.0928**	**0.0928**		**0.0928**	**0.0928**	**0.0000**	**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7000e-004	8.0500e-003	2.2400e-003	4.0000e-005	1.3400e-003	9.0000e-005	1.4300e-003	3.7000e-004	9.0000e-005	4.6000e-004		4.3778	4.3778	1.0000e-005	6.9000e-004	4.5831
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.6775	0.4366	4.5140	0.0110	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,128.7385	1,128.7385	0.0419	0.0395	1,141.5566
Total	**0.7016**	**0.9549**	**4.7323**	**0.0141**	**1.5083**	**0.0120**	**1.5203**	**0.4026**	**0.0112**	**0.4138**		**1,447.6850**	**1,447.6850**	**0.0431**	**0.0836**	**1,473.6750**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Power Plant Electrical - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5385	23.1965	21.5852	0.0541		0.9779	0.9779		0.9048	0.9048		5,227.0658	5,227.0658	1.6035		5,267.1531
Total	**2.5385**	**23.1965**	**21.5852**	**0.0541**		**0.9779**	**0.9779**		**0.9048**	**0.9048**		**5,227.0658**	**5,227.0658**	**1.6035**		**5,267.1531**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	3.4400e-003	9.6000e-004	2.0000e-005	5.7000e-004	4.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	1.9000e-004		1.8701	1.8701	0.0000	2.9000e-004	1.9578
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.5269	0.3396	3.5109	8.5800e-003	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		877.9077	877.9077	0.0326	0.0307	887.8774
Total	**0.5413**	**0.6492**	**3.6415**	**0.0104**	**1.1531**	**8.4000e-003**	**1.1615**	**0.3074**	**7.8500e-003**	**0.3152**		**1,068.5190**	**1,068.5190**	**0.0333**	**0.0571**	**1,086.3563**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Power Plant Electrical - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6747	3.6883	29.0408	0.0541		0.0131	0.0131		0.0131	0.0131	0.0000	5,227.0658	5,227.0658	1.6035		5,267.1531
Total	**0.6747**	**3.6883**	**29.0408**	**0.0541**		**0.0131**	**0.0131**		**0.0131**	**0.0131**	**0.0000**	**5,227.0658**	**5,227.0658**	**1.6035**		**5,267.1531**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	3.4400e-003	9.6000e-004	2.0000e-005	5.7000e-004	4.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	1.9000e-004		1.8701	1.8701	0.0000	2.9000e-004	1.9578
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.5269	0.3396	3.5109	8.5800e-003	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		877.9077	877.9077	0.0326	0.0307	887.8774
Total	**0.5413**	**0.6492**	**3.6415**	**0.0104**	**1.1531**	**8.4000e-003**	**1.1615**	**0.3074**	**7.8500e-003**	**0.3152**		**1,068.5190**	**1,068.5190**	**0.0333**	**0.0571**	**1,086.3563**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374		2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**1.0077**	**7.1358**	**6.5770**	**0.0265**		**0.2580**	**0.2580**		**0.2374**	**0.2374**		**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0170	0.8214	0.2288	4.2200e-003	0.1366	9.5000e-003	0.1461	0.0375	9.0900e-003	0.0466		446.4888	446.4888	1.1300e-003	0.0702	467.4331
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.3764	0.2425	2.5078	6.1300e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		627.0770	627.0770	0.0233	0.0220	634.1981
Total	**0.4077**	**1.3701**	**2.8661**	**0.0121**	**0.9787**	**0.0163**	**0.9950**	**0.2623**	**0.0155**	**0.2778**		**1,262.3069**	**1,262.3069**	**0.0251**	**0.1182**	**1,298.1524**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3233	1.4010	11.8546	0.0265		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	2,559.7770	2,559.7770	0.8279		2,580.4741
Total	**0.3233**	**1.4010**	**11.8546**	**0.0265**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**2,559.7770**	**2,559.7770**	**0.8279**		**2,580.4741**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0170	0.8214	0.2288	4.2200e-003	0.1366	9.5000e-003	0.1461	0.0375	9.0900e-003	0.0466		446.4888	446.4888	1.1300e-003	0.0702	467.4331
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.3764	0.2425	2.5078	6.1300e-003	0.7759	3.8600e-003	0.7798	0.2058	3.5500e-003	0.2094		627.0770	627.0770	0.0233	0.0220	634.1981
Total	**0.4077**	**1.3701**	**2.8661**	**0.0121**	**0.9787**	**0.0163**	**0.9950**	**0.2623**	**0.0155**	**0.2778**		**1,262.3069**	**1,262.3069**	**0.0251**	**0.1182**	**1,298.1524**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9941	6.6557	6.5005	0.0265		0.2396	0.2396		0.2205	0.2205		2,560.7009	2,560.7009	0.8282		2,581.4054
Total	**0.9941**	**6.6557**	**6.5005**	**0.0265**		**0.2396**	**0.2396**		**0.2205**	**0.2205**		**2,560.7009**	**2,560.7009**	**0.8282**		**2,581.4054**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0171	0.8225	0.2301	4.1400e-003	0.1366	9.4800e-003	0.1460	0.0375	9.0700e-003	0.0465		438.7117	438.7117	1.1800e-003	0.0690	459.2927
Vendor	0.0138	0.3051	0.1246	1.7700e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		186.2049	186.2049	7.0000e-004	0.0256	193.8387
Worker	0.3507	0.2150	2.3209	5.9500e-003	0.7759	3.6600e-003	0.7796	0.2058	3.3700e-003	0.2092		613.2767	613.2767	0.0211	0.0203	619.8428
Total	**0.3815**	**1.3426**	**2.6757**	**0.0119**	**0.9787**	**0.0161**	**0.9948**	**0.2623**	**0.0153**	**0.2776**		**1,238.1933**	**1,238.1933**	**0.0229**	**0.1148**	**1,272.9742**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Lithium Plant Foundation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3233	1.4010	11.8546	0.0265		6.4700e-003	6.4700e-003		6.4700e-003	6.4700e-003	0.0000	2,560.7009	2,560.7009	0.8282		2,581.4054
Total	**0.3233**	**1.4010**	**11.8546**	**0.0265**		**6.4700e-003**	**6.4700e-003**		**6.4700e-003**	**6.4700e-003**	**0.0000**	**2,560.7009**	**2,560.7009**	**0.8282**		**2,581.4054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0171	0.8225	0.2301	4.1400e-003	0.1366	9.4800e-003	0.1460	0.0375	9.0700e-003	0.0465		438.7117	438.7117	1.1800e-003	0.0690	459.2927
Vendor	0.0138	0.3051	0.1246	1.7700e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		186.2049	186.2049	7.0000e-004	0.0256	193.8387
Worker	0.3507	0.2150	2.3209	5.9500e-003	0.7759	3.6600e-003	0.7796	0.2058	3.3700e-003	0.2092		613.2767	613.2767	0.0211	0.0203	619.8428
Total	**0.3815**	**1.3426**	**2.6757**	**0.0119**	**0.9787**	**0.0161**	**0.9948**	**0.2623**	**0.0153**	**0.2776**		**1,238.1933**	**1,238.1933**	**0.0229**	**0.1148**	**1,272.9742**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Power Plant Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3972	4.0120	3.8703	7.7800e-003		0.1781	0.1781		0.1690	0.1690		746.2523	746.2523	0.1543		750.1099
Total	**0.3972**	**4.0120**	**3.8703**	**7.7800e-003**		**0.1781**	**0.1781**		**0.1690**	**0.1690**		**746.2523**	**746.2523**	**0.1543**		**750.1099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	6.7000e-004	1.9000e-004	0.0000	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005		0.3630	0.3630	0.0000	6.0000e-005	0.3800
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	0.0221	9.9000e-004	0.0231	6.3500e-003	9.4000e-004	7.3000e-003		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**0.4564**	**0.3938**	**3.0527**	**7.9500e-003**	**0.9533**	**5.6300e-003**	**0.9589**	**0.2534**	**5.2100e-003**	**0.2586**		**815.7691**	**815.7691**	**0.0281**	**0.0351**	**826.9248**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Power Plant Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0984	0.8088	4.5459	7.7800e-003		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	746.2523	746.2523	0.1543		750.1099
Total	**0.0984**	**0.8088**	**4.5459**	**7.7800e-003**		**1.7600e-003**	**1.7600e-003**		**1.7600e-003**	**1.7600e-003**	**0.0000**	**746.2523**	**746.2523**	**0.1543**		**750.1099**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	6.7000e-004	1.9000e-004	0.0000	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005		0.3630	0.3630	0.0000	6.0000e-005	0.3800
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	0.0221	9.9000e-004	0.0231	6.3500e-003	9.4000e-004	7.3000e-003		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**0.4564**	**0.3938**	**3.0527**	**7.9500e-003**	**0.9533**	**5.6300e-003**	**0.9589**	**0.2534**	**5.2100e-003**	**0.2586**		**815.7691**	**815.7691**	**0.0281**	**0.0351**	**826.9248**

3.12 Power Plant Piping - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7625	26.7297	26.8965	0.0577		1.0952	1.0952		1.0480	1.0480		5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**3.7625**	**26.7297**	**26.8965**	**0.0577**		**1.0952**	**1.0952**		**1.0480**	**1.0480**		**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7000e-004	7.9900e-003	2.2300e-003	4.0000e-005	1.3300e-003	9.0000e-005	1.4200e-003	3.6000e-004	9.0000e-005	4.5000e-004		4.3446	4.3446	1.0000e-005	6.8000e-004	4.5484
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3653**	**1.8775**	**9.2115**	**0.0275**	**2.9377**	**0.0235**	**2.9612**	**0.7842**	**0.0220**	**0.8062**		**2,828.2513**	**2,828.2513**	**0.0838**	**0.1643**	**2,879.3123**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Power Plant Piping - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5059	14.1663	32.4199	0.0577		0.4500	0.4500		0.4500	0.4500	0.0000	5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**2.5059**	**14.1663**	**32.4199**	**0.0577**		**0.4500**	**0.4500**		**0.4500**	**0.4500**	**0.0000**	**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7000e-004	7.9900e-003	2.2300e-003	4.0000e-005	1.3300e-003	9.0000e-005	1.4200e-003	3.6000e-004	9.0000e-005	4.5000e-004		4.3446	4.3446	1.0000e-005	6.8000e-004	4.5484
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3653**	**1.8775**	**9.2115**	**0.0275**	**2.9377**	**0.0235**	**2.9612**	**0.7842**	**0.0220**	**0.8062**		**2,828.2513**	**2,828.2513**	**0.0838**	**0.1643**	**2,879.3123**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3115	20.8929	18.2383	0.0494		0.8642	0.8642		0.8002	0.8002		4,774.7011	4,774.7011	1.4572		4,811.1308
Total	**2.3115**	**20.8929**	**18.2383**	**0.0494**		**0.8642**	**0.8642**		**0.8002**	**0.8002**		**4,774.7011**	**4,774.7011**	**1.4572**		**4,811.1308**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-005	3.0300e-003	8.4000e-004	2.0000e-005	5.0000e-004	4.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6464	1.6464	0.0000	2.6000e-004	1.7236
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.5269	0.3396	3.5109	8.5800e-003	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		877.9077	877.9077	0.0326	0.0307	887.8774
Total	**0.5413**	**0.6488**	**3.6413**	**0.0104**	**1.1530**	**8.4000e-003**	**1.1614**	**0.3073**	**7.8400e-003**	**0.3152**		**1,068.2953**	**1,068.2953**	**0.0333**	**0.0570**	**1,086.1221**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6177	3.4414	25.5277	0.0494		0.0119	0.0119		0.0119	0.0119	0.0000	4,774.7011	4,774.7011	1.4572		4,811.1308
Total	**0.6177**	**3.4414**	**25.5277**	**0.0494**		**0.0119**	**0.0119**		**0.0119**	**0.0119**	**0.0000**	**4,774.7011**	**4,774.7011**	**1.4572**		**4,811.1308**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-005	3.0300e-003	8.4000e-004	2.0000e-005	5.0000e-004	4.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6464	1.6464	0.0000	2.6000e-004	1.7236
Vendor	0.0144	0.3062	0.1296	1.7900e-003	0.0662	2.9600e-003	0.0692	0.0191	2.8300e-003	0.0219		188.7412	188.7412	7.2000e-004	0.0261	196.5211
Worker	0.5269	0.3396	3.5109	8.5800e-003	1.0863	5.4000e-003	1.0917	0.2881	4.9800e-003	0.2931		877.9077	877.9077	0.0326	0.0307	887.8774
Total	**0.5413**	**0.6488**	**3.6413**	**0.0104**	**1.1530**	**8.4000e-003**	**1.1614**	**0.3073**	**7.8400e-003**	**0.3152**		**1,068.2953**	**1,068.2953**	**0.0333**	**0.0570**	**1,086.1221**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2448	19.6662	18.1240	0.0494		0.7961	0.7961		0.7368	0.7368		4,775.7397	4,775.7397	1.4564		4,812.1504
Total	**2.2448**	**19.6662**	**18.1240**	**0.0494**		**0.7961**	**0.7961**		**0.7368**	**0.7368**		**4,775.7397**	**4,775.7397**	**1.4564**		**4,812.1504**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-005	3.0300e-003	8.5000e-004	2.0000e-005	5.0000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6177	1.6177	0.0000	2.5000e-004	1.6936
Vendor	0.0138	0.3051	0.1246	1.7700e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		186.2049	186.2049	7.0000e-004	0.0256	193.8387
Worker	0.4909	0.3011	3.2493	8.3200e-003	1.0863	5.1300e-003	1.0914	0.2881	4.7200e-003	0.2929		858.5874	858.5874	0.0295	0.0284	867.7799
Total	**0.5048**	**0.6092**	**3.3747**	**0.0101**	**1.1530**	**8.1100e-003**	**1.1611**	**0.3073**	**7.5700e-003**	**0.3149**		**1,046.4100**	**1,046.4100**	**0.0302**	**0.0542**	**1,063.3122**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Lithium Plant Electrical - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6177	3.4414	25.5277	0.0494		0.0119	0.0119		0.0119	0.0119	0.0000	4,775.7397	4,775.7397	1.4564		4,812.1504
Total	**0.6177**	**3.4414**	**25.5277**	**0.0494**		**0.0119**	**0.0119**		**0.0119**	**0.0119**	**0.0000**	**4,775.7397**	**4,775.7397**	**1.4564**		**4,812.1504**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0000e-005	3.0300e-003	8.5000e-004	2.0000e-005	5.0000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004		1.6177	1.6177	0.0000	2.5000e-004	1.6936
Vendor	0.0138	0.3051	0.1246	1.7700e-003	0.0662	2.9500e-003	0.0692	0.0191	2.8200e-003	0.0219		186.2049	186.2049	7.0000e-004	0.0256	193.8387
Worker	0.4909	0.3011	3.2493	8.3200e-003	1.0863	5.1300e-003	1.0914	0.2881	4.7200e-003	0.2929		858.5874	858.5874	0.0295	0.0284	867.7799
Total	**0.5048**	**0.6092**	**3.3747**	**0.0101**	**1.1530**	**8.1100e-003**	**1.1611**	**0.3073**	**7.5700e-003**	**0.3149**		**1,046.4100**	**1,046.4100**	**0.0302**	**0.0542**	**1,063.3122**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2375	29.3576	30.2260	0.0629		1.1804	1.1804		1.1352	1.1352		5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**4.2375**	**29.3576**	**30.2260**	**0.0629**		**1.1804**	**1.1804**		**1.1352**	**1.1352**		**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	3.3600e-003	9.4000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.8264	1.8264	0.0000	2.9000e-004	1.9121
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3652**	**1.8728**	**9.2102**	**0.0275**	**2.9370**	**0.0234**	**2.9604**	**0.7840**	**0.0219**	**0.8059**		**2,825.7331**	**2,825.7331**	**0.0838**	**0.1639**	**2,876.6760**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.0260	17.4385	35.8323	0.0629		0.5603	0.5603		0.5603	0.5603	0.0000	5,684.3476	5,684.3476	1.3067		5,717.0155
Total	**3.0260**	**17.4385**	**35.8323**	**0.0629**		**0.5603**	**0.5603**		**0.5603**	**0.5603**	**0.0000**	**5,684.3476**	**5,684.3476**	**1.3067**		**5,717.0155**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	3.3600e-003	9.4000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.8264	1.8264	0.0000	2.9000e-004	1.9121
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3652**	**1.8728**	**9.2102**	**0.0275**	**2.9370**	**0.0234**	**2.9604**	**0.7840**	**0.0219**	**0.8059**		**2,825.7331**	**2,825.7331**	**0.0838**	**0.1639**	**2,876.6760**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9844	27.8845	29.9241	0.0629		1.0441	1.0441		1.0030	1.0030		5,685.0227	5,685.0227	1.2912		5,717.3035
Total	**3.9844**	**27.8845**	**29.9241**	**0.0629**		**1.0441**	**1.0441**		**1.0030**	**1.0030**		**5,685.0227**	**5,685.0227**	**1.2912**		**5,717.3035**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	3.3600e-003	9.4000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.7946	1.7946	0.0000	2.8000e-004	1.8788
Vendor	0.0459	1.0169	0.4153	5.9000e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		620.6829	620.6829	2.3300e-003	0.0852	646.1291
Worker	1.2273	0.7527	8.1232	0.0208	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,146.4686	2,146.4686	0.0737	0.0709	2,169.4498
Total	**1.2733**	**1.7729**	**8.5395**	**0.0267**	**2.9370**	**0.0227**	**2.9596**	**0.7840**	**0.0212**	**0.8053**		**2,768.9460**	**2,768.9460**	**0.0760**	**0.1564**	**2,817.4577**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Lithium Plant Process Equipment Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8398	17.0405	35.6899	0.0629		0.4836	0.4836		0.4836	0.4836	0.0000	5,685.0227	5,685.0227	1.2912		5,717.3035
Total	**2.8398**	**17.0405**	**35.6899**	**0.0629**		**0.4836**	**0.4836**		**0.4836**	**0.4836**	**0.0000**	**5,685.0227**	**5,685.0227**	**1.2912**		**5,717.3035**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0000e-005	3.3600e-003	9.4000e-004	2.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	4.0000e-005	1.9000e-004		1.7946	1.7946	0.0000	2.8000e-004	1.8788
Vendor	0.0459	1.0169	0.4153	5.9000e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		620.6829	620.6829	2.3300e-003	0.0852	646.1291
Worker	1.2273	0.7527	8.1232	0.0208	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,146.4686	2,146.4686	0.0737	0.0709	2,169.4498
Total	**1.2733**	**1.7729**	**8.5395**	**0.0267**	**2.9370**	**0.0227**	**2.9596**	**0.7840**	**0.0212**	**0.8053**		**2,768.9460**	**2,768.9460**	**0.0760**	**0.1564**	**2,817.4577**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Power Plant Onsite Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0734	20.7613	15.7705	0.0381		0.8926	0.8926		0.8212	0.8212		3,687.0552	3,687.0552	1.1925		3,716.8669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0734**	**20.7613**	**15.7705**	**0.0381**		**0.8926**	**0.8926**		**0.8212**	**0.8212**		**3,687.0552**	**3,687.0552**	**1.1925**		**3,716.8669**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.4000e-004	0.0406	0.0113	2.1000e-004	6.7500e-003	4.7000e-004	7.2200e-003	1.8500e-003	4.5000e-004	2.3000e-003		22.0573	22.0573	6.0000e-005	3.4700e-003	23.0920
Vendor	0.0191	0.4082	0.1728	2.3900e-003	0.0883	3.9400e-003	0.0923	0.0254	3.7700e-003	0.0292		251.6550	251.6550	9.7000e-004	0.0347	262.0282
Worker	0.2258	0.1455	1.5047	3.6800e-003	0.4655	2.3200e-003	0.4679	0.1235	2.1300e-003	0.1256		376.2462	376.2462	0.0140	0.0132	380.5189
Total	**0.2458**	**0.5943**	**1.6888**	**6.2800e-003**	**0.5606**	**6.7300e-003**	**0.5673**	**0.1508**	**6.3500e-003**	**0.1571**		**649.9584**	**649.9584**	**0.0150**	**0.0514**	**665.6391**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Power Plant Onsite Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4668	2.0226	21.1103	0.0381		9.3400e-003	9.3400e-003		9.3400e-003	9.3400e-003	0.0000	3,687.0552	3,687.0552	1.1925		3,716.8669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4668**	**2.0226**	**21.1103**	**0.0381**		**9.3400e-003**	**9.3400e-003**		**9.3400e-003**	**9.3400e-003**	**0.0000**	**3,687.0552**	**3,687.0552**	**1.1925**		**3,716.8669**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.4000e-004	0.0406	0.0113	2.1000e-004	6.7500e-003	4.7000e-004	7.2200e-003	1.8500e-003	4.5000e-004	2.3000e-003		22.0573	22.0573	6.0000e-005	3.4700e-003	23.0920
Vendor	0.0191	0.4082	0.1728	2.3900e-003	0.0883	3.9400e-003	0.0923	0.0254	3.7700e-003	0.0292		251.6550	251.6550	9.7000e-004	0.0347	262.0282
Worker	0.2258	0.1455	1.5047	3.6800e-003	0.4655	2.3200e-003	0.4679	0.1235	2.1300e-003	0.1256		376.2462	376.2462	0.0140	0.0132	380.5189
Total	**0.2458**	**0.5943**	**1.6888**	**6.2800e-003**	**0.5606**	**6.7300e-003**	**0.5673**	**0.1508**	**6.3500e-003**	**0.1571**		**649.9584**	**649.9584**	**0.0150**	**0.0514**	**665.6391**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3972	4.0120	3.8703	7.7800e-003		0.1781	0.1781		0.1690	0.1690		746.2523	746.2523	0.1543		750.1099
Total	**0.3972**	**4.0120**	**3.8703**	**7.7800e-003**		**0.1781**	**0.1781**		**0.1690**	**0.1690**		**746.2523**	**746.2523**	**0.1543**		**750.1099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	5.0000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2744	0.2744	0.0000	4.0000e-005	0.2873
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	0.0221	9.9000e-004	0.0231	6.3500e-003	9.4000e-004	7.3000e-003		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**0.4564**	**0.3936**	**3.0527**	**7.9500e-003**	**0.9532**	**5.6300e-003**	**0.9589**	**0.2533**	**5.2100e-003**	**0.2586**		**815.6805**	**815.6805**	**0.0281**	**0.0351**	**826.8321**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0984	0.8088	4.5459	7.7800e-003		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	746.2523	746.2523	0.1543		750.1099
Total	**0.0984**	**0.8088**	**4.5459**	**7.7800e-003**		**1.7600e-003**	**1.7600e-003**		**1.7600e-003**	**1.7600e-003**	**0.0000**	**746.2523**	**746.2523**	**0.1543**		**750.1099**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	5.0000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2744	0.2744	0.0000	4.0000e-005	0.2873
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	0.0221	9.9000e-004	0.0231	6.3500e-003	9.4000e-004	7.3000e-003		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.4516	0.2911	3.0093	7.3500e-003	0.9311	4.6300e-003	0.9357	0.2470	4.2600e-003	0.2512		752.4923	752.4923	0.0279	0.0263	761.0378
Total	**0.4564**	**0.3936**	**3.0527**	**7.9500e-003**	**0.9532**	**5.6300e-003**	**0.9589**	**0.2533**	**5.2100e-003**	**0.2586**		**815.6805**	**815.6805**	**0.0281**	**0.0351**	**826.8321**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3728	3.7293	3.8353	7.7800e-003		0.1583	0.1583		0.1501	0.1501		746.2463	746.2463	0.1532		750.0765
Total	**0.3728**	**3.7293**	**3.8353**	**7.7800e-003**		**0.1583**	**0.1583**		**0.1501**	**0.1501**		**746.2463**	**746.2463**	**0.1532**		**750.0765**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	5.1000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2696	0.2696	0.0000	4.0000e-005	0.2823
Vendor	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4208	0.2581	2.7851	7.1300e-003	0.9311	4.3900e-003	0.9355	0.2470	4.0500e-003	0.2510		735.9321	735.9321	0.0253	0.0243	743.8114
Total	**0.4254**	**0.3603**	**2.8268**	**7.7200e-003**	**0.9532**	**5.3800e-003**	**0.9586**	**0.2533**	**5.0000e-003**	**0.2583**		**798.2700**	**798.2700**	**0.0255**	**0.0329**	**808.7065**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Lithium Plant Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0984	0.8088	4.5459	7.7800e-003		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	746.2463	746.2463	0.1532		750.0765
Total	**0.0984**	**0.8088**	**4.5459**	**7.7800e-003**		**1.7600e-003**	**1.7600e-003**		**1.7600e-003**	**1.7600e-003**	**0.0000**	**746.2463**	**746.2463**	**0.1532**		**750.0765**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0000e-005	5.1000e-004	1.4000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005		0.2696	0.2696	0.0000	4.0000e-005	0.2823
Vendor	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4208	0.2581	2.7851	7.1300e-003	0.9311	4.3900e-003	0.9355	0.2470	4.0500e-003	0.2510		735.9321	735.9321	0.0253	0.0243	743.8114
Total	**0.4254**	**0.3603**	**2.8268**	**7.7200e-003**	**0.9532**	**5.3800e-003**	**0.9586**	**0.2533**	**5.0000e-003**	**0.2583**		**798.2700**	**798.2700**	**0.0255**	**0.0329**	**808.7065**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1681	17.4258	17.2366	0.0458		0.7012	0.7012		0.6569	0.6569		4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**2.1681**	**17.4258**	**17.2366**	**0.0458**		**0.7012**	**0.7012**		**0.6569**	**0.6569**		**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-004	5.0700e-003	1.4100e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7572	2.7572	1.0000e-005	4.3000e-004	2.8865
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.6775	0.4366	4.5140	0.0110	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,128.7385	1,128.7385	0.0419	0.0395	1,141.5566
Total	**0.7015**	**0.9519**	**4.7314**	**0.0141**	**1.5078**	**0.0119**	**1.5198**	**0.4025**	**0.0112**	**0.4136**		**1,446.0644**	**1,446.0644**	**0.0431**	**0.0833**	**1,471.9784**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9291	6.0324	23.8711	0.0458		0.0928	0.0928		0.0928	0.0928	0.0000	4,362.6315	4,362.6315	1.2572		4,394.0619
Total	**0.9291**	**6.0324**	**23.8711**	**0.0458**		**0.0928**	**0.0928**		**0.0928**	**0.0928**	**0.0000**	**4,362.6315**	**4,362.6315**	**1.2572**		**4,394.0619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-004	5.0700e-003	1.4100e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7572	2.7572	1.0000e-005	4.3000e-004	2.8865
Vendor	0.0239	0.5103	0.2160	2.9900e-003	0.1104	4.9300e-003	0.1153	0.0318	4.7100e-003	0.0365		314.5687	314.5687	1.2100e-003	0.0434	327.5352
Worker	0.6775	0.4366	4.5140	0.0110	1.3966	6.9500e-003	1.4036	0.3705	6.4000e-003	0.3769		1,128.7385	1,128.7385	0.0419	0.0395	1,141.5566
Total	**0.7015**	**0.9519**	**4.7314**	**0.0141**	**1.5078**	**0.0119**	**1.5198**	**0.4025**	**0.0112**	**0.4136**		**1,446.0644**	**1,446.0644**	**0.0431**	**0.0833**	**1,471.9784**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0797	16.3230	17.0668	0.0458		0.6323	0.6323		0.5918	0.5918		4,363.5434	4,363.5434	1.2542		4,394.8990
Total	**2.0797**	**16.3230**	**17.0668**	**0.0458**		**0.6323**	**0.6323**		**0.5918**	**0.5918**		**4,363.5434**	**4,363.5434**	**1.2542**		**4,394.8990**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-004	5.0800e-003	1.4200e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7091	2.7091	1.0000e-005	4.3000e-004	2.8362
Vendor	0.0229	0.5085	0.2077	2.9500e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		310.3414	310.3414	1.1700e-003	0.0426	323.0645
Worker	0.6312	0.3871	4.1777	0.0107	1.3966	6.5900e-003	1.4032	0.3705	6.0700e-003	0.3765		1,103.8981	1,103.8981	0.0379	0.0365	1,115.7170
Total	**0.6542**	**0.9006**	**4.3868**	**0.0137**	**1.5078**	**0.0116**	**1.5194**	**0.4025**	**0.0108**	**0.4133**		**1,416.9487**	**1,416.9487**	**0.0391**	**0.0795**	**1,441.6178**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Lithum Plant Structural Steel - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9012	5.9727	23.8497	0.0458		0.0813	0.0813		0.0813	0.0813	0.0000	4,363.5434	4,363.5434	1.2542		4,394.8990
Total	**0.9012**	**5.9727**	**23.8497**	**0.0458**		**0.0813**	**0.0813**		**0.0813**	**0.0813**	**0.0000**	**4,363.5434**	**4,363.5434**	**1.2542**		**4,394.8990**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-004	5.0800e-003	1.4200e-003	3.0000e-005	8.4000e-004	6.0000e-005	9.0000e-004	2.3000e-004	6.0000e-005	2.9000e-004		2.7091	2.7091	1.0000e-005	4.3000e-004	2.8362
Vendor	0.0229	0.5085	0.2077	2.9500e-003	0.1104	4.9100e-003	0.1153	0.0318	4.7000e-003	0.0365		310.3414	310.3414	1.1700e-003	0.0426	323.0645
Worker	0.6312	0.3871	4.1777	0.0107	1.3966	6.5900e-003	1.4032	0.3705	6.0700e-003	0.3765		1,103.8981	1,103.8981	0.0379	0.0365	1,115.7170
Total	**0.6542**	**0.9006**	**4.3868**	**0.0137**	**1.5078**	**0.0116**	**1.5194**	**0.4025**	**0.0108**	**0.4133**		**1,416.9487**	**1,416.9487**	**0.0391**	**0.0795**	**1,441.6178**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7625	26.7297	26.8965	0.0577		1.0952	1.0952		1.0480	1.0480		5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**3.7625**	**26.7297**	**26.8965**	**0.0577**		**1.0952**	**1.0952**		**1.0480**	**1.0480**		**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	4.0300e-003	1.1200e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1889	2.1889	1.0000e-005	3.4000e-004	2.2916
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3652**	**1.8735**	**9.2104**	**0.0275**	**2.9371**	**0.0234**	**2.9605**	**0.7841**	**0.0219**	**0.8060**		**2,826.0956**	**2,826.0956**	**0.0838**	**0.1640**	**2,877.0555**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5059	14.1663	32.4199	0.0577		0.4500	0.4500		0.4500	0.4500	0.0000	5,262.0977	5,262.0977	1.2591		5,293.5748
Total	**2.5059**	**14.1663**	**32.4199**	**0.0577**		**0.4500**	**0.4500**		**0.4500**	**0.4500**	**0.0000**	**5,262.0977**	**5,262.0977**	**1.2591**		**5,293.5748**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	4.0300e-003	1.1200e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1889	2.1889	1.0000e-005	3.4000e-004	2.2916
Vendor	0.0479	1.0206	0.4320	5.9800e-003	0.2208	9.8600e-003	0.2306	0.0635	9.4300e-003	0.0730		629.1374	629.1374	2.4200e-003	0.0868	655.0704
Worker	1.3173	0.8489	8.7772	0.0215	2.7156	0.0135	2.7291	0.7203	0.0124	0.7328		2,194.7693	2,194.7693	0.0814	0.0768	2,219.6935
Total	**1.3652**	**1.8735**	**9.2104**	**0.0275**	**2.9371**	**0.0234**	**2.9605**	**0.7841**	**0.0219**	**0.8060**		**2,826.0956**	**2,826.0956**	**0.0838**	**0.1640**	**2,877.0555**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5425	25.3016	26.6200	0.0577		0.9702	0.9702		0.9274	0.9274		5,262.7727	5,262.7727	1.2465		5,293.9358
Total	**3.5425**	**25.3016**	**26.6200**	**0.0577**		**0.9702**	**0.9702**		**0.9274**	**0.9274**		**5,262.7727**	**5,262.7727**	**1.2465**		**5,293.9358**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	4.0300e-003	1.1300e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1508	2.1508	1.0000e-005	3.4000e-004	2.2517
Vendor	0.0459	1.0169	0.4153	5.9000e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		620.6829	620.6829	2.3300e-003	0.0852	646.1291
Worker	1.2273	0.7527	8.1232	0.0208	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,146.4686	2,146.4686	0.0737	0.0709	2,169.4498
Total	**1.2733**	**1.7736**	**8.5397**	**0.0267**	**2.9371**	**0.0227**	**2.9598**	**0.7841**	**0.0212**	**0.8053**		**2,769.3022**	**2,769.3022**	**0.0761**	**0.1565**	**2,817.8305**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Lithium Plant Piping - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3569	13.8479	32.3060	0.0577		0.3887	0.3887		0.3887	0.3887	0.0000	5,262.7727	5,262.7727	1.2465		5,293.9358
Total	**2.3569**	**13.8479**	**32.3060**	**0.0577**		**0.3887**	**0.3887**		**0.3887**	**0.3887**	**0.0000**	**5,262.7727**	**5,262.7727**	**1.2465**		**5,293.9358**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.0000e-005	4.0300e-003	1.1300e-003	2.0000e-005	6.7000e-004	5.0000e-005	7.2000e-004	1.8000e-004	4.0000e-005	2.3000e-004		2.1508	2.1508	1.0000e-005	3.4000e-004	2.2517
Vendor	0.0459	1.0169	0.4153	5.9000e-003	0.2208	9.8300e-003	0.2306	0.0635	9.4000e-003	0.0729		620.6829	620.6829	2.3300e-003	0.0852	646.1291
Worker	1.2273	0.7527	8.1232	0.0208	2.7156	0.0128	2.7284	0.7203	0.0118	0.7321		2,146.4686	2,146.4686	0.0737	0.0709	2,169.4498
Total	**1.2733**	**1.7736**	**8.5397**	**0.0267**	**2.9371**	**0.0227**	**2.9598**	**0.7841**	**0.0212**	**0.8053**		**2,769.3022**	**2,769.3022**	**0.0761**	**0.1565**	**2,817.8305**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Lithium Plant Onsite Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0210	19.6918	15.7457	0.0381		0.8427	0.8427		0.7753	0.7753		3,687.0542	3,687.0542	1.1925		3,716.8659
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0210**	**19.6918**	**15.7457**	**0.0381**		**0.8427**	**0.8427**		**0.7753**	**0.7753**		**3,687.0542**	**3,687.0542**	**1.1925**		**3,716.8659**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.1000e-004	0.0391	0.0110	2.0000e-004	6.5000e-003	4.5000e-004	6.9500e-003	1.7800e-003	4.3000e-004	2.2100e-003		20.8704	20.8704	6.0000e-005	3.2800e-003	21.8495
Vendor	0.0184	0.4068	0.1661	2.3600e-003	0.0883	3.9300e-003	0.0922	0.0254	3.7600e-003	0.0292		248.2731	248.2731	9.3000e-004	0.0341	258.4516
Worker	0.2104	0.1290	1.3926	3.5700e-003	0.4655	2.2000e-003	0.4677	0.1235	2.0200e-003	0.1255		367.9660	367.9660	0.0126	0.0122	371.9057
Total	**0.2296**	**0.5749**	**1.5696**	**6.1300e-003**	**0.5604**	**6.5800e-003**	**0.5669**	**0.1507**	**6.2100e-003**	**0.1569**		**637.1096**	**637.1096**	**0.0136**	**0.0495**	**652.2068**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Lithium Plant Onsite Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4668	2.0226	21.1103	0.0381		9.3400e-003	9.3400e-003		9.3400e-003	9.3400e-003	0.0000	3,687.0542	3,687.0542	1.1925		3,716.8659
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4668**	**2.0226**	**21.1103**	**0.0381**		**9.3400e-003**	**9.3400e-003**		**9.3400e-003**	**9.3400e-003**	**0.0000**	**3,687.0542**	**3,687.0542**	**1.1925**		**3,716.8659**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.1000e-004	0.0391	0.0110	2.0000e-004	6.5000e-003	4.5000e-004	6.9500e-003	1.7800e-003	4.3000e-004	2.2100e-003		20.8704	20.8704	6.0000e-005	3.2800e-003	21.8495
Vendor	0.0184	0.4068	0.1661	2.3600e-003	0.0883	3.9300e-003	0.0922	0.0254	3.7600e-003	0.0292		248.2731	248.2731	9.3000e-004	0.0341	258.4516
Worker	0.2104	0.1290	1.3926	3.5700e-003	0.4655	2.2000e-003	0.4677	0.1235	2.0200e-003	0.1255		367.9660	367.9660	0.0126	0.0122	371.9057
Total	**0.2296**	**0.5749**	**1.5696**	**6.1300e-003**	**0.5604**	**6.5800e-003**	**0.5669**	**0.1507**	**6.2100e-003**	**0.1569**		**637.1096**	**637.1096**	**0.0136**	**0.0495**	**652.2068**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Lithium Plant Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	58.9933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1205	0.8125	1.2068	1.9800e-003		0.0406	0.0406		0.0406	0.0406		187.6320	187.6320	0.0106		187.8962
Total	**59.1138**	**0.8125**	**1.2068**	**1.9800e-003**		**0.0406**	**0.0406**		**0.0406**	**0.0406**		**187.6320**	**187.6320**	**0.0106**		**187.8962**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0772	0.0473	0.5106	1.3100e-003	0.1707	8.1000e-004	0.1715	0.0453	7.4000e-004	0.0460		134.9209	134.9209	4.6300e-003	4.4600e-003	136.3654
Total	**0.0772**	**0.0473**	**0.5106**	**1.3100e-003**	**0.1707**	**8.1000e-004**	**0.1715**	**0.0453**	**7.4000e-004**	**0.0460**		**134.9209**	**134.9209**	**4.6300e-003**	**4.4600e-003**	**136.3654**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Lithium Plant Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	58.9933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0198	0.0858	1.2216	1.9800e-003		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	187.6320	187.6320	0.0106		187.8962
Total	**59.0131**	**0.0858**	**1.2216**	**1.9800e-003**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**187.6320**	**187.6320**	**0.0106**		**187.8962**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0772	0.0473	0.5106	1.3100e-003	0.1707	8.1000e-004	0.1715	0.0453	7.4000e-004	0.0460		134.9209	134.9209	4.6300e-003	4.4600e-003	136.3654
Total	**0.0772**	**0.0473**	**0.5106**	**1.3100e-003**	**0.1707**	**8.1000e-004**	**0.1715**	**0.0453**	**7.4000e-004**	**0.0460**		**134.9209**	**134.9209**	**4.6300e-003**	**4.4600e-003**	**136.3654**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Lithium Plant Offsite Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2229	21.2789	17.6632	0.0431		0.9109	0.9109		0.8380	0.8380		4,169.2946	4,169.2946	1.3484		4,203.0055
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2229**	**21.2789**	**17.6632**	**0.0431**		**0.9109**	**0.9109**		**0.8380**	**0.8380**		**4,169.2946**	**4,169.2946**	**1.3484**		**4,203.0055**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7500e-003	0.0845	0.0237	4.3000e-004	0.0140	9.7000e-004	0.0150	3.8500e-003	9.3000e-004	4.7800e-003		45.0801	45.0801	1.2000e-004	7.0900e-003	47.1949
Vendor	0.0184	0.4068	0.1661	2.3600e-003	0.0883	3.9300e-003	0.0922	0.0254	3.7600e-003	0.0292		248.2731	248.2731	9.3000e-004	0.0341	258.4516
Worker	0.1403	0.0860	0.9284	2.3800e-003	0.3104	1.4600e-003	0.3118	0.0823	1.3500e-003	0.0837		245.3107	245.3107	8.4200e-003	8.1100e-003	247.9371
Total	**0.1604**	**0.5773**	**1.1182**	**5.1700e-003**	**0.4127**	**6.3600e-003**	**0.4191**	**0.1116**	**6.0400e-003**	**0.1176**		**538.6639**	**538.6639**	**9.4700e-003**	**0.0493**	**553.5836**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Lithium Plant Offsite Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5278	2.2871	23.8634	0.0431		0.0106	0.0106		0.0106	0.0106	0.0000	4,169.2946	4,169.2946	1.3484		4,203.0055
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5278**	**2.2871**	**23.8634**	**0.0431**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**4,169.2946**	**4,169.2946**	**1.3484**		**4,203.0055**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7500e-003	0.0845	0.0237	4.3000e-004	0.0140	9.7000e-004	0.0150	3.8500e-003	9.3000e-004	4.7800e-003		45.0801	45.0801	1.2000e-004	7.0900e-003	47.1949
Vendor	0.0184	0.4068	0.1661	2.3600e-003	0.0883	3.9300e-003	0.0922	0.0254	3.7600e-003	0.0292		248.2731	248.2731	9.3000e-004	0.0341	258.4516
Worker	0.1403	0.0860	0.9284	2.3800e-003	0.3104	1.4600e-003	0.3118	0.0823	1.3500e-003	0.0837		245.3107	245.3107	8.4200e-003	8.1100e-003	247.9371
Total	**0.1604**	**0.5773**	**1.1182**	**5.1700e-003**	**0.4127**	**6.3600e-003**	**0.4191**	**0.1116**	**6.0400e-003**	**0.1176**		**538.6639**	**538.6639**	**9.4700e-003**	**0.0493**	**553.5836**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Unmitigated	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**		**0.2760**

Hell's Kitchen Geothermal and Lithium Plants Construction - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0111	1.0900e-003	0.1206	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		0.2591	0.2591	6.7000e-004		0.2760
Total	**0.0111**	**1.0900e-003**	**0.1206**	**1.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**		**0.2591**	**0.2591**	**6.7000e-004**		**0.2760**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment B

Operational Emissions

- Summary
- Cooling Towers for Geothermal Power Plant
- Cooling Towers for Lithium Production Plant
- Employee Trips
- Generators for Geothermal Power Plant
- Generators for Lithium Production Plant
- Offroad Onsite Equipment
- Onroad Haul Trucks
- Onroad Vendor Trucks
- CALEEMOD for Geothermal Power Plant and Lithium Production Plant
- Process Operational Emission Points

Daily Operational Emissions (pounds per day)

Emission Source	ROG	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO2
Geothermal Power Plant							
Employee Vehicles	0.06	4.12	0.28	0.01	0.06	0.02	202
Haul Trucks	0.00	0.01	0.17	0.00	0.03	0.01	5
Vendor Vehicles	0.09	1.39	1.31	0.01	0.13	0.06	7
Onsite Equipment	0.63	22.8	1.56	0.00	0.27	0.21	66
Area Sources	2.57	0.01	0.00	0.00	0.00	0.00	0
Energy Sources	-	-	-	-	-	-	-37,103
Cooling Towers	-	-	-	-	20.2	9.60	-
Standby/Black Start Diesel Generator Testing	3.37	46.1	8.87	6.51	0.53	0.53	106
Standby Diesel Generator Testing	4.27	58.4	11.2	8.25	0.67	0.67	134
Standby Fire Pumps Testing	0.42	5.73	1.10	0.81	0.07	0.07	13
Subtotal Geothermal Power Plant	**11.4**	**139**	**24.5**	**15.6**	**21.9**	**11.2**	**-36,570**
Lithium Production Plant							
Employee Vehicles	0.23	16.9	1.13	0.05	0.24	0.08	826
Haul Trucks	0.12	0.53	6.01	0.16	0.96	0.38	170
Onsite Equipment	0.14	1.43	1.33	0.00	0.07	0.06	63
Area Sources	14.0	0.06	0.00	0.00	0.00	0.00	0
Energy Sources	-	-	-	-	-	-	23,779
Cooling Towers	-	-	-	-	25.2	12.0	-
Standby Diesel Generator Testing	0.90	12.3	2.37	1.74	0.14	0.14	28
Rock Muffler	6.70	-	-	-	-	-	-
Material Transfer and Packaging	-	-	-	-	0.78	0.27	-
Subtotal Lithium Production Plant	**22.1**	**31.2**	**10.8**	**1.95**	**27.4**	**12.9**	**24,865**
Grand Total	**33.5**	**170**	**35.4**	**17.5**	**49.3**	**24.1**	**-11,705**
Significance Threshold	55	550	55	150	150	55	
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	

Emission Source	ROG	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO2
Standby/Black Start Diesel Engine Generator	40.4	553	106	78.1	6.39	6.39	1,270
Significance Threshold	55	550	55	150	150	55	
Exceeds Threshold?	**No**	**Yes**	**Yes**	**No**	**No**	**No**	
							-10,435

Cooling Tower Emissions

	lb/ton	gallons/minute	gallons/hour	tons/hour	PM10 lb/hr	PM10 lb/day	PM10 tons/year	PM2.5 lb/hr	PM2.5 lb/day	PM2.5 tons/year
Geothermal Power Plant Cooling Tower	0.000164	50,710	3,042,600	12,643	0.84	20.2	3.68	0.40	9.60	1.75
Lithium Production Plant Cooling Tower	0.000164	63,311	3,798,660	15,785	1.05	25.2	4.59	0.50	12.0	2.19

Guidelines for Calculating Emissions from Cooling Towers, December 2014, AP-42, Section 13.4, Table 13.4-1
The PM emissions are the result of the total dissolved solids in the circulating water which are carried out with the water that is entrained in the air being discharged from the tower.
VOC emissions typically result from the leakage from process heat exchangers that service hydrocarbon process streams as well as from chemical treatment with VOC containing material added to the circulating water.
VOC emissions are expected from cooling towers used in refineries and chemical plants, where the circulating water is used to cool down the process stream.
VOC emissions are not expected from cooling towers used in Heating, Ventilating, and Air Conditioning and other industries such as power plant facilities, high rise buildings, hotels, hospitals, etc).
TACs emissions are typically from the toxic constituents of PM and/or VOC in the circulating water
New Mexico Environmental Department, Calculating TSP, PM-10 and PM-2.5 from Cooling Towers, September 9, 2013

Material Transfer and Packaging Emissions

	Hourly	PM10	PM2.5	PM10 lb/hr	PM10 lb/day	PM10 tons/year	PM2.5 lb/hr	PM2.5 lb/day	PM2.5 tons/year
Calcium Oxide Silo Emissions - Loading	25	0.00034	0.0000785	0.01	0.20	0.04	0.00	0.05	0.01
Calcium Oxide Silo Emissions - Unloading t	3.23	0.00034	0.0000785	0.00	0.03	0.00	0.00	0.01	0.00
Flocculent Unloading Station and Transfer	0.01	0.00034	0.0000785	0.00	0.00	0.00	0.00	0.00	0.00
Dried LiOH Transfer	1.2	0.00792	0.0036	0.01	0.23	0.04	0.00	0.10	0.02
LiOH Product Packaging	1.2	0.00792	0.0036	0.01	0.23	0.04	0.00	0.10	0.02
Li2CO3 Product Packaging	1.03	0.00396	0.00036	0.00	0.10	0.02	0.00	0.01	0.00
				0.03	0.78	0.14	0.01	0.27	0.05

Employee Vehicle Emissions

		Emission Factor (g/mile)									Emissions (pounds/day)									Emissions (tons/year)			Emissions (metric tons/year)	
	Year	ROG	CO	NOX	CO2	CH4	N2O	PM10	PM2.5	SO2	ROG	CO	NOX	CO2	CH4	N2O	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e	gallons
Power	2024	0.01	1.06	0.07	312	0.004	0.006	0.02	0.01	0.003	0.06	4.12	0.28	1,212	0.01	0.02	0.06	0.02	0.01	221	0.00	0.00	202	22,649
Lithium	2024	0.01	1.06	0.07	312	0.004	0.006	0.02	0.01	0.003	0.23	16.9	1.13	4,959	0.06	0.10	0.24	0.08	0.05	905	0.01	0.02	826	92,657
											0.28	21.0	1.40	6,171	0.07	0.12	0.30	0.11	0.06	1,126	0.01	0.02	1,027	115,306

	21	miles per round trip			
Power	85	Employees Trips			
Power	1765	miles			
Lithium	347	Employees Trips			
Lithium	7,221	miles	150	kw	54,611 kw
	8.91	kg/CO2/gal	Daily		Annual

Source: CARB EMFAC2021.

Overall, electric cars consume between 0.24 kWh and 0.87 kWh per mile
https://ecocostsavings.com/electric-car-kwh-per-mile-list/

Geothermal Power Plant Generators

	EF (g/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)				
NOx	0.50	4,023	1.33	106	600	hours per year	3,000	kw
CO	2.60	4,023	6.92	553	24	hours per day	4,023	hp
SOx	0.37	4,023	0.98	78.1				
PM10/PM2.5	0.03	4,023	0.08	6.39				
CO2	526	4,023	1,400	112,002	1,270	metric tons		
TOC (ROG)	0.19	4,023	0.51	40.4				
NOx	0.50	4,023	0.11	8.87	50	hours per year	3,000	kw
CO	2.60	4,023	0.58	46.1	2	hours per day	4,023	hp
SOx	0.37	4,023	0.08	6.51				
PM10/PM2.5	0.03	4,023	0.01	0.53				
CO2	526	4,023	117	9,334	106	metric tons		
TOC (ROG)	0.19	4,023	0.04	3.37				
NOx	0.50	1,073	0.03	2.37	50	hours per year	800	kw
CO	2.60	1,073	0.15	12.3	2	hours per day	1,073	hp
SOx	0.37	1,073	0.02	1.74				
PM10/PM2.5	0.03	1,073	0.00	0.14				
CO2	526	1,073	31.1	2,489	28	metric tons		
TOC (ROG)	0.19	1,073	0.01	0.90				
NOx	0.50	250	0.01	1.10	50	hours per year	187	kw
CO	2.60	250	0.07	5.73	2	hours per day	250	hp
SOx	0.37	250	0.01	0.81	2	Number of Units		
PM10/PM2.5	0.03	250	0.00	0.07				
CO2	526	250	14.5	1,160	13	metric tons		
TOC (ROG)	0.19	250	0.01	0.42				

USEPA Emission Standards for Tier 1 – 4 engines

Lithium Production Plant Generator

	EF (g/hp-hr)	HP	Annual Emissions (tons)	Daily Emissions (lbs)				
NOx	0.50	1,073	0.03	2.37	50	hours per year	800	kw
CO	2.60	1,073	0.15	12.3	2	hours per day	1,073	hp
SOx	0.37	1,073	0.02	1.74				
PM10/PM2.5	0.03	1,073	0.00	0.14				
CO2	526	1,073	31.1	2,489	28	metric tons		
TOC (ROG)	0.19	1,073	0.01	0.90				

USEPA Emission Standards for Tier 1 – 4 engines

Offroad Operational Equipment Emissions

	Equipment	Number	Daily Hours	HP	Load Factor	Emission Factor (g/hp-hour) ROG	CO	NOx	CO2	PM10	PM2.5	SOx	CH4	Emissions (pounds/day) ROG	CO	NOx	PM10	PM2.5	SOx	CO2e	Gallons
Power	Off-Highway Trucks	1	4	376	0.38	0.06	0.46	0.51	202	0.02	0.02	0.00	0.00	0.07	0.58	0.64	0.02	0.02	0.00	42.1	
Power	Aerial Lifts	1	8	46	0.31	0.04	0.96	0.89	181	0.01	0.01	0.00	0.00	0.01	0.24	0.23	0.00	0.00	0.00	7.56	
Power	Forklifts	2	8	82	0.20	0.05	0.73	0.60	106	0.04	0.03	0.00	0.00	0.03	0.42	0.35	0.02	0.02	0.00	10.2	
Power	Pressure Washers	1	6	7	0.30	4.81	182	2.50	365	0.51	0.38	0.01	0.01	0.13	5.01	0.07	0.01	0.01	0.00	1.66	
Power	Welders	1	8	16	0.45	3.09	133	2.26	219	1.65	1.25	0.01	0.01	0.39	16.5	0.28	0.21	0.16	0.00	4.52	
														0.63	22.8	1.56	0.27	0.21	0.00	66.0	6,507

Offroad Operational Equipment Emissions

	Equipment	Number	Daily Hours	HP	Load Factor	Emission Factor (g/hp-hour) ROG	CO	NOx	CO2	PM10	PM2.5	SOx	CH4	Emissions (pounds/day) ROG	CO	NOx	PM10	PM2.5	SOx	CO2e	Gallons
Lithium	Off-Highway Trucks	1	4	376	0.38	0.06	0.46	0.51	202	0.02	0.02	0.00	0.00	0.07	0.58	0.64	0.02	0.02	0.00	42.1	
Lithium	Aerial Lifts	-	8	46	0.31	0.04	0.96	0.89	181	0.01	0.01	0.00	0.00	-	-	-	-	-	-	-	
Lithium	Forklifts	4	8	82	0.20	0.05	0.73	0.60	106	0.04	0.03	0.00	0.00	0.06	0.85	0.70	0.04	0.04	0.00	20.4	
Lithium	Pressure Washers	-	6	7	0.30	4.81	182	2.50	365	0.51	0.38	0.01	0.01	-	-	-	-	-	-	-	
Lithium	Welders	-	8	16	0.45	3.09	133	2.26	219	1.65	1.25	0.01	0.01	-	-	-	-	-	-	-	
														0.14	1.43	1.33	0.07	0.06	0.00	62.5	6,158

Source: CARB OFFROAD2017.

Haul Trucks Emissions

		Emission Factor (g/mile)									Emissions (pounds/day)						Emissions (tons/year)			Emissions (metric tons/year)	
	Year	ROG	CO	NOX	CO2	CH4	N2O	PM10	PM2.5	SO2	ROG	CO	NOX	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e	Gallons
Power	2024	0.01	0.03	0.38	1,079	0.000	0.170	0.06	0.02	0.010	0.00	0.01	0.17	0.03	0.01	0.005	5.00	0.00	0.00	4.72	465
Lithium	2024	0.01	0.03	0.38	1,079	0.000	0.170	0.06	0.02	0.010	0.12	0.53	6.01	0.96	0.38	0.162	179.9	0.00	0.03	170.0	16,752
											0.12	0.54	6.18	0.99	0.40	0.17	184.9	0.00	0.03	174.8	17,217

Power	200	miles per round trip				
Power	1	Haul Truck Trips				
Power	200	miles				
Lithium	200	miles per round trip				
Lithium	36	Haul Truck Trips (remaining 48 trips are electric trucks)				
Lithium	7,200	miles	9,600	miles	201,600	miles
			18,144	kw	381,024	kw
	10.15	kg/CO2/gal	Daily		Annual	

Source: CARB EMFAC2021.

The predicted battery energy consumption is 1.89 kWh/mile, which is less than 2.02 kWh/mile of the conventional truck in engine mechanical energy or 5.24 kWh/mile of the conventional truck fuel energy.

Vendor Vehicle Emissions

		Emission Factor (g/mile)									Emissions (pounds/day)						Emissions (tons/year)			Emissions (metric tons/year)	
	Year	ROG	CO	NOX	CO2	CH4	N2O	PM10	PM2.5	SO2	ROG	CO	NOX	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e	
Power	2024	0.07	1.05	0.99	574	0.006	0.038	0.10	0.04	0.006	0.09	1.39	1.31	0.13	0.06	0.007	7.97	0.00	0.00	7.36	725
Lithium	2024	0.07	1.05	0.99	574	0.006	0.038	0.10	0.04	0.006	-	-	-	-	-	-	-	-	-	-	-
											0.09	1.39	1.31	0.13	0.06	0.01	7.97	0.00	0.00	7.36	

Power	200	miles per round trip
Power	3	Vendor Vehicle Trips
Power	600	miles
Lithium	200	miles per round trip
Lithium	0	Vendor Vehicle Trips
Lithium	0	miles

10.15 kg/CO2/gal

Source: CARB EMFAC2021.

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Salton Sea Geothermal Power Plant Operations

Imperial County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	101.88	1000sqft	2.34	101,880.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Operations only

Grading - Operations only

Vehicle Trips - Calculated via EMFAC2021

Energy Use - No electrical usage required. No natural gas usage.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	3.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	220.00	0.00

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00

2.0 Emissions Summary

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4688	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8200e-003	1.8200e-003	0.0000	0.0000	1.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	25.6439	0.0000	25.6439	1.5155	0.0000	63.5316
Water						0.0000	0.0000		0.0000	0.0000	7.4744	26.4356	33.9100	0.7723	0.0187	58.7849
Total	**0.4688**	**1.0000e-005**	**9.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**33.1183**	**26.4374**	**59.5557**	**2.2878**	**0.0187**	**122.3183**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4688	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8200e-003	1.8200e-003	0.0000	0.0000	1.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	25.6439	0.0000	25.6439	1.5155	0.0000	63.5316
Water						0.0000	0.0000		0.0000	0.0000	7.4744	26.4356	33.9100	0.7723	0.0187	58.7849
Total	**0.4688**	**1.0000e-005**	**9.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**33.1183**	**26.4374**	**59.5557**	**2.2878**	**0.0187**	**122.3183**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2021	11/10/2021	5	0	
2	Site Preparation	Site Preparation	12/9/2021	12/8/2021	5	0	
3	Grading	Grading	12/23/2021	12/22/2021	5	0	

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	2/3/2022	2/2/2022	5	0	
5	Paving	Paving	3/30/2023	3/29/2023	5	0	
6	Architectural Coating	Architectural Coating	4/27/2023	4/26/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 152,820; Non-Residential Outdoor: 50,940; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	43.00	17.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4688	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8200e-003	1.8200e-003	0.0000	0.0000	1.9400e-003
Unmitigated	0.4688	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8200e-003	1.8200e-003	0.0000	0.0000	1.9400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0708					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3979					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8200e-003	1.8200e-003	0.0000	0.0000	1.9400e-003
Total	**0.4688**	**1.0000e-005**	**9.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8200e-003**	**1.8200e-003**	**0.0000**	**0.0000**	**1.9400e-003**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0708					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3979					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8200e-003	1.8200e-003	0.0000	0.0000	1.9400e-003
Total	**0.4688**	**1.0000e-005**	**9.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8200e-003**	**1.8200e-003**	**0.0000**	**0.0000**	**1.9400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	33.9100	0.7723	0.0187	58.7849
Unmitigated	33.9100	0.7723	0.0187	58.7849

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	23.5598 / 0	33.9100	0.7723	0.0187	58.7849
Total		**33.9100**	**0.7723**	**0.0187**	**58.7849**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	23.5598 / 0	33.9100	0.7723	0.0187	58.7849
Total		**33.9100**	**0.7723**	**0.0187**	**58.7849**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	25.6439	1.5155	0.0000	63.5316
Unmitigated	25.6439	1.5155	0.0000	63.5316

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	126.33	25.6439	1.5155	0.0000	63.5316
Total		**25.6439**	**1.5155**	**0.0000**	**63.5316**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	126.33	25.6439	1.5155	0.0000	63.5316
Total		**25.6439**	**1.5155**	**0.0000**	**63.5316**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Salton Sea Geothermal Power Plant Operations

Imperial County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	101.88	1000sqft	2.34	101,880.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Operations only

Grading - Operations only

Vehicle Trips - Calculated via EMFAC2021

Energy Use - No electrical usage required. No natural gas usage.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	3.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	220.00	0.00

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00

2.0 Emissions Summary

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	2.6599	0.0000	0.0000	2.4610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.7194	0.0000	0.0000	0.6895	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.5056	0.0000	0.0000	0.4719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6599**	**0.0000**	**0.0000**	**2.4610**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	2.6599	0.0000	0.0000	2.4610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.7194	0.0000	0.0000	0.6895	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.5056	0.0000	0.0000	0.4719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6599**	**0.0000**	**0.0000**	**2.4610**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**	**0.0000**	**0.0238**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**	**0.0000**	**0.0238**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2021	11/10/2021	5	0	
2	Site Preparation	Site Preparation	12/9/2021	12/8/2021	5	0	
3	Grading	Grading	12/23/2021	12/22/2021	5	0	
4	Building Construction	Building Construction	2/3/2022	2/2/2022	5	0	
5	Paving	Paving	3/30/2023	3/29/2023	5	0	
6	Architectural Coating	Architectural Coating	4/27/2023	4/26/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 152,820; Non-Residential Outdoor: 50,940; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	43.00	17.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Unmitigated	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1802					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6000e-004	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**		**0.0238**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1802					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6000e-004	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**		**0.0238**

7.0 Water Detail

7.1 Mitigation Measures Water

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Salton Sea Geothermal Power Plant Operations

Imperial County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	101.88	1000sqft	2.34	101,880.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Operations only

Grading - Operations only

Vehicle Trips - Calculated via EMFAC2021

Energy Use - No electrical usage required. No natural gas usage.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	3.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	220.00	0.00

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00

2.0 Emissions Summary

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	2.6599	0.0000	0.0000	2.4610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.7194	0.0000	0.0000	0.6895	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.5056	0.0000	0.0000	0.4719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6599**	**0.0000**	**0.0000**	**2.4610**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	2.6599	0.0000	0.0000	2.4610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.7194	0.0000	0.0000	0.6895	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.5056	0.0000	0.0000	0.4719	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.6599**	**0.0000**	**0.0000**	**2.4610**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**	**0.0000**	**0.0238**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**	**0.0000**	**0.0238**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2021	11/10/2021	5	0	
2	Site Preparation	Site Preparation	12/9/2021	12/8/2021	5	0	
3	Grading	Grading	12/23/2021	12/22/2021	5	0	
4	Building Construction	Building Construction	2/3/2022	2/2/2022	5	0	
5	Paving	Paving	3/30/2023	3/29/2023	5	0	
6	Architectural Coating	Architectural Coating	4/27/2023	4/26/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 152,820; Non-Residential Outdoor: 50,940; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	43.00	17.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Unmitigated	2.5693	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1802					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6000e-004	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**		**0.0238**

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1802					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.6000e-004	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0223	0.0223	6.0000e-005		0.0238
Total	**2.5693**	**9.0000e-005**	**0.0104**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0223**	**0.0223**	**6.0000e-005**		**0.0238**

7.0 Water Detail

7.1 Mitigation Measures Water

Salton Sea Geothermal Power Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Salton Sea Lithium Production Plant Operations

Imperial County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	554.45	1000sqft	12.73	554,450.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Operations only

Grading - Operations only

Vehicle Trips - Calculated via EMFAC2021

Energy Use - No natural gas usage. The project will use approximately 275,940,000 kWh per year based on the electrical demand.

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	495.23
tblEnergyUse	T24NG	15.20	0.00

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	AcresOfGrading	90.00	0.00
tblGrading	AcresOfGrading	15.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00

2.0 Emissions Summary

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0672	0.6803	0.4401	8.2000e-004	2.3630	0.0327	2.3957	0.2862	0.0302	0.3164	0.0000	71.7887	71.7887	0.0212	7.0000e-005	72.3410
2022	0.3992	3.0698	3.3907	9.1300e-003	293.6768	0.1256	293.8024	29.3745	0.1179	29.4924	0.0000	829.9414	829.9414	0.0939	0.0502	847.2553
2023	3.9558	0.7303	0.9603	2.4900e-003	82.1067	0.0296	82.1362	8.2038	0.0278	8.2316	0.0000	225.8721	225.8721	0.0259	0.0128	230.3441
Maximum	**3.9558**	**3.0698**	**3.3907**	**9.1300e-003**	**293.6768**	**0.1256**	**293.8024**	**29.3745**	**0.1179**	**29.4924**	**0.0000**	**829.9414**	**829.9414**	**0.0939**	**0.0502**	**847.2553**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0672	0.6802	0.4401	8.2000e-004	0.1128	0.0327	0.1455	0.0616	0.0302	0.0918	0.0000	71.7886	71.7886	0.0212	7.0000e-005	72.3409
2022	0.3992	3.0698	3.3907	9.1300e-003	0.2669	0.1256	0.3925	0.0959	0.1179	0.2138	0.0000	829.9410	829.9410	0.0939	0.0502	847.2549
2023	3.9558	0.7303	0.9603	2.4900e-003	0.0550	0.0296	0.0846	0.0161	0.0278	0.0438	0.0000	225.8720	225.8720	0.0259	0.0128	230.3440
Maximum	**3.9558**	**3.0698**	**3.3907**	**9.1300e-003**	**0.2669**	**0.1256**	**0.3925**	**0.0959**	**0.1179**	**0.2138**	**0.0000**	**829.9410**	**829.9410**	**0.0939**	**0.0502**	**847.2549**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**99.89**	**0.00**	**99.84**	**99.54**	**0.00**	**99.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-11-2021**	**2-10-2022**	1.3069	1.3069
2	**2-11-2022**	**5-10-2022**	0.7965	0.7965
3	**5-11-2022**	**8-10-2022**	0.8187	0.8187
4	**8-11-2022**	**11-10-2022**	0.8225	0.8225
5	**11-11-2022**	**2-10-2023**	0.7845	0.7845
6	**2-11-2023**	**5-10-2023**	2.4236	2.4236
7	**5-11-2023**	**8-10-2023**	1.9366	1.9366
		Highest	2.4236	2.4236

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5514	5.0000e-005	5.0800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9100e-003	9.9100e-003	3.0000e-005	0.0000	0.0106
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	23,801.5294	23,801.5294	4.1344	0.5011	24,054.2280
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	139.5604	0.0000	139.5604	8.2478	0.0000	345.7549
Water						0.0000	0.0000		0.0000	0.0000	40.6772	143.8673	184.5445	4.2029	0.1017	319.9181
Total	**2.5514**	**5.0000e-005**	**5.0800e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**180.2376**	**23,945.4066**	**24,125.6442**	**16.5851**	**0.6028**	**24,719.9116**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5514	5.0000e-005	5.0800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9100e-003	9.9100e-003	3.0000e-005	0.0000	0.0106
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	23,801.5294	23,801.5294	4.1344	0.5011	24,054.2280
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	139.5604	0.0000	139.5604	8.2478	0.0000	345.7549
Water						0.0000	0.0000		0.0000	0.0000	40.6772	143.8673	184.5445	4.2029	0.1017	319.9181
Total	**2.5514**	**5.0000e-005**	**5.0800e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**180.2376**	**23,945.4066**	**24,125.6442**	**16.5851**	**0.6028**	**24,719.9116**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2021	12/8/2021	5	20	
2	Site Preparation	Site Preparation	12/9/2021	12/22/2021	5	10	
3	Grading	Grading	12/23/2021	2/2/2022	5	30	

4	Building Construction	Building Construction	2/3/2022	3/29/2023	5	300	
5	Paving	Paving	3/30/2023	4/26/2023	5	20	
6	Architectural Coating	Architectural Coating	4/27/2023	5/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 831,675; Non-Residential Outdoor: 277,225; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	233.00	91.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.6000e-004	5.1300e-003	1.0000e-005	1.0895	1.0000e-005	1.0895	0.1088	1.0000e-005	0.1088	0.0000	0.9662	0.9662	4.0000e-005	4.0000e-005	0.9776
Total	**7.1000e-004**	**4.6000e-004**	**5.1300e-003**	**1.0000e-005**	**1.0895**	**1.0000e-005**	**1.0895**	**0.1088**	**1.0000e-005**	**0.1088**	**0.0000**	**0.9662**	**0.9662**	**4.0000e-005**	**4.0000e-005**	**0.9776**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.6000e-004	5.1300e-003	1.0000e-005	6.5000e-004	1.0000e-005	6.6000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.9662	0.9662	4.0000e-005	4.0000e-005	0.9776
Total	**7.1000e-004**	**4.6000e-004**	**5.1300e-003**	**1.0000e-005**	**6.5000e-004**	**1.0000e-005**	**6.6000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.9662**	**0.9662**	**4.0000e-005**	**4.0000e-005**	**0.9776**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0800e-003	1.0000e-005	0.6537	0.0000	0.6537	0.0653	0.0000	0.0653	0.0000	0.5797	0.5797	2.0000e-005	2.0000e-005	0.5866
Total	**4.3000e-004**	**2.8000e-004**	**3.0800e-003**	**1.0000e-005**	**0.6537**	**0.0000**	**0.6537**	**0.0653**	**0.0000**	**0.0653**	**0.0000**	**0.5797**	**0.5797**	**2.0000e-005**	**2.0000e-005**	**0.5866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0800e-003	1.0000e-005	3.9000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.5797	0.5797	2.0000e-005	2.0000e-005	0.5866
Total	**4.3000e-004**	**2.8000e-004**	**3.0800e-003**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.5797**	**0.5797**	**2.0000e-005**	**2.0000e-005**	**0.5866**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0211	0.0000	0.0211	0.0116	0.0000	0.0116	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1624	0.1081	2.2000e-004		6.9500e-003	6.9500e-003		6.3900e-003	6.3900e-003	0.0000	19.0732	19.0732	6.1700e-003	0.0000	19.2275
Total	**0.0147**	**0.1624**	**0.1081**	**2.2000e-004**	**0.0211**	**6.9500e-003**	**0.0280**	**0.0116**	**6.3900e-003**	**0.0180**	**0.0000**	**19.0732**	**19.0732**	**6.1700e-003**	**0.0000**	**19.2275**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.2000e-004	2.3900e-003	0.0000	0.5084	0.0000	0.5084	0.0508	0.0000	0.0508	0.0000	0.4509	0.4509	2.0000e-005	2.0000e-005	0.4562
Total	**3.3000e-004**	**2.2000e-004**	**2.3900e-003**	**0.0000**	**0.5084**	**0.0000**	**0.5084**	**0.0508**	**0.0000**	**0.0508**	**0.0000**	**0.4509**	**0.4509**	**2.0000e-005**	**2.0000e-005**	**0.4562**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0211	0.0000	0.0211	0.0116	0.0000	0.0116	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1624	0.1081	2.2000e-004		6.9500e-003	6.9500e-003		6.3900e-003	6.3900e-003	0.0000	19.0732	19.0732	6.1700e-003	0.0000	19.2274
Total	**0.0147**	**0.1624**	**0.1081**	**2.2000e-004**	**0.0211**	**6.9500e-003**	**0.0280**	**0.0116**	**6.3900e-003**	**0.0180**	**0.0000**	**19.0732**	**19.0732**	**6.1700e-003**	**0.0000**	**19.2274**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.2000e-004	2.3900e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.4509	0.4509	2.0000e-005	2.0000e-005	0.4562
Total	**3.3000e-004**	**2.2000e-004**	**2.3900e-003**	**0.0000**	**3.1000e-004**	**0.0000**	**3.1000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.4509**	**0.4509**	**2.0000e-005**	**2.0000e-005**	**0.4562**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0693	0.0000	0.0693	0.0381	0.0000	0.0381	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.4467	0.3340	7.1000e-004		0.0188	0.0188		0.0173	0.0173	0.0000	62.7148	62.7148	0.0203	0.0000	63.2219
Total	**0.0417**	**0.4467**	**0.3340**	**7.1000e-004**	**0.0693**	**0.0188**	**0.0881**	**0.0381**	**0.0173**	**0.0554**	**0.0000**	**62.7148**	**62.7148**	**0.0203**	**0.0000**	**63.2219**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.2000e-004	7.1100e-003	2.0000e-005	1.6705	1.0000e-005	1.6705	0.1669	1.0000e-005	0.1669	0.0000	1.4412	1.4412	5.0000e-005	5.0000e-005	1.4572
Total	**1.0100e-003**	**6.2000e-004**	**7.1100e-003**	**2.0000e-005**	**1.6705**	**1.0000e-005**	**1.6705**	**0.1669**	**1.0000e-005**	**0.1669**	**0.0000**	**1.4412**	**1.4412**	**5.0000e-005**	**5.0000e-005**	**1.4572**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0693	0.0000	0.0693	0.0381	0.0000	0.0381	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.4467	0.3340	7.1000e-004		0.0188	0.0188		0.0173	0.0173	0.0000	62.7147	62.7147	0.0203	0.0000	63.2218
Total	**0.0417**	**0.4467**	**0.3340**	**7.1000e-004**	**0.0693**	**0.0188**	**0.0881**	**0.0381**	**0.0173**	**0.0554**	**0.0000**	**62.7147**	**62.7147**	**0.0203**	**0.0000**	**63.2218**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.2000e-004	7.1100e-003	2.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.4412	1.4412	5.0000e-005	5.0000e-005	1.4572
Total	**1.0100e-003**	**6.2000e-004**	**7.1100e-003**	**2.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.4412**	**1.4412**	**5.0000e-005**	**5.0000e-005**	**1.4572**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2022	1.8505	1.9391	3.1900e-003		0.0959	0.0959		0.0902	0.0902	0.0000	274.5944	274.5944	0.0658	0.0000	276.2390
Total	**0.2022**	**1.8505**	**1.9391**	**3.1900e-003**		**0.0959**	**0.0959**		**0.0902**	**0.0902**	**0.0000**	**274.5944**	**274.5944**	**0.0658**	**0.0000**	**276.2390**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0335	0.6975	0.2568	3.3300e-003	91.3974	9.7800e-003	91.4072	9.1365	9.3600e-003	9.1458	0.0000	318.1818	318.1818	1.5300e-003	0.0443	331.4101
Worker	0.1208	0.0745	0.8537	1.8700e-003	200.5395	1.1400e-003	200.5407	20.0331	1.0500e-003	20.0341	0.0000	173.0092	173.0092	6.2400e-003	5.9100e-003	174.9271
Total	**0.1543**	**0.7720**	**1.1105**	**5.2000e-003**	**291.9370**	**0.0109**	**291.9479**	**29.1695**	**0.0104**	**29.1800**	**0.0000**	**491.1911**	**491.1911**	**7.7700e-003**	**0.0502**	**506.3372**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2022	1.8505	1.9391	3.1900e-003		0.0959	0.0959		0.0902	0.0902	0.0000	274.5941	274.5941	0.0658	0.0000	276.2387
Total	**0.2022**	**1.8505**	**1.9391**	**3.1900e-003**		**0.0959**	**0.0959**		**0.0902**	**0.0902**	**0.0000**	**274.5941**	**274.5941**	**0.0658**	**0.0000**	**276.2387**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0335	0.6975	0.2568	3.3300e-003	0.0763	9.7800e-003	0.0861	0.0238	9.3600e-003	0.0331	0.0000	318.1818	318.1818	1.5300e-003	0.0443	331.4101
Worker	0.1208	0.0745	0.8537	1.8700e-003	0.1204	1.1400e-003	0.1215	0.0338	1.0500e-003	0.0348	0.0000	173.0092	173.0092	6.2400e-003	5.9100e-003	174.9271
Total	**0.1543**	**0.7720**	**1.1105**	**5.2000e-003**	**0.1967**	**0.0109**	**0.2076**	**0.0576**	**0.0104**	**0.0680**	**0.0000**	**491.1911**	**491.1911**	**7.7700e-003**	**0.0502**	**506.3372**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0495	0.4531	0.5117	8.5000e-004		0.0220	0.0220		0.0207	0.0207	0.0000	73.0185	73.0185	0.0174	0.0000	73.4527
Total	**0.0495**	**0.4531**	**0.5117**	**8.5000e-004**		**0.0220**	**0.0220**		**0.0207**	**0.0207**	**0.0000**	**73.0185**	**73.0185**	**0.0174**	**0.0000**	**73.4527**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9000e-003	0.1433	0.0609	8.6000e-004	24.2955	1.4100e-003	24.2969	2.4287	1.3500e-003	2.4300	0.0000	81.7198	81.7198	3.2000e-004	0.0113	85.0855
Worker	0.0297	0.0174	0.2063	4.8000e-004	53.3080	2.8000e-004	53.3083	5.3253	2.6000e-004	5.3255	0.0000	44.7717	44.7717	1.4900e-003	1.4400e-003	45.2385
Total	**0.0366**	**0.1607**	**0.2672**	**1.3400e-003**	**77.6035**	**1.6900e-003**	**77.6052**	**7.7539**	**1.6100e-003**	**7.7555**	**0.0000**	**126.4914**	**126.4914**	**1.8100e-003**	**0.0127**	**130.3240**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0495	0.4531	0.5117	8.5000e-004		0.0220	0.0220		0.0207	0.0207	0.0000	73.0184	73.0184	0.0174	0.0000	73.4527
Total	**0.0495**	**0.4531**	**0.5117**	**8.5000e-004**		**0.0220**	**0.0220**		**0.0207**	**0.0207**	**0.0000**	**73.0184**	**73.0184**	**0.0174**	**0.0000**	**73.4527**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9000e-003	0.1433	0.0609	8.6000e-004	0.0203	1.4100e-003	0.0217	6.3200e-003	1.3500e-003	7.6700e-003	0.0000	81.7198	81.7198	3.2000e-004	0.0113	85.0855
Worker	0.0297	0.0174	0.2063	4.8000e-004	0.0320	2.8000e-004	0.0323	8.9800e-003	2.6000e-004	9.2400e-003	0.0000	44.7717	44.7717	1.4900e-003	1.4400e-003	45.2385
Total	**0.0366**	**0.1607**	**0.2672**	**1.3400e-003**	**0.0523**	**1.6900e-003**	**0.0540**	**0.0153**	**1.6100e-003**	**0.0169**	**0.0000**	**126.4914**	**126.4914**	**1.8100e-003**	**0.0127**	**130.3240**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.6000e-004	4.2200e-003	1.0000e-005	1.0895	1.0000e-005	1.0895	0.1088	1.0000e-005	0.1088	0.0000	0.9150	0.9150	3.0000e-005	3.0000e-005	0.9246
Total	**6.1000e-004**	**3.6000e-004**	**4.2200e-003**	**1.0000e-005**	**1.0895**	**1.0000e-005**	**1.0895**	**0.1088**	**1.0000e-005**	**0.1088**	**0.0000**	**0.9150**	**0.9150**	**3.0000e-005**	**3.0000e-005**	**0.9246**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	3.6000e-004	4.2200e-003	1.0000e-005	6.5000e-004	1.0000e-005	6.6000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.9150	0.9150	3.0000e-005	3.0000e-005	0.9246
Total	**6.1000e-004**	**3.6000e-004**	**4.2200e-003**	**1.0000e-005**	**6.5000e-004**	**1.0000e-005**	**6.6000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.9150**	**0.9150**	**3.0000e-005**	**3.0000e-005**	**0.9246**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.8548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**3.8567**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-003	1.1200e-003	0.0132	3.0000e-005	3.4137	2.0000e-005	3.4137	0.3410	2.0000e-005	0.3410	0.0000	2.8671	2.8671	1.0000e-004	9.0000e-005	2.8969
Total	**1.9000e-003**	**1.1200e-003**	**0.0132**	**3.0000e-005**	**3.4137**	**2.0000e-005**	**3.4137**	**0.3410**	**2.0000e-005**	**0.3410**	**0.0000**	**2.8671**	**2.8671**	**1.0000e-004**	**9.0000e-005**	**2.8969**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.8548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**3.8567**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-003	1.1200e-003	0.0132	3.0000e-005	2.0500e-003	2.0000e-005	2.0700e-003	5.8000e-004	2.0000e-005	5.9000e-004	0.0000	2.8671	2.8671	1.0000e-004	9.0000e-005	2.8969
Total	**1.9000e-003**	**1.1200e-003**	**0.0132**	**3.0000e-005**	**2.0500e-003**	**2.0000e-005**	**2.0700e-003**	**5.8000e-004**	**2.0000e-005**	**5.9000e-004**	**0.0000**	**2.8671**	**2.8671**	**1.0000e-004**	**9.0000e-005**	**2.8969**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	23,801.5294	23,801.5294	4.1344	0.5011	24,054.2280
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	23,801.5294	23,801.5294	4.1344	0.5011	24,054.2280
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	2.76205e+008	23,801.5294	4.1344	0.5011	24,054.2280
Total		**23,801.5294**	**4.1344**	**0.5011**	**24,054.2280**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	2.76205e+008	23,801.5294	4.1344	0.5011	24,054.2280
Total		**23,801.5294**	**4.1344**	**0.5011**	**24,054.2280**

6.0 Area Detail

6.1 Mitigation Measures Area

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5514	5.0000e-005	5.0800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9100e-003	9.9100e-003	3.0000e-005	0.0000	0.0106
Unmitigated	2.5514	5.0000e-005	5.0800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9100e-003	9.9100e-003	3.0000e-005	0.0000	0.0106

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1654					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7000e-004	5.0000e-005	5.0800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9100e-003	9.9100e-003	3.0000e-005	0.0000	0.0106
Total	**2.5514**	**5.0000e-005**	**5.0800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.9100e-003**	**9.9100e-003**	**3.0000e-005**	**0.0000**	**0.0106**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1654					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7000e-004	5.0000e-005	5.0800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9100e-003	9.9100e-003	3.0000e-005	0.0000	0.0106
Total	**2.5514**	**5.0000e-005**	**5.0800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.9100e-003**	**9.9100e-003**	**3.0000e-005**	**0.0000**	**0.0106**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	184.5445	4.2029	0.1017	319.9181
Unmitigated	184.5445	4.2029	0.1017	319.9181

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	128.217 / 0	184.5445	4.2029	0.1017	319.9181
Total		**184.5445**	**4.2029**	**0.1017**	**319.9181**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	128.217 / 0	184.5445	4.2029	0.1017	319.9181
Total		**184.5445**	**4.2029**	**0.1017**	**319.9181**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	139.5604	8.2478	0.0000	345.7549
Unmitigated	139.5604	8.2478	0.0000	345.7549

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	687.52	139.5604	8.2478	0.0000	345.7549
Total		**139.5604**	**8.2478**	**0.0000**	**345.7549**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	687.52	139.5604	8.2478	0.0000	345.7549
Total		**139.5604**	**8.2478**	**0.0000**	**345.7549**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Salton Sea Lithium Production Plant Operations

Imperial County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	554.45	1000sqft	12.73	554,450.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Operations only

Grading - Operations only

Vehicle Trips - Calculated via EMFAC2021

Energy Use - No natural gas usage. The project will use approximately 275,940,000 kWh per year based on the electrical demand.

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	495.23
tblEnergyUse	T24NG	15.20	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	AcresOfGrading	90.00	0.00
tblGrading	AcresOfGrading	15.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00

2.0 Emissions Summary

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.3089	46.4597	31.7341	0.0636	156.2210	2.0453	158.2073	23.4341	1.8816	25.3157	0.0000	6,162.9419	6,162.9419	1.9486	5.1000e-003	6,213.1778
2022	3.7333	38.8961	29.8141	0.0724	2,547.3046	1.6357	2,548.2058	254.5102	1.5049	255.3591	0.0000	7,279.2730	7,279.2730	1.9494	0.4651	7,435.0237
2023	385.9085	19.1292	26.3250	0.0709	2,547.3047	0.7534	2,548.0581	254.5102	0.7095	255.2196	0.0000	7,131.7803	7,131.7803	0.7174	0.4431	7,280.6556
Maximum	**385.9085**	**46.4597**	**31.7341**	**0.0724**	**2,547.3047**	**2.0453**	**2,548.2058**	**254.5102**	**1.8816**	**255.3591**	**0.0000**	**7,279.2730**	**7,279.2730**	**1.9494**	**0.4651**	**7,435.0237**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.3089	46.4597	31.7341	0.0636	18.1452	2.0453	20.1905	9.9528	1.8816	11.8345	0.0000	6,162.9419	6,162.9419	1.9486	5.1000e-003	6,213.1778
2022	3.7333	38.8961	29.8141	0.0724	6.1098	1.6357	7.7456	3.3348	1.5049	4.8397	0.0000	7,279.2730	7,279.2730	1.9494	0.4651	7,435.0237
2023	385.9085	19.1292	26.3250	0.0709	1.6689	0.7534	2.4223	0.4880	0.7095	1.1975	0.0000	7,131.7803	7,131.7803	0.7174	0.4431	7,280.6556
Maximum	**385.9085**	**46.4597**	**31.7341**	**0.0724**	**18.1452**	**2.0453**	**20.1905**	**9.9528**	**1.8816**	**11.8345**	**0.0000**	**7,279.2730**	**7,279.2730**	**1.9494**	**0.4651**	**7,435.0237**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	99.51	0.00	99.42	97.41	0.00	96.67	0.00	0.00	0.00	0.00	0.00	0.00

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**	**0.0000**	**0.1292**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**	**0.0000**	**0.1292**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2021	12/8/2021	5	20	
2	Site Preparation	Site Preparation	12/9/2021	12/22/2021	5	10	
3	Grading	Grading	12/23/2021	2/2/2022	5	30	
4	Building Construction	Building Construction	2/3/2022	3/29/2023	5	300	
5	Paving	Paving	3/30/2023	4/26/2023	5	20	
6	Architectural Coating	Architectural Coating	4/27/2023	5/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 831,675; Non-Residential Outdoor: 277,225; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	233.00	91.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0883	0.0449	0.6418	1.1500e-003	112.6492	6.7000e-004	112.6499	11.2529	6.2000e-004	11.2535		116.9238	116.9238	4.3400e-003	3.8300e-003	118.1733
Total	**0.0883**	**0.0449**	**0.6418**	**1.1500e-003**	**112.6492**	**6.7000e-004**	**112.6499**	**11.2529**	**6.2000e-004**	**11.2535**		**116.9238**	**116.9238**	**4.3400e-003**	**3.8300e-003**	**118.1733**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0883	0.0449	0.6418	1.1500e-003	0.0658	6.7000e-004	0.0665	0.0185	6.2000e-004	0.0191		116.9238	116.9238	4.3400e-003	3.8300e-003	118.1733
Total	**0.0883**	**0.0449**	**0.6418**	**1.1500e-003**	**0.0658**	**6.7000e-004**	**0.0665**	**0.0185**	**6.2000e-004**	**0.0191**		**116.9238**	**116.9238**	**4.3400e-003**	**3.8300e-003**	**118.1733**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1060	0.0539	0.7701	1.3900e-003	135.1791	8.0000e-004	135.1799	13.5034	7.4000e-004	13.5042		140.3086	140.3086	5.2100e-003	4.5900e-003	141.8080
Total	**0.1060**	**0.0539**	**0.7701**	**1.3900e-003**	**135.1791**	**8.0000e-004**	**135.1799**	**13.5034**	**7.4000e-004**	**13.5042**		**140.3086**	**140.3086**	**5.2100e-003**	**4.5900e-003**	**141.8080**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1060	0.0539	0.7701	1.3900e-003	0.0790	8.0000e-004	0.0798	0.0222	7.4000e-004	0.0229		140.3086	140.3086	5.2100e-003	4.5900e-003	141.8080
Total	**0.1060**	**0.0539**	**0.7701**	**1.3900e-003**	**0.0790**	**8.0000e-004**	**0.0798**	**0.0222**	**7.4000e-004**	**0.0229**		**140.3086**	**140.3086**	**5.2100e-003**	**4.5900e-003**	**141.8080**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**6.0221**	**1.9853**	**8.0074**	**3.3102**	**1.8265**	**5.1367**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1178	0.0598	0.8557	1.5400e-003	150.1990	8.9000e-004	150.1998	15.0038	8.2000e-004	15.0046		155.8984	155.8984	5.7900e-003	5.1000e-003	157.5644
Total	**0.1178**	**0.0598**	**0.8557**	**1.5400e-003**	**150.1990**	**8.9000e-004**	**150.1998**	**15.0038**	**8.2000e-004**	**15.0046**		**155.8984**	**155.8984**	**5.7900e-003**	**5.1000e-003**	**157.5644**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**6.0221**	**1.9853**	**8.0074**	**3.3102**	**1.8265**	**5.1367**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1178	0.0598	0.8557	1.5400e-003	0.0878	8.9000e-004	0.0886	0.0246	8.2000e-004	0.0254		155.8984	155.8984	5.7900e-003	5.1000e-003	157.5644
Total	**0.1178**	**0.0598**	**0.8557**	**1.5400e-003**	**0.0878**	**8.9000e-004**	**0.0886**	**0.0246**	**8.2000e-004**	**0.0254**		**155.8984**	**155.8984**	**5.7900e-003**	**5.1000e-003**	**157.5644**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.0221**	**1.6349**	**7.6570**	**3.3102**	**1.5041**	**4.8143**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1085	0.0526	0.7726	1.4900e-003	150.1990	8.3000e-004	150.1998	15.0038	7.6000e-004	15.0046		151.6081	151.6081	5.1600e-003	4.6700e-003	153.1288
Total	**0.1085**	**0.0526**	**0.7726**	**1.4900e-003**	**150.1990**	**8.3000e-004**	**150.1998**	**15.0038**	**7.6000e-004**	**15.0046**		**151.6081**	**151.6081**	**5.1600e-003**	**4.6700e-003**	**153.1288**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.0221**	**1.6349**	**7.6570**	**3.3102**	**1.5041**	**4.8143**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1085	0.0526	0.7726	1.4900e-003	0.0878	8.3000e-004	0.0886	0.0246	7.6000e-004	0.0254		151.6081	151.6081	5.1600e-003	4.6700e-003	153.1288
Total	**0.1085**	**0.0526**	**0.7726**	**1.4900e-003**	**0.0878**	**8.3000e-004**	**0.0886**	**0.0246**	**7.6000e-004**	**0.0254**		**151.6081**	**151.6081**	**5.1600e-003**	**4.6700e-003**	**153.1288**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2925	5.4271	2.1428	0.0281	797.4869	0.0825	797.5693	79.7158	0.0789	79.7947		2,958.7048	2,958.7048	0.0144	0.4107	3,081.4405
Worker	1.2640	0.6128	9.0007	0.0174	1,749.8178	9.6400e-003	1,749.8274	174.7943	8.8800e-003	174.8032		1,766.2346	1,766.2346	0.0602	0.0544	1,783.9510
Total	**1.5565**	**6.0398**	**11.1434**	**0.0455**	**2,547.3046**	**0.0921**	**2,547.3968**	**254.5102**	**0.0878**	**254.5979**		**4,724.9395**	**4,724.9395**	**0.0745**	**0.4651**	**4,865.3914**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2925	5.4271	2.1428	0.0281	0.6466	0.0825	0.7290	0.2013	0.0789	0.2802		2,958.7048	2,958.7048	0.0144	0.4107	3,081.4405
Worker	1.2640	0.6128	9.0007	0.0174	1.0223	9.6400e-003	1.0319	0.2867	8.8800e-003	0.2956		1,766.2346	1,766.2346	0.0602	0.0544	1,783.9510
Total	**1.5565**	**6.0398**	**11.1434**	**0.0455**	**1.6689**	**0.0921**	**1.7610**	**0.4880**	**0.0878**	**0.5758**		**4,724.9395**	**4,724.9395**	**0.0745**	**0.4651**	**4,865.3914**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2291	4.2040	1.9114	0.0272	797.4869	0.0447	797.5316	79.7158	0.0428	79.7586		2,857.6248	2,857.6248	0.0114	0.3932	2,975.0712
Worker	1.1674	0.5403	8.1696	0.0168	1,749.8178	8.9900e-003	1,749.8268	174.7943	8.2800e-003	174.8026		1,718.9455	1,718.9455	0.0537	0.0500	1,735.1783
Total	**1.3965**	**4.7443**	**10.0810**	**0.0440**	**2,547.3047**	**0.0537**	**2,547.3584**	**254.5102**	**0.0511**	**254.5612**		**4,576.5704**	**4,576.5704**	**0.0651**	**0.4431**	**4,710.2495**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2291	4.2040	1.9114	0.0272	0.6466	0.0447	0.6913	0.2013	0.0428	0.2440		2,857.6248	2,857.6248	0.0114	0.3932	2,975.0712
Worker	1.1674	0.5403	8.1696	0.0168	1.0223	8.9900e-003	1.0313	0.2867	8.2800e-003	0.2950		1,718.9455	1,718.9455	0.0537	0.0500	1,735.1783
Total	**1.3965**	**4.7443**	**10.0810**	**0.0440**	**1.6689**	**0.0537**	**1.7226**	**0.4880**	**0.0511**	**0.5391**		**4,576.5704**	**4,576.5704**	**0.0651**	**0.4431**	**4,710.2495**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0752	0.0348	0.5259	1.0800e-003	112.6492	5.8000e-004	112.6498	11.2529	5.3000e-004	11.2534		110.6617	110.6617	3.4600e-003	3.2200e-003	111.7068
Total	**0.0752**	**0.0348**	**0.5259**	**1.0800e-003**	**112.6492**	**5.8000e-004**	**112.6498**	**11.2529**	**5.3000e-004**	**11.2534**		**110.6617**	**110.6617**	**3.4600e-003**	**3.2200e-003**	**111.7068**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0752	0.0348	0.5259	1.0800e-003	0.0658	5.8000e-004	0.0664	0.0185	5.3000e-004	0.0190		110.6617	110.6617	3.4600e-003	3.2200e-003	111.7068
Total	**0.0752**	**0.0348**	**0.5259**	**1.0800e-003**	**0.0658**	**5.8000e-004**	**0.0664**	**0.0185**	**5.3000e-004**	**0.0190**		**110.6617**	**110.6617**	**3.4600e-003**	**3.2200e-003**	**111.7068**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	385.4814					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**385.6730**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2355	0.1090	1.6479	3.3900e-003	352.9675	1.8100e-003	352.9694	35.2589	1.6700e-003	35.2606		346.7401	346.7401	0.0108	0.0101	350.0145
Total	**0.2355**	**0.1090**	**1.6479**	**3.3900e-003**	**352.9675**	**1.8100e-003**	**352.9694**	**35.2589**	**1.6700e-003**	**35.2606**		**346.7401**	**346.7401**	**0.0108**	**0.0101**	**350.0145**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	385.4814					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**385.6730**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2355	0.1090	1.6479	3.3900e-003	0.2062	1.8100e-003	0.2080	0.0578	1.6700e-003	0.0595		346.7401	346.7401	0.0108	0.0101	350.0145
Total	**0.2355**	**0.1090**	**1.6479**	**3.3900e-003**	**0.2062**	**1.8100e-003**	**0.2080**	**0.0578**	**1.6700e-003**	**0.0595**		**346.7401**	**346.7401**	**0.0108**	**0.0101**	**350.0145**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Unmitigated	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.8652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.2000e-003	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**		**0.1292**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.8652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.2000e-003	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**		**0.1292**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Salton Sea Lithium Production Plant Operations

Imperial County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	554.45	1000sqft	12.73	554,450.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Operations only

Grading - Operations only

Vehicle Trips - Calculated via EMFAC2021

Energy Use - No natural gas usage. The project will use approximately 275,940,000 kWh per year based on the electrical demand.

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	495.23
tblEnergyUse	T24NG	15.20	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	AcresOfGrading	90.00	0.00
tblGrading	AcresOfGrading	15.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00

2.0 Emissions Summary

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2788	46.4626	31.4857	0.0633	156.2210	2.0453	158.2073	23.4341	1.8816	25.3157	0.0000	6,139.4177	6,139.4177	1.9486	5.2400e-003	6,189.6919
2022	3.7059	38.8986	29.5920	0.0698	2,547.3046	1.6357	2,548.2059	254.5102	1.5049	255.3592	0.0000	7,016.1536	7,016.1536	1.9494	0.4680	7,172.7817
2023	385.8499	19.5936	24.0528	0.0684	2,547.3047	0.7536	2,548.0582	254.5102	0.7096	255.2198	0.0000	6,878.8742	6,878.8742	0.7175	0.4462	7,028.6581
Maximum	**385.8499**	**46.4626**	**31.4857**	**0.0698**	**2,547.3047**	**2.0453**	**2,548.2059**	**254.5102**	**1.8816**	**255.3592**	**0.0000**	**7,016.1536**	**7,016.1536**	**1.9494**	**0.4680**	**7,172.7817**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2788	46.4626	31.4857	0.0633	18.1452	2.0453	20.1905	9.9528	1.8816	11.8345	0.0000	6,139.4176	6,139.4176	1.9486	5.2400e-003	6,189.6919
2022	3.7059	38.8986	29.5920	0.0698	6.1098	1.6357	7.7456	3.3348	1.5049	4.8397	0.0000	7,016.1536	7,016.1536	1.9494	0.4680	7,172.7817
2023	385.8499	19.5936	24.0528	0.0684	1.6689	0.7536	2.4224	0.4880	0.7096	1.1976	0.0000	6,878.8742	6,878.8742	0.7175	0.4462	7,028.6581
Maximum	**385.8499**	**46.4626**	**31.4857**	**0.0698**	**18.1452**	**2.0453**	**20.1905**	**9.9528**	**1.8816**	**11.8345**	**0.0000**	**7,016.1536**	**7,016.1536**	**1.9494**	**0.4680**	**7,172.7817**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	99.51	0.00	99.42	97.41	0.00	96.67	0.00	0.00	0.00	0.00	0.00	0.00

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**	**0.0000**	**0.1292**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**	**0.0000**	**0.1292**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2021	12/8/2021	5	20	
2	Site Preparation	Site Preparation	12/9/2021	12/22/2021	5	10	
3	Grading	Grading	12/23/2021	2/2/2022	5	30	
4	Building Construction	Building Construction	2/3/2022	3/29/2023	5	300	
5	Paving	Paving	3/30/2023	4/26/2023	5	20	
6	Architectural Coating	Architectural Coating	4/27/2023	5/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 831,675; Non-Residential Outdoor: 277,225; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	233.00	91.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	47.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0657	0.0471	0.4554	9.8000e-004	112.6492	6.7000e-004	112.6499	11.2529	6.2000e-004	11.2535		99.2807	99.2807	4.3200e-003	3.9300e-003	100.5589
Total	**0.0657**	**0.0471**	**0.4554**	**9.8000e-004**	**112.6492**	**6.7000e-004**	**112.6499**	**11.2529**	**6.2000e-004**	**11.2535**		**99.2807**	**99.2807**	**4.3200e-003**	**3.9300e-003**	**100.5589**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0657	0.0471	0.4554	9.8000e-004	0.0658	6.7000e-004	0.0665	0.0185	6.2000e-004	0.0191		99.2807	99.2807	4.3200e-003	3.9300e-003	100.5589
Total	**0.0657**	**0.0471**	**0.4554**	**9.8000e-004**	**0.0658**	**6.7000e-004**	**0.0665**	**0.0185**	**6.2000e-004**	**0.0191**		**99.2807**	**99.2807**	**4.3200e-003**	**3.9300e-003**	**100.5589**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0789	0.0565	0.5465	1.1800e-003	135.1791	8.0000e-004	135.1799	13.5034	7.4000e-004	13.5042		119.1368	119.1368	5.1800e-003	4.7100e-003	120.6707
Total	**0.0789**	**0.0565**	**0.5465**	**1.1800e-003**	**135.1791**	**8.0000e-004**	**135.1799**	**13.5034**	**7.4000e-004**	**13.5042**		**119.1368**	**119.1368**	**5.1800e-003**	**4.7100e-003**	**120.6707**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0789	0.0565	0.5465	1.1800e-003	0.0790	8.0000e-004	0.0798	0.0222	7.4000e-004	0.0229		119.1368	119.1368	5.1800e-003	4.7100e-003	120.6707
Total	**0.0789**	**0.0565**	**0.5465**	**1.1800e-003**	**0.0790**	**8.0000e-004**	**0.0798**	**0.0222**	**7.4000e-004**	**0.0229**		**119.1368**	**119.1368**	**5.1800e-003**	**4.7100e-003**	**120.6707**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**6.0221**	**1.9853**	**8.0074**	**3.3102**	**1.8265**	**5.1367**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0876	0.0628	0.6072	1.3100e-003	150.1990	8.9000e-004	150.1998	15.0038	8.2000e-004	15.0046		132.3742	132.3742	5.7600e-003	5.2400e-003	134.0785
Total	**0.0876**	**0.0628**	**0.6072**	**1.3100e-003**	**150.1990**	**8.9000e-004**	**150.1998**	**15.0038**	**8.2000e-004**	**15.0046**		**132.3742**	**132.3742**	**5.7600e-003**	**5.2400e-003**	**134.0785**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**6.0221**	**1.9853**	**8.0074**	**3.3102**	**1.8265**	**5.1367**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0876	0.0628	0.6072	1.3100e-003	0.0878	8.9000e-004	0.0886	0.0246	8.2000e-004	0.0254		132.3742	132.3742	5.7600e-003	5.2400e-003	134.0785
Total	**0.0876**	**0.0628**	**0.6072**	**1.3100e-003**	**0.0878**	**8.9000e-004**	**0.0886**	**0.0246**	**8.2000e-004**	**0.0254**		**132.3742**	**132.3742**	**5.7600e-003**	**5.2400e-003**	**134.0785**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.0221**	**1.6349**	**7.6570**	**3.3102**	**1.5041**	**4.8143**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0811	0.0551	0.5504	1.2700e-003	150.1990	8.3000e-004	150.1998	15.0038	7.6000e-004	15.0046		128.8002	128.8002	5.1700e-003	4.7800e-003	130.3553
Total	**0.0811**	**0.0551**	**0.5504**	**1.2700e-003**	**150.1990**	**8.3000e-004**	**150.1998**	**15.0038**	**7.6000e-004**	**15.0046**		**128.8002**	**128.8002**	**5.1700e-003**	**4.7800e-003**	**130.3553**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.0221**	**1.6349**	**7.6570**	**3.3102**	**1.5041**	**4.8143**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0811	0.0551	0.5504	1.2700e-003	0.0878	8.3000e-004	0.0886	0.0246	7.6000e-004	0.0254		128.8002	128.8002	5.1700e-003	4.7800e-003	130.3553
Total	**0.0811**	**0.0551**	**0.5504**	**1.2700e-003**	**0.0878**	**8.3000e-004**	**0.0886**	**0.0246**	**7.6000e-004**	**0.0254**		**128.8002**	**128.8002**	**5.1700e-003**	**4.7800e-003**	**130.3553**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2820	5.9842	2.2026	0.0281	797.4869	0.0826	797.5695	79.7158	0.0791	79.7949		2,961.2974	2,961.2974	0.0140	0.4123	3,084.5107
Worker	0.9450	0.6420	6.4126	0.0148	1,749.8178	9.6400e-003	1,749.8274	174.7943	8.8800e-003	174.8032		1,500.5227	1,500.5227	0.0602	0.0557	1,518.6387
Total	**1.2270**	**6.6262**	**8.6152**	**0.0429**	**2,547.3046**	**0.0923**	**2,547.3969**	**254.5102**	**0.0879**	**254.5981**		**4,461.8200**	**4,461.8200**	**0.0742**	**0.4680**	**4,603.1494**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2820	5.9842	2.2026	0.0281	0.6466	0.0826	0.7292	0.2013	0.0791	0.2803		2,961.2974	2,961.2974	0.0140	0.4123	3,084.5107
Worker	0.9450	0.6420	6.4126	0.0148	1.0223	9.6400e-003	1.0319	0.2867	8.8800e-003	0.2956		1,500.5227	1,500.5227	0.0602	0.0557	1,518.6387
Total	**1.2270**	**6.6262**	**8.6152**	**0.0429**	**1.6689**	**0.0923**	**1.7612**	**0.4880**	**0.0879**	**0.5759**		**4,461.8200**	**4,461.8200**	**0.0742**	**0.4680**	**4,603.1494**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2177	4.6436	1.9657	0.0272	797.4869	0.0448	797.5317	79.7158	0.0429	79.7587		2,862.5750	2,862.5750	0.0110	0.3950	2,980.5704
Worker	0.8769	0.5651	5.8431	0.0143	1,749.8178	8.9900e-003	1,749.8268	174.7943	8.2800e-003	174.8026		1,461.0893	1,461.0893	0.0542	0.0511	1,477.6817
Total	**1.0946**	**5.2088**	**7.8088**	**0.0415**	**2,547.3047**	**0.0538**	**2,547.3585**	**254.5102**	**0.0512**	**254.5613**		**4,323.6643**	**4,323.6643**	**0.0652**	**0.4462**	**4,458.2520**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2177	4.6436	1.9657	0.0272	0.6466	0.0448	0.6914	0.2013	0.0429	0.2442		2,862.5750	2,862.5750	0.0110	0.3950	2,980.5704
Worker	0.8769	0.5651	5.8431	0.0143	1.0223	8.9900e-003	1.0313	0.2867	8.2800e-003	0.2950		1,461.0893	1,461.0893	0.0542	0.0511	1,477.6817
Total	**1.0946**	**5.2088**	**7.8088**	**0.0415**	**1.6689**	**0.0538**	**1.7227**	**0.4880**	**0.0512**	**0.5392**		**4,323.6643**	**4,323.6643**	**0.0652**	**0.4462**	**4,458.2520**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0364	0.3762	9.2000e-004	112.6492	5.8000e-004	112.6498	11.2529	5.3000e-004	11.2534		94.0615	94.0615	3.4900e-003	3.2900e-003	95.1297
Total	**0.0565**	**0.0364**	**0.3762**	**9.2000e-004**	**112.6492**	**5.8000e-004**	**112.6498**	**11.2529**	**5.3000e-004**	**11.2534**		**94.0615**	**94.0615**	**3.4900e-003**	**3.2900e-003**	**95.1297**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0364	0.3762	9.2000e-004	0.0658	5.8000e-004	0.0664	0.0185	5.3000e-004	0.0190		94.0615	94.0615	3.4900e-003	3.2900e-003	95.1297
Total	**0.0565**	**0.0364**	**0.3762**	**9.2000e-004**	**0.0658**	**5.8000e-004**	**0.0664**	**0.0185**	**5.3000e-004**	**0.0190**		**94.0615**	**94.0615**	**3.4900e-003**	**3.2900e-003**	**95.1297**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	385.4814					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**385.6730**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1769	0.1140	1.1787	2.8800e-003	352.9675	1.8100e-003	352.9694	35.2589	1.6700e-003	35.2606		294.7262	294.7262	0.0109	0.0103	298.0731
Total	**0.1769**	**0.1140**	**1.1787**	**2.8800e-003**	**352.9675**	**1.8100e-003**	**352.9694**	**35.2589**	**1.6700e-003**	**35.2606**		**294.7262**	**294.7262**	**0.0109**	**0.0103**	**298.0731**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	385.4814					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**385.6730**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1769	0.1140	1.1787	2.8800e-003	0.2062	1.8100e-003	0.2080	0.0578	1.6700e-003	0.0595		294.7262	294.7262	0.0109	0.0103	298.0731
Total	**0.1769**	**0.1140**	**1.1787**	**2.8800e-003**	**0.2062**	**1.8100e-003**	**0.2080**	**0.0578**	**1.6700e-003**	**0.0595**		**294.7262**	**294.7262**	**0.0109**	**0.0103**	**298.0731**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Unmitigated	13.9827	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.8652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.2000e-003	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**		**0.1292**

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.8652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.2000e-003	5.1000e-004	0.0565	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1213	0.1213	3.2000e-004		0.1292
Total	**13.9827**	**5.1000e-004**	**0.0565**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1213**	**0.1213**	**3.2000e-004**		**0.1292**

7.0 Water Detail

7.1 Mitigation Measures Water

Salton Sea Lithium Production Plant Operations - Imperial County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Process Operational Emission Points

No	Drawing	Stream No.	Stream	Service	Emissions	Quantity
1	5120-0003		SP & LP Steam to Rock Muffler	Intermittent	Steam w/ non-condensible gases.	Estimated 13.9 klb/hr maximum total NC gas.
2	5140-0001	1080	Water Deaerator	Continuous	Water vapor	< 2 lb/hr
3	5140-0001	1162	Dilution Water Heater	Continuous	Water vapor	138.9 klb/hr
4	5140-0003	1070	Deaerater Water Tank	Continuous	Water vapor	< 6 klb.hr
5	5140-0003	1071	Deaerater Water Tank	Continuous	Water vapor	< 1 klb/hr
6	5140-0005	1260	Flash Tank Thickener	Continuous	Water vapor	< 4.3 klb/hr
7	5140-0005	1268	Flash Tank	Continuous	Water vapor	< 3.2 klb/hr
8	5160-0003		Vacuum Pumps	Continuous	Non-condensible gases	Not identified
9	5220-0001	1518	Stack	Continuous	Air	< 12 klb/hr
10	5240-0001	1524	Poly Precip Buffer Tank	Continuous	Water vapor	< 18.5 klb/hr
11	5530-0001	2016	Hydrogen Stack	Continuous	Air	< 30 lb/hr
12	5530-0003		Scrubber Package	Continuous		Not identified
13	5620-0001		Crude LHM Crystallizer Package	Continuous		Not identified
14	5640-0001		Pure LHM Crystallizer Package	Continuous		Not identified
15	5650-0001	2182	LHM Dryer Stack	Continuous	Air	< 1.1 klb/hr
16	5660-0001		LHM Package Stack	?		Not identified
17	5960-0001	2332	Cooling Tower	Continuous	Air and water vapor	< 538 klb/hr

Attachment C

Dispersion Modeling Methodology and Assumptions

Dispersion is the process by which atmospheric pollutants disseminate due to wind and vertical atmospheric stability. The results of a dispersion analysis are used to assess pollutant concentrations at or near an emission source. The results of an analysis allow predicted concentrations of pollutants to be compared directly to air quality standards.

A rising pollutant plume reacts with the environment in several ways before it levels off. First, the plume's own turbulence interacts with atmospheric turbulence to entrain ambient air. This mixing process reduces and eventually eliminates the density and momentum differences that cause the plume to rise. Second, the wind transports the plume during its rise and entrainment process. Higher winds mix the plume more rapidly, resulting in a lower final rise. Third, the plume interacts with the vertical temperature stratification of the atmosphere, rising as a result of buoyancy in the unstable-to-neutrally stratified mixed layer. However, after the plume encounters the mixing lid and the stably stratified air above, its vertical motion is dampened.

During start-up conditions, air emissions of carbon monoxide (CO) associated with the Geothermal Power Plant (HKP1) were estimated to exceed the emission significance thresholds during start-up conditions. Imperial County Air Pollution Control District (ICAPCD) Rule 207 Section C.2 requires emissions offsets for sources with pollutant emissions that exceed 137 pounds per day. Pursuant Rule 207, Section C.2.g, the proposed project has prepared a CO Air Quality Impact Analysis (Part F of Rule 207), which demonstrates that the HKP1 would not cause or contribute to a violation of the CO National and California Ambient air Quality Standard (NAAQS/CAAQS). Therefore, offsets would not be required for the CO emissions and pursuant to Rule 207 C.2.g, Rule 207 C.2 offsets for the CO emissions would not be required. The following describes the methodology and assumptions for the CO dispersion modeling analysis.

Dispersion Modeling Approach

Air dispersion modeling was performed to estimate the downwind dispersion of exhaust emissions resulting from construction activities and operations. The following sections present the fundamental components of an air dispersion modeling analysis including air dispersion model selection and options, receptor locations, meteorological data, source exhaust parameters, and building downwash.

Model Selection and Options

AERMOD (Version 21112)[1] was used for the dispersion analysis. AERMOD is the USEPA preferred atmospheric dispersion modeling system for general industrial sources. The model can simulate point, area, volume, and line sources. AERMOD is the appropriate model for this analysis based on the coverage of simple, intermediate, and complex terrain. It also predicts both short-term and long-term (annual) average concentrations. The model was executed using the regulatory default options (stack-tip downwash, buoyancy-induced dispersion, and final plume rise), default wind speed profile categories, default potential temperature gradients, and assuming no pollutant decay.

The selection of the appropriate dispersion coefficients depends on the land use within three kilometers (km) of the project site. The types of land use were based on the classification method defined by Auer (1978); using pertinent United States Geological Survey (USGS) 1:24,000 scale (7.5 minute) topographic maps of the area. If the Auer land use types of heavy industrial, light-to-moderate industrial, commercial, and compact residential account for 50 percent or more of the total area, the USEPA *Guideline on Air Quality Models*[2] recommends using urban dispersion coefficients; otherwise, the appropriate rural coefficients can be used.

Receptor Locations

All receptors were set so that only ground-level concentrations were analyzed. The CO concentrations were evaluated at receptors where a person has access and can be situated for an hour or longer at a time. To identify the maximum impacted receptors, a uniform Cartesian grid with a spacing of 50 meters was used for all distances less than 500 meters and with a spacing of 100 meters for all distances less than 1,500 meters. The size of the modeling domain and placement of the receptors was at such a distance and resolution to identify the maximum impacts to the surrounding areas and the significant concentration gradients from the project emission sources.[3]

The AERMOD modeling system includes AERMAP (Version 11103)[4], which is a terrain data pre-processor. Terrain data, available from the United States Geological Survey (USGS), was used by AERMAP to produce terrain base elevations for each receptor and source and a hill height scale value for each receptor. The National Elevation Dataset (NED) data in GeoTIFF

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[1] United States Environmental Protection Agency, *AERMOD Modeling System*, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models.

[2] United States Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W*, January 2017.

[3] South Coast Air Quality Management District, *SCAQMD Modeling Guidance for AERMOD*, https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

[4] United States Environmental Protection Agency, AERMAP, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models.

format was used as input into AERMAP instead of Digital Elevation Model (DEM) data. A resolution of one-arc-second (approximately 30 meters) or 1/3 arc-second (approximately 10 meters) was used. Elevations were imported for all emission sources, receptors, and buildings in the modeling analysis.

Receptors were included for the facility boundary, which is surrounded by a fence, constructed and maintained by the facility, which excludes public access to the property. Furthermore, receptors were placed beyond the fence line; within an evenly spaced Cartesian grid.

Meteorological Data

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features affecting pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality.

Hourly meteorological data from Imperial Airport, located approximately 28 miles to the south of the proposed project were used. Meteorological data from 2009 through 2013 were used.[5] **Figure A-1** displays the annual wind rose. Wind directions are predominately from the west with a large frequency of light or moderate wind speed conditions, as shown in **Figure A-2**. The average annual wind speed is 7.2 miles per hour (3.2 meters per second) with 19 percent of calm condition.

[5] California Air Resources Board, Hotspots Analysis and Reporting Program Meteorological Files, October 5, 2015, https://www.arb.ca.gov/toxics/harp/metfiles2.htm

FIGURE A-1
WINDROSE FOR IMPERIAL AIRPORT

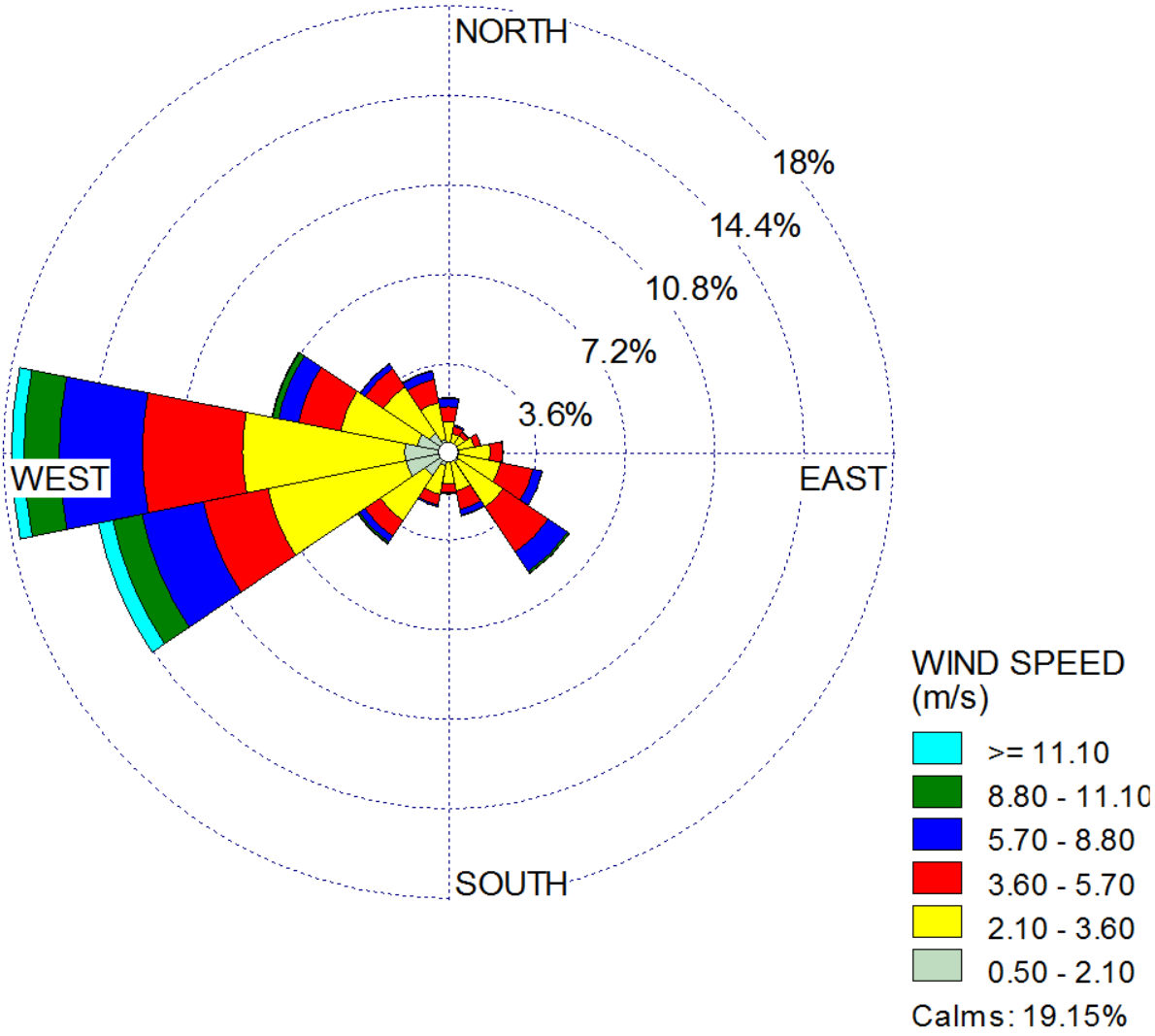
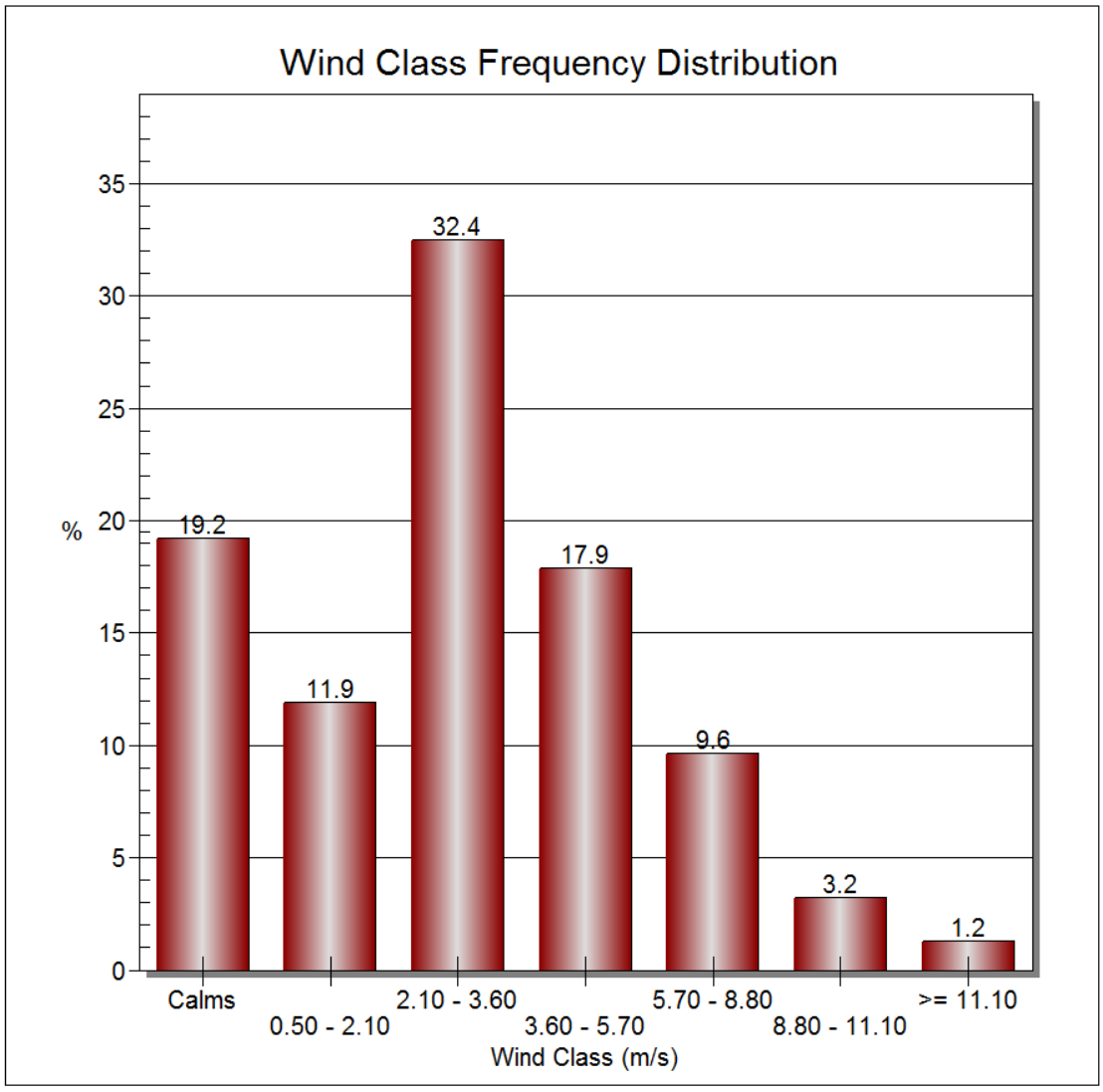


FIGURE A-2
WIND SPEED DISTRIBUTION FOR IMPERIAL AIRPORT



Source Release Characteristics

The stack for the "black start" diesel engine was located using location information developed from facility plot plans. The "black start" diesel engine co emissions were modeled using the stack height, stack diameter, stack velocity, and stack gas temperature found in **Table A-1**. The emission source was modeled using the conservative assumption that it operates 24-hours per day and 8,760 hours per year at the maximum hourly emission rate in order to estimate the worst case 1-hour and 8-hour CO concentration. Terrain elevations for emission source location were based on AERMAP (Version 11103).[6]

TABLE A-1
POINT SOURCE RELEASE CHARACTERISTICS

Emission Source	Stack Height (ft)	Stack Diameter (ft)	Exit Temperature (F)	Exit Velocity (ft/s)
Black Start Diesel Engine	15	1.65	900	125

Building Downwash

Building downwash is the influence building structures have on the wind flow and thus influence the emissions from point sources such as generators and fume hoods. The AERMOD required input of building heights and projected building widths for 36 wind directions. The USEPA Building Profile Input Program was used to determine the direction-specific building dimensions. Building downwash algorithms incorporated into AERMOD account for the plume dispersion effects of the aerodynamic wakes and eddies produced by buildings and structures. The Plume Rise Model Enhancements (PRIME) model was used to determine the direction-specific building downwash parameters. PRIME calculates fields of turbulence intensity, wind speed, and slopes of the mean streamlines as a function of projected building shape. Using a numerical plume rise model, PRIME determines the change in plume centerline location and the rate of plume dispersion with downwind distance. Concentrations are predicted in both the near and far wake regions, with the plume mass captured by the near wake treated separately from the uncaptured primary plume and re-emitted to the far wake as a volume source. The air quality dispersion modeling accounted for the proposed buildings. The cooling tower will be 37.5 feet tall and the Administrative Lab Building and Warehouse Maintenance Building will have a maximum height of 35 feet.

[6] United States Environmental Protection Agency, AERMAP, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models.

Background Concentrations

Background concentrations, as described in the USEPA *Guideline on Air Quality Models*[7] refers to the "…portion of the background attributable to natural sources, other unidentified sources in the vicinity of the project, and regional transport contributions from more distant sources" where "…the ambient concentrations from these sources are typically accounted for through use of ambient monitoring data…".

Generally, the closest upwind monitor should be selected, with preference to the monitor that has the most similar characteristics to the area for the source under consideration. The SCAQMD maintains a network of monitoring stations within the Air Basin that monitor air quality and compliance with applicable ambient standards. The monitoring station closest to the project site is at the 590 Racquet Club Avenue in Palm Springs, approximately 70 miles to the northwest of the project site. **Table A-2** summarizes the most recent three years of data (2018 through 2020) from the nearby air monitoring stations.

TABLE A-2
BACKGROUND CO CONCENTRATIONS (μg/m³)

Averaging Period	Monitoring Data by Year		
	2018	2019	2020
1-Hour	1,265	1,495	920
8-Hour	889	778	556

Modeling Results

Table A-3 presents the estimate 1-hour and 8-hour CO concentrations associated with the proposed standby/"black start" diesel engine generator**.** The 1-hour and 8-hour CO modeled concentration plus background concentrations are 2,213 and 1,369 micrograms per cubic meter (μg/m³), respectively, which are well below the California and National Ambient Air Quality Standards. **Figure A-3** displays the 1-hour CO concentrations from project startup operations. **Figure A-4** displays the 8-hour CO concentrations from project startup operations.

TABLE A-3

ESTIMATED CO CONCENTRATIONS (μg/m³) FROM STARTUP OPERATIONS

Criteria	1-Hour CO	8-Hour CO
Off-site Receptor (Project)	718	480
Background Concentration	1,495	889
Total Concentration	**2,213**	**1,369**
California Ambient Air Quality Standard	23,000	10,000
Potentially Significant (Yes or No)?	No	No

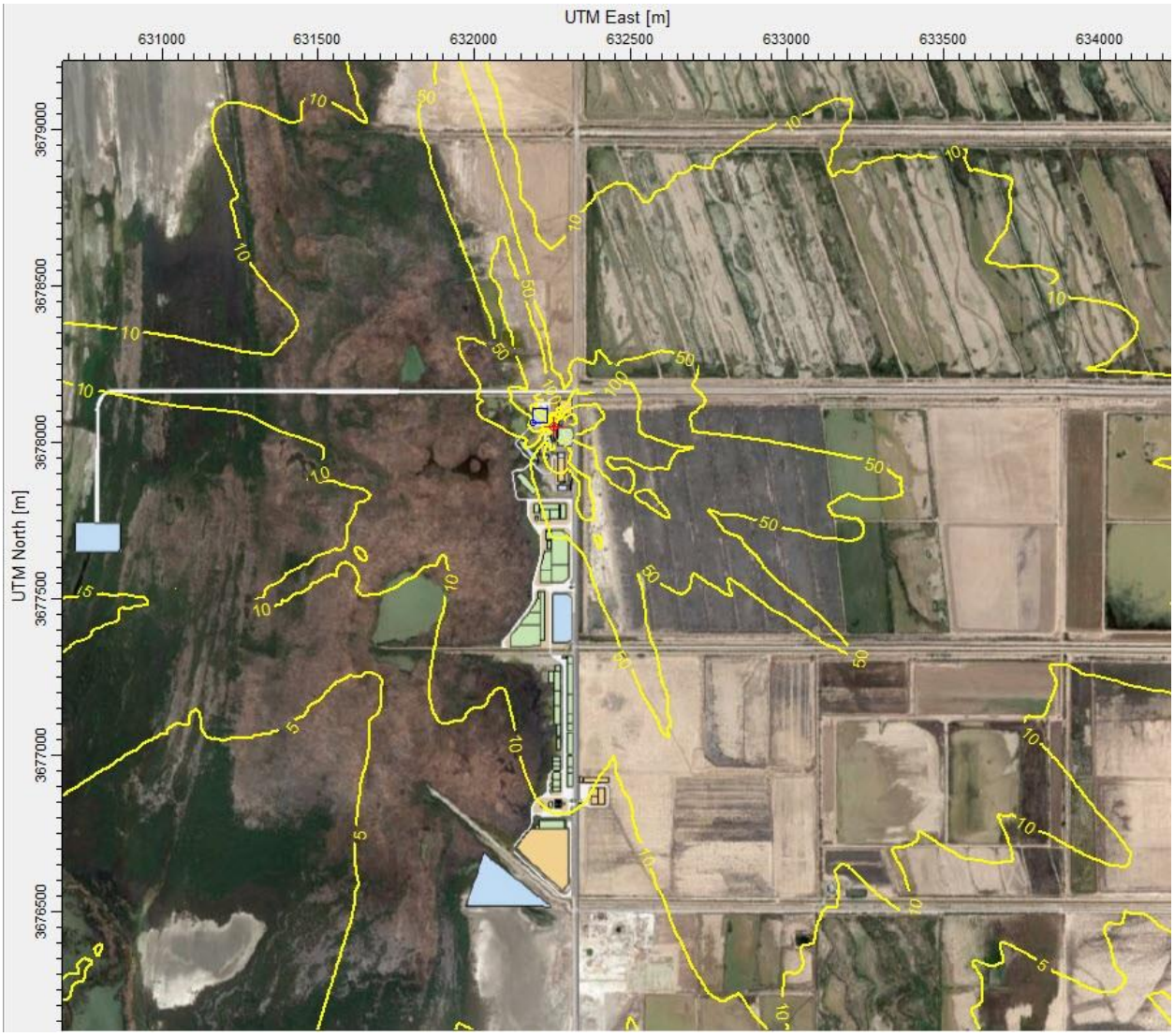
[7] United States Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W,* November 2005.

National Ambient Air Quality Standard	40,000	10,000
Potentially Significant (Yes or No)?	No	No

FIGURE A-3
1-HOUR CO CONCENTRATIONS FROM PROJECT STARTUP



FIGURE A-4
8-HOUR CO CONCENTRATIONS FROM PROJECT STARTUP



Control Pathway

Dispersion Options

Titles

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Dispersion Options

☐ Regulatory Default ☒ Non-Default Options

☒ Elevated Terrain
☐ No Stack-Tip Downwash (NOSTD)
☐ Run in Screening Mode
☐ Conversion of NOx to NO2 (OLM or PVMRM)
☐ No Checks for Non-Sequential Met Data
☐ Fast All Sources (FASTALL)
☐ Fast Area Sources (FASTAREA)
☐ Optimized Area Source Plume Depletion
☐ Gas Deposition

BETA Options:

☐ Capped and Horizontal Stack Releases
☐ Adjusted Friction Velocity (u*) in AERMET (ADJ_U*)
☐ Low Wind Options

☐ SCIM (Sampled Chronological Input Model)
☐ Ignore Urban Night / Daytime Transition (NOURBTRAN)

Dispersion Coefficient

Rural

Output Type

☒ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

CO

Averaging Time Options

Hours

1	2	3	4	6	8	12	24
☒	☐	☐	☐	☐	☒	☐	☐

☐ Month ☐ Period ☐ Annual

Exponential Decay

☐ Yes ☒ No

Terrain Height Options

☐ Flat ☒ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☐ Yes ☒ No

Default Height = 0.00 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: Salton_Sea.err

Source Pathway - Source Inputs

Point Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	STCK1	632253.30 Generator Stk	3678051.60	-68.28	4.57	2.91055	755.37	38.02	0.50

Building Downwash Information

Source ID: STCK1

Heights [m] (10 to 360 deg)

10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	0.00	0.00	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	0.00	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	0.00	0.00	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	10.67	0.00	0.00

Widths [m] (10 to 360 deg)

10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	0.00	0.00	52.96	58.60	62.45
130-180 deg	64.41	64.41	62.45	58.60	0.00	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	0.00	0.00	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	58.60	0.00	0.00

Lengths [m] (10 to 360 deg)

10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	0.00	0.00	52.96	58.60	62.45
130-180 deg	64.41	64.41	62.45	58.60	0.00	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	0.00	0.00	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	58.60	0.00	0.00

Along Flow [m] (10 to 360 deg)

10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	0.00	0.00	-77.71	-84.36	-88.46
130-180 deg	-89.86	-88.54	-84.52	-77.94	0.00	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	0.00	0.00	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	19.34	0.00	0.00

Across Flow [m] (10 to 360 deg)

10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	0.00	0.00	26.59	17.29	7.47
130-180 deg	-2.59	-12.56	-22.15	-31.07	0.00	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	0.00	0.00	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	31.07	0.00	0.00

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Uniform Cartesian Grid

Receptor Network ID	Grid Origin X Coordinate [m]	Grid Origin Y Coordinate [m]	No. of X-Axis Receptors	No. of Y-Axis Receptors	Spacing for X-Axis [m]	Spacing for Y-Axis [m]
UCART2	632137.00	3677967.00	25	25	10.00	10.00
UCART1	630398.87	3675883.71	80	70	50.00	50.00

Discrete Receptors

Plant Boundary Receptors

Results Summary

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CO - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	718.01612	ug/m^3	632207.00	3678147.00	-68.30	0.00	-68.30	8/28/2012, 23
8-HR	1ST	480.15278	ug/m^3	632297.00	3678077.00	-68.20	0.00	-68.20	6/26/2014, 24



Biological Resources Technical Report
Hell's Kitchen PowerCo 1 and Hell's Kitchen LithiumCo 1 Projects

November 2021

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PANORAMA ENVIRONMENTAL, INC.

Biological Resources Technical Report
Hell's Kitchen PowerCo 1 and Hell's Kitchen LithiumCo 1 Projects

November 2021

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PANORAMA ENVIRONMENTAL, INC.

Table of Contents

Acronyms and Abbreviations ..... **iii**

1 Introduction **1-1**
1.1 Purpose 1-1
1.2 Project Development Area and Setting 1-1
1.3 Overview of Projects 1-4

2 Data Collection **2-1**
2.1 Overview 2-1
2.2 Database Queries 2-2
2.3 Field Surveys 2-4

3 Regulatory Setting **3-1**
3.1 Federal 3-1
3.2 State 3-3
3.3 Local 3-6

4 Biological Setting **4-1**
4.1 Special-Status Species 4-1
4.2 Vegetation Communities 4-14
4.3 Aquatic Resources 4-20
4.4 Wildlife Movement and Nursery Sites 4-23

5 Project Effects and Recommendations **5-1**
5.1 Significance Criteria 5-1
5.2 Special-Status Species 5-1
5.3 Sensitive Natural Communities 5-4
5.4 Wetlands and Riparian Areas 5-5
5.5 Wildlife Movement and Nursery Sites 5-5
5.6 Local Policies and Ordinances 5-5
5.7 Habitat Conservation Plans 5-7
5.8 Recommended Mitigation Measures 5-7

6 References **6-1**

List of Tables

Table 1	Database Queries	2-2
Table 2	Field Surveys for Wildlife and Vegetation Communities	2-4
Table 3	Summary of Jurisdictional Delineations in the Project Area	2-7
Table 4	Special-Status Species with Potential to Occur	4-3
Table 5	1991-2006 Desert Pupfish Survey Results	4-14
Table 6	Vegetation Communities and Land Cover Types in the Project Development Area	4-15
Table 7	Potentially Jurisdictional Aquatic Resources in the Project Development Area	4-20
Table 8	Imperial County General Plan Consistency Analysis	5-6

List of Figures

Figure 1	Project Location	1-2
Figure 2	Project Development Area	1-3
Figure 3	HKP1 Project Layout	1-6
Figure 4	California Natural Diversity Database within 1-Mile of the Project Development Area	2-3
Figure 5	Marshbird Survey Points	2-5
Figure 6	Vegetation Communities (Map 1 of 3)	4-16
Figure 7	Vegetation Communities (Map 2 of 3)	4-17
Figure 8	Vegetation Communities (Map 3 of 3)	4-18
Figure 9	Aquatic Resources (HKP1 and HKL1 Development Areas)	4-21
Figure 10	Aquatic Resources (Gen-Tie Right-of-Way)	4-22

List of Appendices

Appendix A **Special-Status Species Table**
Appendix B **Burrowing Owl Survey Report**

Acronyms and Abbreviations

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CTR	Controlled Thermal Resources, Inc.
CWA	Clean Water Act
DWR	California Department of Water Resources
ESA	federal Endangered Species Act
gen-tie	generation tie
HCP	Habitat Conservation Plan
HRP	Habitat Restoration Plan
IID	Imperial Irrigation District
kV	kilovolt(s)
MBTA	Migratory Bird Treaty Act
MW	megawatt(s)
NCCP	Natural Communities Conservation Plan
NCG	non-condensable gas
NOAA	National Oceanic and Atmospheric Administration
project	Hell's Kitchen Power Plan 1 Project
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOS	Waters of the State
WOUS	Waters of the U.S.

TABLE OF CONTENTS

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1 Introduction

1.1 Purpose

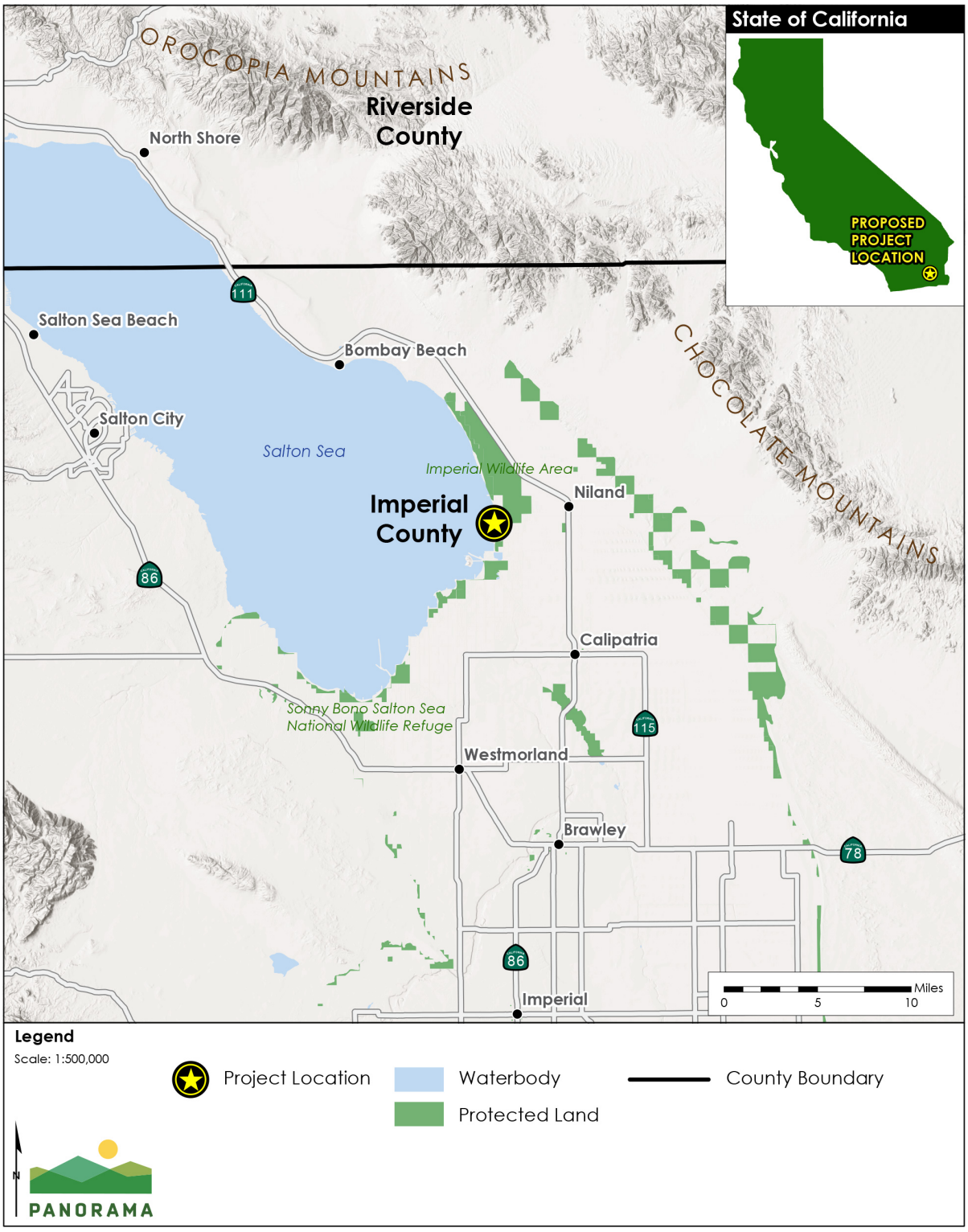
Hell's Kitchen PowerCo 1 LLC is proposing the Hell's Kitchen PowerCo 1 Project (HKP1 Project) and Hell's Kitchen LithiumCo 1 LLC is proposing the Hell's Kitchen LithiumCo 1 Project (HKL1 Project) in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). The HKP1 Project involves the development of a geothermal power plant to produce up to 49.9 megawatts (MW) net of geothermal power. The HKL1 Project proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale. The projects will be constructed by different entities, have different project objectives, and will remain separate projects; however, they are considered connected actions under the California Environmental Quality Act (CEQA) and have shared facilities. As a result, the HKP1 and HKL1 projects (herein referred to as the Project) will environmental review together with Imperial County serving as the CEQA Lead Agency.

This Biological Resources Technical Report has been prepared to support the HKP1 and HKL1 applications for Conditional Use Permits from Imperial County. This report summarizes the biological resources in the HKP1 and HKL1 development area (project development area), describes the sensitive biological resources that potentially could occur in the project development area, describes potential project effects on those resources, and makes recommendations to minimize or avoid those effects.

1.2 Project Development Area and Setting

The project development area consists of approximately 65 acres of potential development area within CTR's geothermal lease area and a 200-foot-wide right-of-way (ROW) corridor for the 2-mile-long gen-tie and power line to the Imperial Irrigation District (IID) interconnect station at Hudson Ranch. The project development area is located adjacent to the Salton Sea within Imperial County, California, approximately 3.6 miles west from the town of Niland (Figure 1). The geothermal development area and lithium facilities are located within Sections 11 and 12 of Township 11 South, Range 13 East, San Bernardino Base Meridian, and the gen-tie/power line ROW corridor is located within Sections 12, 13, and 14 (Figure 2). Slopes within the project development area are approximately 1 percent.

Figure 1 Project Location



Sources: (Airbus, USGS, NGA, NASA, CGIAR, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community; National Atlas of the United States and the United States Geological Survey, 2019)

Figure 2 Project Development Area



Sources: (Tele Atlas North America, Inc., 2018; Darco Productions, 2020; Vivid, 2018)

1.3 Overview of Projects

The HKP1 Project involves the generation of up to 49.9MW net of geothermal power and will deliver the power to IID via an approximately 2-mile-long, 230-kilovolt (kV) generation tie (gen-tie) line and power line, which will interconnect with IID facilities at the existing IID interconnect station at Hudson Ranch. The HKP1 Project is located adjacent to Davis Road and south of Noffsinger Road, within CTR's geothermal lease area and on lands owned by CTR. The gen-tie alignment will be located east of Davis Road and north of McDonald Road partially within IID's transmission line right-of-way (ROW) and within new ROW. The HKP1 Project will include a total of seven wells for production and injection including one well for the injection of aerated fluids. In addition to the wells and gen-tie alignment, the HKP1 Project will include geothermal fluid pipelines; power production and brine processing facilities; a brine pond; administration buildings, laboratories and control rooms, operations and maintenance buildings, and warehouses; and a water storage pond along Davis Road.

The HKL1 Project will utilize geothermal brine produced from the geothermal fluid management activities on the neighboring HKP1 Project site for the commercial production of lithium hydroxide, silica, bulk sulfide, and polymetallic products. The HKL1 Project will also include a power line, which will be co-located on the same transmission poles as the HKP1 gen-tie line described above, to supply power to HKL1 Project facilities. Other HKL1 facilities include a cooling tower and cooling and flocculation building, brine supply and return pipelines and processing facilities, ion exchange systems, water filtration and reverse osmosis facilities, product handling facilities, and offloading and storage tanks. The HKL1 facilities will be located within CTR's lease area and on lands owned by CTR, adjacent to Davis Road and north of Pound Road.

The Project involves the development of facilities shared by HKP1 and HKL1. The water storage pond, administration building, laboratory, maintenance shop, warehouses, septic system, and retention basin will be shared. A description of the Projects' facilities follows, and the Projects' facilities site layout is illustrated in Figure 3.

1.3.1 HKP1 Facilities

Wells, Well Pads, and Pipelines

The HKP1 Project will use Well Pad 1 and a well pad adjacent and south of the Q Drain for geothermal fluid production and injection. The HKP1 Project may also use Well Pad 4 for geothermal fluid production or injection. Well Pad 1 was previously approved for geothermal exploration drilling and was constructed in 2021. Well Pad 4 was previously approved by the County for geothermal exploration drilling but was not constructed. The geothermal production wells will be drilled at Well Pad 1 and one or two injection wells will also be drilled at Well Pad 1. The existing footprint of Well Pad 1 will be expanded during construction of the commercial facility by approximately 160 feet to the north to accommodate the wells required for

commercial operation of the Project. The Project will include a total of seven wells for production and injection including one well for injection of aerated fluids. Overhead lighting and fencing will be installed at the well pads.

Above-ground pipelines, between 24-inches to 30-inches in diameter, will be constructed to interconnect the production and injection wells with the power plant site facilities. The pipelines will be constructed at ground level on pipeline supports on drilled foundations installed approximately every 20 to 40 feet along the pipeline routes. .

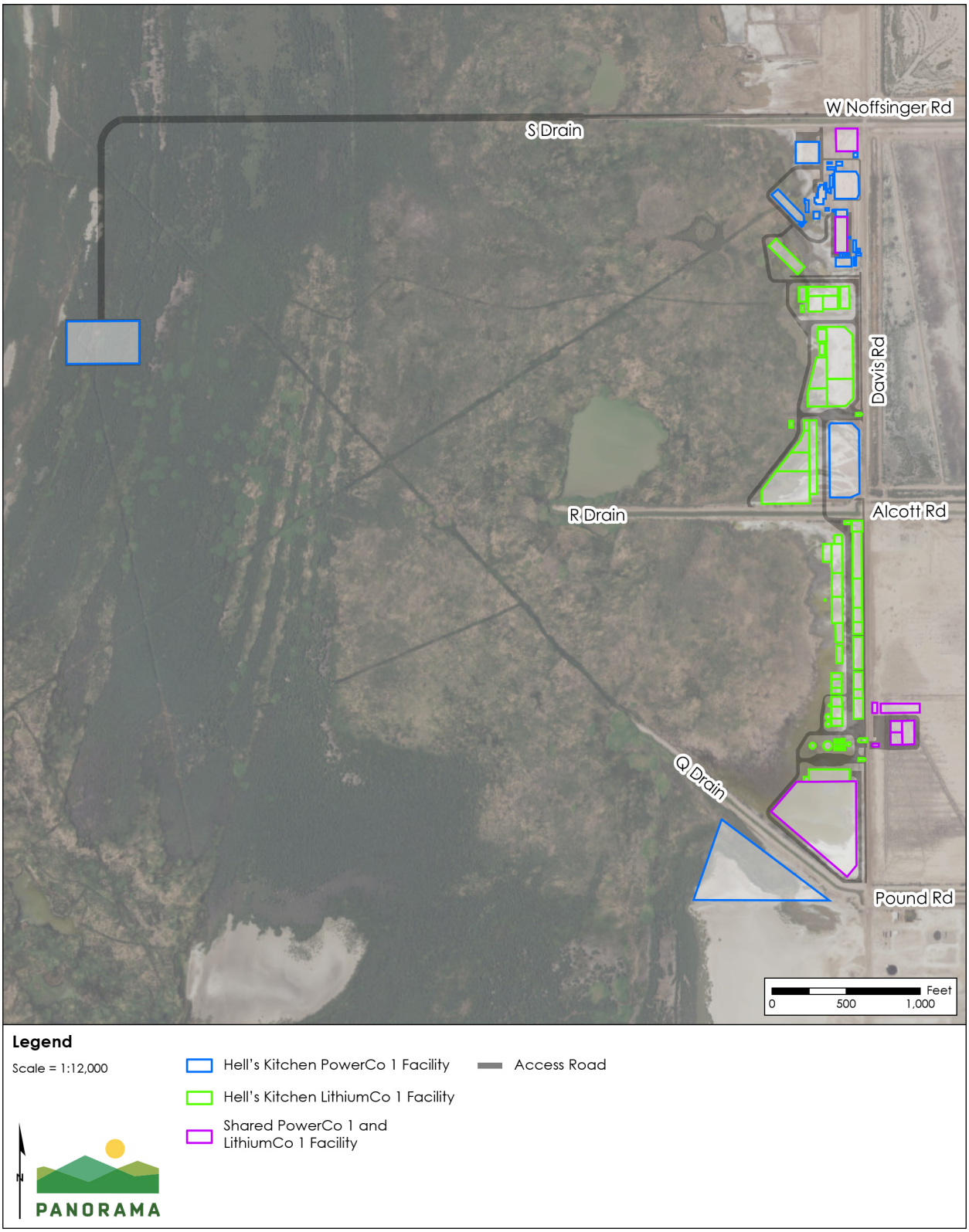
Brine Processing Facility and Pond

The brine processing facility will prepare the geothermal fluid produced from the production wells for steam extraction. The geothermal fluid will be delivered through above ground pipelines to the brine processing facility. The spent brine will be injected back into the geothermal reservoir through injection wells. The brine pond will be cement-lined with an underliner leak detection system and will allow storage of brine during upset conditions and collection of brine during flow testing and during plant start-up. The brine pond will be sized to accommodate two times the volume of the largest vessel and up to six hours of brine that could be released during system upset conditions plus 2 feet of freeboard.

Power Generation Facility

The power generation facility will be a single flash power plant, utilizing a single pressure, axial exhaust condensing steam turbine generator set capable of producing up to 55.3 MWe (gross), 49.9 MW net of geothermal-based renewable steam energy. The horizontal brine separator receives produced brine delivered from the production wells and separates a high-pressure steam fraction from the brine. The steam will be purified using a scrubber and demister system before being admitted into the condensing steam turbine. The liquid brine in the separator will be injected back into the geothermal reservoir. The turbine exhaust steam will be condensed to form geothermal condensate which may be utilized as make up water in the cooling tower to minimize the water consumption of the facility. Facilities associated with the power generation facility include a control building, a service water storage tank, lube oil skid, a California Air Resources Board-compliant 3MW diesel generator for emergency power, and other ancillary facilities. A security fence will be installed around the power plant facilities.

Figure 3a HKP1 Project Layout



Source: (Hatch and Fuji Electric, 2021)

Materials and Equipment Storage

During power plant operations, chemicals will be stored in chemical storage facilities, appropriately designed for their individual characteristics. Bulk chemicals will be stored outdoors on impervious surfaces in above-ground storage tanks with secondary containment. Secondary containment areas for bulk storage tanks will not have drains. Any chemical spills in these areas will be removed with portable equipment and reused or disposed of properly. Other chemicals will be stored and used in their delivery containers.

The primary source of solid waste during project operation will be the precipitated solids from the geothermal resource fluid. The filter cake will be delivered to a landfill authorized to accept the waste.

Water Storage

Water from IID will be stored in an on-site or off-site water storage pond. The water storage pond will be lined. Pipelines will run from the water storage pond to the power plant. The water storage pond will be sized to meet IID's requirements which currently is a 6-day supply.

1.3.2 HKL1 Facilities

The HKL1 Project includes the following structures and buildings:

- a cooling tower
- truck entrance security
- a cooling and flocculation building
- brine crystallizers, clarifiers, thickeners, and filter presses
- a lithium recovery resin vessel and systems
- raw water filtration, fire water storage, and reverse osmosis facilities
- electrical buildings to house electric power switchgear and electrical metering
- reagent storage and preparation buildings
- two motor control centers and a control room building
- lithium product handling and packaging buildings (that will house the filtration and drying equipment for the lithium products and bagging and palletizing of finished products)
- polymetallic product handling facilities
- bulk sulfide product handling facilities
- silica product manufacturing facilities
- bulk boron product handling facilities
- two lime silos
- hydrochloric acid offloading and storage tanks
- a reverse osmosis water treatment facility

Pipe Rack and Process Pipelines

A pipe rack will be constructed from the HKL1 Project's process area to the HKP1 site. A geothermal brine delivery pipeline from HKP1 will feed brine to the HKL1 Project's process area. Steam/steam-condensate pipelines will also be constructed on the pipe rack. After

minerals processing. The depleted brine will be delivered to the HKP1 injection system for reinjection into the geothermal reservoir.

The geothermal brine delivery and return pipelines will be constructed with minimal usage of flanged connections to reduce the potential for pipeline leaks. Automatic valves will be integrated into the pipeline system which will close or divert the geothermal brine in the event of a pipeline issue to minimize the size of any potential spill. An Emergency Response Plan will be prepared and implemented should a fluid spill event occur.

Product Extraction Facilities

The lithium extraction areas will be constructed on concrete pads with a containment curb. The lithium extraction processing areas will consist of a series of interconnected tanks, pipelines, and control valves.

Stormwater Retention

Stormwater retention infrastructure will be constructed along the western boundary of the site. A berm/levee will run along the western boundary of the site to contain any stormwater runoff and prevent stormwater run on. Water accumulated in the stormwater retention basin will be allowed to evaporate or possibly used as a substitute for normal fresh water. The retention basin will be designed to meet State Water Resources Control Board requirements and will include an appropriate mosquito abatement per Imperial County guidelines.

1.3.3 Shared Project Facilities

The HKL1 Project administration building, laboratory, maintenance shop, and warehouses will be shared with the neighboring HKP1 and constructed as part of the HKP1 facility. The septic sewage system that will be built as part of the HKP1 facility will also process sewage from the from the HKL1 Project. Similarly, the water storage pond that will be constructed as part of the HKP1 facility described above will also be shared with the HKL1 facility.

Access Roads

The Projects will be accessed from Davis Road via new ingress/egress driveways. Davis Road will be upgraded with aggregate base during construction of the HKP1 Project. Project traffic will access the site from Highway 111 via McDonald Road and Davis Road.

County road ingress/egress points will be constructed in conformance with Imperial County Public Works Department and Fire Department requirements. Road access will be restricted during construction, and appropriate traffic controls will be in place during construction of the Project. Davis Road will be paved from McDonald Road to Noffsinger Road at the completion of HKL1 Project construction.

Generation Tie Line and Power Facilities

The electricity from the HKP1 Project will be converted to 230kV in the on-site switchyard. A 230kV gen-tie line will be installed to connect power to IID's transmission system at the IID Interconnection Station at Hudson, southeast of the project development area. A power line will

be installed for the HKL1 Project on the same transmission structures that are being constructed for HKP1. An electrical substation will be constructed on the HKL1 Project site to obtain power from IID. Six electrical control buildings will be located onsite, and each will house pad-mounted transformers and switchgear.

1.3.4 Projects' Schedule

The construction phase of the Projects is anticipated to last 24 months in total. CTR anticipates starting HKP1 construction of the power plant and developing the well field in 2nd Quarter of 2022 followed by HKL1 construction in 4th Quarter 2022. The projected in-service dates for the Projects are 3rd Quarter 2023 for the HKP1 Project and 2nd Quarter 2024 for the HKL1 Project.

Construction will generally be conducted Monday through Saturday from 7.a.m. to 6 p.m. over the 24-month construction period. However, well drilling operations will be conducted 24 hours a day, seven days a week until the well depth is reached. Well drilling will last approximately eight weeks at each well and will involve a workforce of approximately 12 people. Construction work will also occur during nighttime hours during periods of extreme heat in the summer. Approximately 200 construction workers on average and 350 workers are anticipated at peak construction periods.

The HKP1 Project will require approximately 22 people onsite throughout the duration of operation. The HKL1 Project will require approximately 90 people onsite daily for HKL1 Project operation.

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2 Data Collection

2.1 Overview

2.1.1 Data Collection Summary

Information on biological resources in the project development area and the nine quadrangles surrounding the project development area was obtained from existing published data, including queries of online databases and previous biological resources reports prepared for the project development area and vicinity. Those biological resources that are evaluated in this report include special-status species, vegetation communities, and jurisdictional wetlands and waters. Aerially imagery was obtained for the entirety of CTR's lease area (Section 3, 10 and 11 of Township 11 South, Range 13 East) in August and September 2020.

2.1.2 Special-Status Species Definition

Special-status species are plant and wildlife species that, because of their low or declining populations, warrant special consideration and protection during the environmental review process. Special-status species evaluated in this report include the following:

- Species federally designated as "endangered," "threatened," or "candidate" by the U.S. Fish and Wildlife Service (USFWS) and protected under the federal Endangered Species Act (ESA).
- Species designated as "endangered," "threatened," "candidate," "species of special concern," "fully protected," or "watch list" at the State level by the California Department of Fish and Wildlife (CDFW) and protected under the California Endangered Species Act (CESA) or California Fish and Game Code (CFGC).
- Plant species identified on lists 1A, 1B, and 2 in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California, which are considered rare, threatened, or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines.

2.1.3 Jurisdictional Waters Definition

Potentially jurisdictional waters evaluated in this report include potential Waters of the U.S. (WOUS) and potential Waters of the State (WOS), including wetlands that protected under the jurisdictions of the U.S. Army Corps of Engineers (USACE), the Colorado River Regional Water Quality Control Board (RWQCB), and CDFW. These agencies have regulatory authority over WOUS and WOS under the Clean Water Act (CWA), the Rivers and Harbors Act, the Porter-Cologne Water Quality Control Act, and the CFGC. RWQCB jurisdiction over WOS is defined in the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of*

the State (State Water Resources Control Board, 2021). Other agency guidance used to define the jurisdictional limits of potential WOUS and WOS is described in further detail in Section 3, as well as in the Aquatic Resource Delineation Report.

2.2 Database Queries

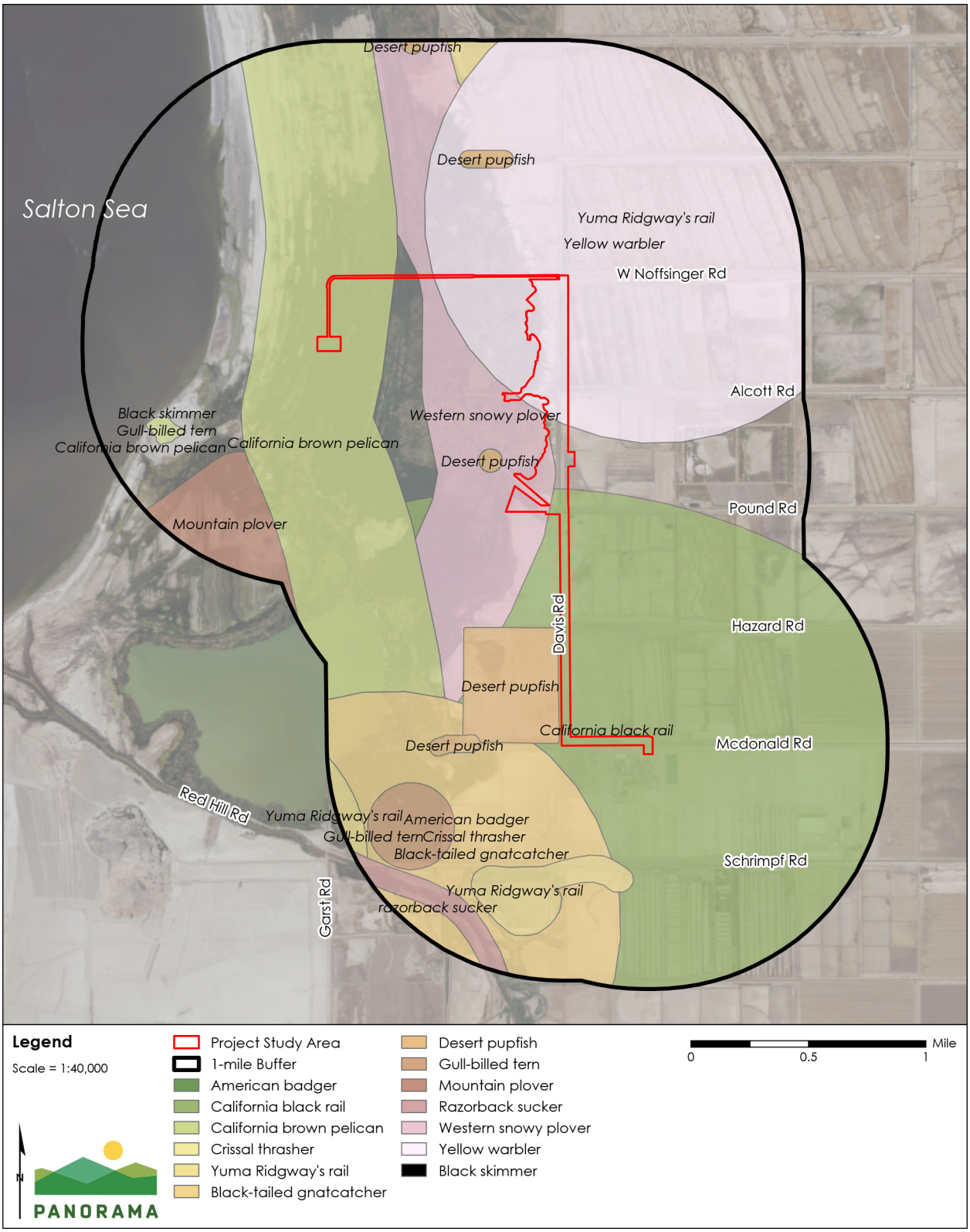
Several online databases were queried to gather available data on sensitive biological resources in the project development area and surroundings. Table 1 summarizes the database queries that were conducted. The results were used to evaluate the presence of special-status species in the project development area and vicinity. The output of the database query is provided in Appendix A. Figure 4 shows the California Natural Diversity Database (CNDDB) resources within 1 mile of the project development area.

Table 1 Database Queries

Database Name	Managing Organization	Data Maintained in Database	Geographic Extent of Query	Date of Query
California Natural Diversity Database	California Department of Fish and Wildlife	Special-status plant species Special-status wildlife species Sensitive natural communities	Nine U.S. Geological Survey (USGS) 7.5-minute quadrangles centered on the project development area	February 17, 2021
Inventory of Rare and Endangered Plants of California	California Native Plant Society	Special-status plant species	Nine USGS 7.5-minute quadrangles centered on the project development area	February 17, 2021
Information for Planning and Consultation	U.S. Fish and Wildlife Service	Special-status plant species Special-status wildlife species Designated critical habitat	Nine USGS 7.5-minute quadrangles centered on the project development area	February 17, 2021

Sources: (USFWS, 2021a; CDFW, 2021a; CNPS, 2021)

Figure 4 California Natural Diversity Database within 1-Mile of the Project Development Area



Sources: (Tele Atlas North America, Inc., 2018; Vivid, 2019; Panorama Environmental, Inc., 2021b; CDFW, 2021a)

2.3 Field Surveys

2.3.1 Overview

A reconnaissance biological survey and wetland delineation were conducted by Panorama Environmental, Inc. in the project development area west of Davis Road in spring 2021 and the portion of the development area east of Davis Road and north of Pound Road in October 2021. Focused species surveys were conducted in the project development area to evaluate the presence of special-status species. The focused species surveys are summarized in Table 2, and are described in further detail in the sections that follow. Sensitive biological resources that were discovered during surveys are discussed in Section 4.

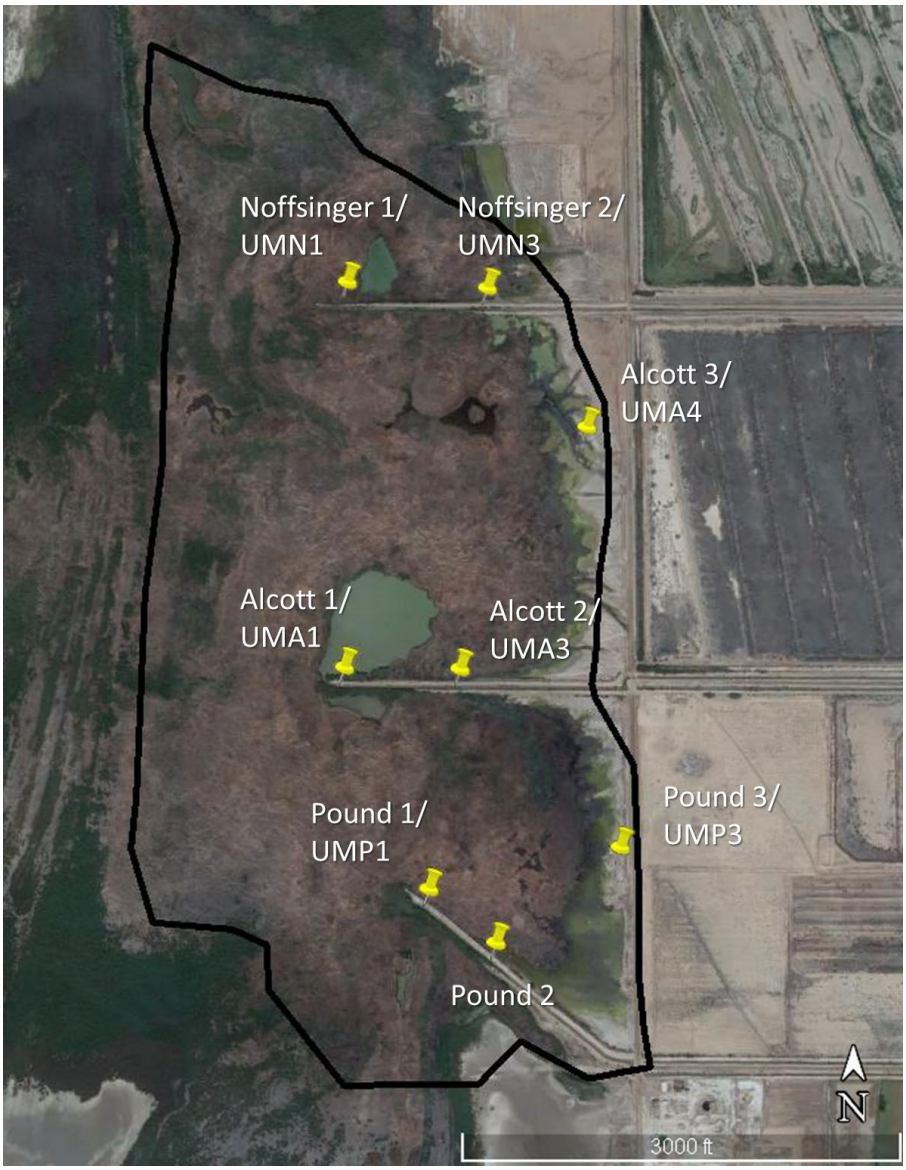
Table 2 Field Surveys for Wildlife and Vegetation Communities

Resource Surveyed	Organization Conducting Surveys	Locations Surveyed	Dates of Surveys	Survey Findings
Yuma Ridgway's rail *Rallus obsoletus yumanensis* (special-status bird)	U.S. Fish and Wildlife Service	Eight survey points in the marshland west of Davis Road	Spring 2014, 2017, 2018, and 2019	The species was detected in the project vicinity during each survey year.
Black rail *Laterallus jamaicensis coturniculus* (special-status bird)	U.S. Fish and Wildlife Service	Eight survey points in the marshland west of Davis Road	Spring 2017, 2018, and 2019	The species was detected in the project vicinity during each survey year.
Least bittern *Ixobrychus exilis* (special-status bird)	U.S. Fish and Wildlife Service	Eight survey points in the marshland west of Davis Road	Spring 2019	The species was detected in the project vicinity in 2019.
Desert pupfish *Cyprinodon macularius* (special-status fish)	California Department of Fish and Wildlife	Imperial Irrigation District's (IID) Q, R, and S drains	2016, 2018, 2019, and 2020	One juvenile pupfish was trapped in IID's S drain in 2019.
Burrowing owl *Athene cunicularia* (special-status bird)	Barrett's Biological Surveys TRC Solutions, Inc.	Controlled Thermal Resources, Inc.'s geothermal lease area	2016, 2017, and 2018	Burrowing owl sign was detected in the southeast corner of the lease area in 2016. No habitat was identified in the assessment area during surveys in 2018.
Reconnaissance survey	Panorama Environmental, Inc.	Project development area	2021	Vegetation communities were defined in the project development area.

2.3.2 Yuma Ridgway's Rail, California Black Rail, and Least Bittern

Staff from the USFWS's Sonny Bono Salton Sea National Wildlife Refuge conducted surveys for Yuma Ridgway's rail (*Rallus obsoletus yumanensis*) and California black rail (*Laterallus jamaicensis coturniculus*) in the project vicinity in spring 2014, 2017, 2018, and 2019 (USFWS, 2021b). The biologists detected the bird species visually and by call. USFWS conducted surveys of the area two to three days in each season between March and May, and survey days were spaced approximately one month apart. USFWS staff also surveyed for least bittern (*Ixobrychus exilis*) during the spring of 2019. Surveys were conducted at eight survey points along the marshland surrounding IID's S, R, and Q Drains west of Davis Road during each year. The locations of the eight survey points are shown in Figure 5.

Figure 5 Marshbird Survey Points



Source: (USFWS, 2021b)

2.3.3 Desert Pupfish

1991–2006 CDFW, IID, and USGS

Between 1991 and 2006, CDFW, IID, and the U.S. Geological Survey (USGS) conducted trapping surveys for desert pupfish (*Cyprinodon macularis*) in the IID drains of the south Salton Sea (CH2M HILL, 2006). The drains that were surveyed by these organizations include IID's Q, R, and S drains, which occur in the project development area.

2018–2020 CDFW

Staff from CDFW Region 6 conducted trapping surveys for desert pupfish in IID's Q and S drains in 2016, and in the Q, R, and S drains in 2018, 2019, and 2020 (CDFW, 2021a). Surveys primarily were conducted between late March and September, which coincided with periods of higher activity for the species because of warmer waters. Surveys for desert pupfish were conducted by a CDFW qualified biologists in accordance with CDFW survey protocols.

2.3.4 Burrowing Owl

2006–2008 Bloom Biological, Inc.

In April 2006, 2007, and 2008, biologists from Bloom Biological conducted a detailed survey for burrowing owl (*Athene cunicularia*) within a 500,000-acre study area for IID's draft Habitat Conservation Plan in the Imperial Valley, to estimate the relative abundance and distribution of the species (Bloom Biological, Inc., 2009). The surveys used a random sampling methodology and focused on IID's ROWs and service areas that parallel irrigation canals, drains, and ditches.

2011–2012 AECOM

In May 2011 and 2012, biologists from AECOM conducted additional surveys for burrowing owl in IID's Habitat Conservation Plan study area (AECOM, 2012). Those surveys used the same methodology as those used by Bloom Biological between 2006 and 2008.

2017–2018 Barrett's Biological Surveys

In July 2017, biologists from Barrett's Biological Surveys conducted field surveys and monitoring for burrowing owl, to support geothermal seismic measurement activities in the marsh area west of the Q, R, and S drains. In April 2018, biologists from Barrett's Biological Surveys conducted a habitat assessment field survey for burrowing owl, in accordance with the procedures described in CDFW's 2012 Staff Report on Burrowing Owl Mitigation (Barrett's Biological Surveys, 2018). The 2018 burrowing owl habitat assessment area included the entirety of CTR's geothermal lease area and a 500-foot buffer (within which the project development area is located).

2.3.5 Reconnaissance Biological Surveys

On April 12, 2016, biologists from TRC Solutions, Inc. conducted a reconnaissance field survey for biological resources in CTR's geothermal lease area, within which the project development area is located (TRC Solutions, Inc., 2016). The survey consisted of driving existing access roads

and walking to accessible vantage points to view as much of the lease area and surrounding vicinity as practical.

2.3.6 Vegetation Communities Drone Imaging

In August 2020, CTR conducted a high-resolution (3-centimeter resolution) drone survey of the vegetation communities in CTR's geothermal lease area, within which the project development area is located. A biologist from Panorama Environmental conducted a reconnaissance survey of the portion of the project development area west of Davis Road and south of Pound Road in April and June 2021 and the area east of Davis Road in October 2021. The 2021 reconnaissance survey was used to define the vegetation communities in the project development area. Vegetation communities in the project development area were categorized in accordance with *A Manual of California Vegetation, Second Edition* and *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Sawyer, Keeler-Wolf, & Evens, 2009; Holland, 1986).

2.3.7 Jurisdictional Wetland Delineations

A number of aquatic resource delineations were conducted in the project vicinity between 2016 and 2021 by Merkel & Associates, Panorama Environmental, and the California Department of Water Resources (DWR). All aquatic resource delineations were conducted according to the procedures outlined in the *USACE Wetland Delineation Manual* (USACE, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE, 2008). The jurisdictional delineation conducted by DWR in 2018 also used *Delineating Playas in the Arid Southwest–A Literature Review* (USACE, 2001) as an additional reference. The dates and locations of these jurisdictional delineations are summarized in Table 3.

Table 3 Summary of Jurisdictional Delineations in the Project Area

Dates of Delineations	Organization Conducting Delineations	Locations Delineated
October 25, 2016 November 1, 2016 January 10, 2017	Merkel & Associates, Inc.	The biological study area of the Hell's Kitchen Geothermal Exploratory Wells Project, which included Well Pads 1 and 3
July 17, 2018	California Department of Water Resources	An approximately 527-acre study area for the Alcott Wetland Project, roughly bounded by Noffsinger Road to the north, Davis Road to the east, Pound Road to the south, and the Salton Sea shoreline to the west
March 5, 2021 March 14, 2021 June 30, 2021 October 7, 2021	Panorama Environmental, Inc.	Project development area

Sources: (Merkel & Associates, Inc., 2017; Panorama Environmental, Inc., 2018; CA Department of Water Resources, 2018; Panorama Environmental, Inc., 2021)

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3 Regulatory Setting

3.1 Federal

3.1.1 Endangered Species Act

The ESA provides protection for plants and wildlife listed as threatened or endangered by USFWS and the National Oceanic and Atmospheric Administration's (NOAA) Marine Fisheries Service. Section 9 of the ESA (50 Code of Federal Regulations [CFR] 17.3) prohibits the take, possession, sale, or transport of any ESA-listed species. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, capture, collect, or attempt to engage in any such conduct" (16 U.S. Code [USC] Section 1532[19]). Federal regulation 50 CFR 17.3 further defines the term harm in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. For plants, the ESA prohibits removing, possessing, maliciously damaging, or destroying any listed plant on areas under federal jurisdiction, and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 USC Section 1538[a][2][B]).

The ESA requires the federal government to designate critical habitat for any species listed under the ESA, but also allows areas to be excluded from critical habitat (16 USC Section 1533[b][2]). Critical habitat is a specific area(s) that is essential for the conservation of a threatened or endangered species, and that may require special management and protection. Critical habitat also may include specific areas outside the geographical area occupied by the species, if the agency determines that the area itself is essential for conservation.

Section 7 of the ESA requires federal agencies to consult with USFWS and/or NOAA's Marine Fisheries Service for any federal activity that may affect any federally listed species or its critical habitat. Informal consultation may precede and obviate the need for formal consultation, if USFWS and/or NOAA's Marine Fisheries Service concur that the proposed agency action is not likely to adversely affect listed species. In the formal consultation process, USFWS and/or NOAA's Marine Fisheries Service must issue a Biological Opinion as to the potential for effect on listed species. USFWS and/or NOAA's Marine Fisheries Service may issue an incidental take permit, allowing take of the species that is incidental to an authorized activity, provided that the action will not jeopardize the continued existence of the species.

Section 10(a) of the ESA requires issuance of incidental take permits for private actions that have no federal involvement, through development of a Habitat Conservation Plan (HCP). The process for obtaining an incidental take permit has three primary phases: (1) the HCP development phase; (2) the formal permit processing phase; and (3) the post-issuance phase. During the HCP development phase, the project applicant is to prepare a plan that integrates the project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, minimize, and mitigate impacts;
- funding that will be made available to undertake such measures and procedures to deal with unforeseen circumstances;
- alternative actions considered that would not result in take; and
- additional measures that USFWS may require as necessary or appropriate for purposes of the plan.

Effects on federally listed species with no lead federal agency require preparation of an HCP, a management agreement, and an analysis prepared in compliance with the National Environmental Policy Act.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides protection for migratory birds. Conditions for permits to "take" migratory birds (as defined in the MBTA) are set forth in 50 CFR Part 13 (General Permit Procedures) and 50 CFR Part 21 (Migratory Bird Permits). Unless expressly authorized in the regulations or by permit, activities such as hunting, pursuing, capturing, killing, selling, and shipping migratory birds are prohibited. The MBTA allows USFWS to issue permits to qualified project applicants for the following types of activities:

- falconry;
- raptor propagation;
- scientific collecting;
- special purposes (e.g., rehabilitation, education, migratory game bird propagation, and salvage); and
- take of predatory birds, taxidermy, and waterfowl sale and disposal.

This protection extends to all migratory birds, parts, nests, and eggs. The full list of species protected under this act is found in 50 CFR 10.13.

3.1.3 Bald Eagle and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668-668c) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The act provides criminal penalties for persons who "take, possess, sell,

purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, on the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

3.1.4 Clean Water Act of 1977

The CWA is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect "Waters of the United States," including streams and wetlands (33 CFR 328.3). USACE and the U.S. Environmental Protection Agency have jurisdiction over WOUS. WOUS include areas classified as Wetlands, Navigable Water, or Other Waters, and include marine waters, tidal areas, stream channels, and associated wetlands. Under federal regulations, wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]).

Section 404 of the CWA requires an Individual Permit for significant impacts on WOUS. USACE has issued 58 separate Nationwide Permits for different types of projects with minor impacts on WOUS.

3.2 State

3.2.1 California Endangered Species Act

The CESA provides protection for candidate plants and wildlife species as well as those listed as threatened or endangered by CDFW. The act prohibits take of any such species unless authorized; however, California case law has not interpreted habitat destruction, alone, as included in the State's definition of take. Take is defined in Section 86 of the CFGC as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CDFW administers the act and authorizes take through Section 2081 agreements, Section 2080.1

consistency determinations (for species that also are listed under the ESA), or a Natural Communities Conservation Plan (NCCP).

3.2.2 California Fish and Game Code

CFGC requires State agencies to comply with regulations that promote the protection and conservation of threatened and endangered species. Regulations in place include:

- **California Species Preservation Act:** Provides protection and enhancement of listed species in California.
- **Raptor Protection:** Prohibits killing of raptor species and destruction of raptor nests.
- **Protection for Birds:** Sections 3503 and 3503.5 make it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird; it also is unlawful to take, possess, or destroy birds of prey or their nests or eggs.
- **Native Plant Protection Act:** Prohibits the take of rare, threatened, or endangered plants.
- **Protection for Wetland and Riparian Habitats:** Requires a lake or streambed alteration agreement for activities that impact these habitats.
- **Take of Rare Plants:** CDFW may issue permits, plans, or programs that authorize rare plant impacts.
- **Fully Protected Species:** Sections 3511, 4700, 5050, and 5515 of the CFGC provide guidelines to protect wildlife species that are designated as "fully protected" by CDFW. Before implementation of the CESA and ESA, the State of California designated species as "fully protected" to provide protection for species that were rare or threatened with possible extinction/extirpation. Many of these "fully protected" species have been listed since under CESA as threatened or endangered species. Most "fully protected" species cannot be harmed, taken, or possessed at any time, because the designation as "fully protected" provides the same level of protection as a listed species. CDFW may permit the incidental take of "fully protected" species, pursuant to an NCCP plan approved by CDFW, as long as the plan's conservation and management guidelines adequately protect these species, and the species is covered under the plan.

3.2.3 Porter-Cologne Water Quality Control Act and Clean Water Act Section 401

The State Water Resources Control Board administers the Porter-Cologne Water Quality Control Act and Section 401 of the CWA, typically through its RWQCBs. The Porter-Cologne Water Quality Control Act, Water Code Section 13260, requires that, "any person discharging waste, or proposing to discharge waste, within any region that could affect the 'waters of the state' to file a report of discharge" with the RWQCB. WOS are defined in State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Water Resources Control Board, 2021) to include any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB defines wetlands as:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes, or the area lacks vegetation.

The following wetlands are identified in the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State as WOS:

1. Natural wetlands
2. Wetlands created by modification of a surface Water of the State
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts on other Waters of the State, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other Water of the State;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed and currently is used and maintained primarily for one or more of the following purposes (i.e., the following artificial wetlands are not Waters of the State unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
        iv. Treatment of surface waters,
        v. Agricultural crop irrigation or stock watering,
        vi. Fire suppression,
        vii. Industrial processing or cooling,

viii. Active surface mining–even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not WOS. If an aquatic feature meets the wetlands definition, the burden is on the project applicant to demonstrate that the wetlands is not a WOS.

3.3 Local

3.3.1 Imperial County General Plan

The Imperial County General Plan contains goals, objectives, policies, and programs that relate to the preservation of biological resources (Imperial County, 2016). These goals are outlined in the Conservation and Open Space Element of the plan. The specific goals that relate to preservation of biological resources, along with an analysis of the consistency of the project with these goals, are provided in Section 5.6.

3.3.2 Habitat Conservation Plans

The project development area is not within the coverage areas of any HCP, NCCP, or other approved local, regional, or State habitat conservation plan.

4 Biological Setting

4.1 Special-Status Species

4.1.1 Overview

A list of all special-status species known to occur in the project vicinity (nine quadrangles surrounding the project development area) was prepared based on the results of the database queries and field surveys described in Section 2. The list of all special-status species known to occur in the project vicinity and their potential to occur in the project development area is provided in Appendix A.

Based on each species' known range and habitat requirements, as well as field survey results, the following criteria were used to determine the potential for each special-status species included in Appendix A to occur in the project development area:

- ***Present:*** The species was observed in the project development area during field surveys.
- ***High Potential:*** The species was not observed in the project development area during past field surveys; however, high habitat quality combined with nearby CNDDB occurrences or other records indicate that the species has a high potential to occur in the project development area.
- ***Moderate Potential:*** Suitable habitat combined with CNDDB occurrences or other records in the project region indicate that the species has a moderate potential to occur in the project development area.
- ***Low Potential:*** Because of marginally suitable habitat in the project development area combined with lack of past records and detection during surveys, the species is not anticipated to be present in the project development area.
- ***Presumed Absent:*** The species was not detected during protocol-level surveys, no suitable habitat is present in the project development area, or the project development area is outside the species' known range.

Each species' habitat requirements were compared against the vegetation communities and land cover types present in the project development area. The land cover types in the project development area, include salt pan, open water, disturbed, and developed areas that generally are devoid of vegetation. The vegetated communities in the project development area include riparian scrub (common reed–tamarisk series), which primarily consists of non-native common common reed (*Phragmites* australis), tamarisk (*Tamarix ramosissima*), and cattails (*Typha*

domingensis) that may provide habitat to support special-status species. Desert sink scrub also occurs in the project development area, but does not support special-status species that occur in the project vicinity. Special-status species that have a moderate or higher potential to occur in the project development area are shown in Table 4. Avian species that have the potential to occur within the marsh vegetation communities within and west of the project development area and could be affected by noise from project activities are listed in Table 4. Potential project impacts on these species are analyzed in Section 5. No special-status plant species were found to have a moderate or high potential to occur in the project development area. Therefore, special-status plants are not included in the impact analysis in Section 5.

4.1.2 Special-Status Wildlife Species

Birds

Short-Eared Owl

Short-eared owls are medium-sized owls that are active around dawn and dusk, when searching for small mammals. Short-eared owls are pale brown with streaks and spots on the wings and chest. Nesting short-eared owls require open country that supports concentrations of rodents and herbaceous cover sufficient to conceal their ground nests from predators. Suitable habitats may include salt- and freshwater marshes, irrigated alfalfa or grain fields, and ungrazed grasslands and old pastures. Short-eared owls are primarily crepuscular hunters (CDFW, 2021b). The cattail marsh and riparian scrub habitat in the project development area provide suitable habitat for short-eared owls.

Burrowing Owl

The burrowing owl is a small, sandy colored owl with bright-yellow eyes. It lives underground in burrows dug by itself or taken over from a prairie dog, ground squirrel, or tortoise. The species is a year-long resident of open, dry grassland and desert habitats, and in grass, forb, and open-shrub stages of pinyon-juniper and ponderosa pine habitats. The species previously was common in appropriate habitats throughout the state, excluding the humid northwest coastal forests and high mountains, but population numbers have markedly reduced in recent decades because of habitat conversion and human disturbance.

Table 4 Special-Status Species with Potential to Occur

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Birds			
Asio flammeus short-eared owl	SSC	Found in grasslands, marshes and swamps, meadows, seeps, and wetlands.	**Moderate:** Suitable habitat present is present in the riparian scrub and cattail marsh vegetation communities located in the project development area. There is a CNDDB occurrence approximately 13 miles south of project development area.
Athene cunicularia burrowing owl	SSC	Found primarily in grasslands and along irrigation banks adjacent to intensive agriculture, in expansive grasslands, and in small patches of grassland surrounded by urban development.	**High:** Potentially suitable habitat in the project development area is limited to the disturbed berms lining the roads and irrigation drains. In 2016, TRC Solutions detected indicators of species' presence adjacent to the project development area along IID's Q drain. No indicators of species presence were observed during a survey of CTR's geothermal lease area, which included the project development area, in 2018.
Charadrius nivosus nivosus western snowy plover (interior population)	SSC [a]	In the interior of California, snowy plovers breed on barren to sparsely vegetated flats and along shores of alkaline and saline lakes, reservoirs, ponds, braided river channels, agricultural wastewater ponds, and salt evaporation ponds	**Moderate:** Potentially suitable habitat is present in the salt pan land cover in the project development area. A large, non-specific area along the Salton Sea shoreline was mapped as a CNDDB occurrence for the species in 1999, which overlaps with the western side of the project development area.
Circus hudsonius northern harrier	SSC	Inhabits open, vegetated habitats including prairie grasslands, fields, and marshes. Nests on the ground in dense clumps of vegetation, primarily grasses, but vegetation also can include willows, sedges, reeds, bulrushes, and cattails.	**Moderate:** Potentially suitable foraging habitat is present in the project development area; an unmapped CNDDB occurrence is within the same quad as the project development area. The vegetated riparian scrub and cattail marsh areas in the project development area consists primarily of non-native reed, tamarisk, and native cattails and may provide suitable habitat quality for nesting. Higher quality

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
			habitat is present in the cattail marsh vegetation communities west of the project development area.
Elanus leucurus white-tailed kite	FP	Inhabits savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nests in trees, often near marshes.	**High:** Suitable foraging habitat is present in the project development area. The vegetated riparian scrub and cattail marsh in the project development area consists primarily of non-native reed, tamarisk, and native cattails and may provide suitable habitat for nesting. Higher quality habitat is present in the marsh vegetation communities west of the project development area. The species was observed foraging over the lease area by TRC Solutions in 2016.
Falco columbarius merlin	WL	Found in a variety of habitats including marshes, deserts, seacoasts, near coastal lakes and lagoons, open woodlands, and fields. Nests in conifer woodland or wooded prairie, often near water.	**Moderate:** Potentially suitable foraging habitat is present in the project development area. The vegetated riparian scrub and cattail marsh areas in the project development area consists primarily of non-native reed, tamarisk, and native cattails and may provide suitable habitat quality for nesting. Higher quality habitat is present in the marsh vegetation communities west of the project development area. A CNDDB occurrence is documented approximately 2 miles north of the project development area.
Falco peregrinus anatum American peregrine falcon	FP	Breeds in open landscapes with cliffs (or skyscrapers) for nest sites, and inhabits open habitats including barrier islands, mudflats, coastlines, lake edges, and mountain chains during the non-breeding season.	**Moderate:** Suitable foraging habitat and non-breeding season habitat is present in the project development area. An unmapped CNDDB occurrence is within the same quad as the project development area.
Gelochelidon nilotica gull-billed tern	SSC	Inhabits coastlines, marshes, estuaries, lagoons, plowed fields, and less frequently occurs along rivers, around lakes, and in freshwater marshes.	**Moderate:** Potentially suitable habitat is present in the project development area; the vegetated riparian scrub in the project development area consists primarily of non-native reed, tamarisk, and native cattails and may provide suitable habitat to support

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
			the species. Open water areas in the project development area could provide suitable foraging habitat. Higher quality habitat is present in the marsh vegetation communities west of the project development area.
Ixobrychus exilis least bittern	SSC	Inhabits freshwater or brackish marshes with tall grasses, cattails, and reeds.	**High Potential in the Project Development Area:** Potentially suitable habitat is present in the project development area; the vegetated riparian scrub in the project development area consists primarily of non-native reed, tamarisk, and native cattails and may provide suitable habitat to support the species. The cattail marsh habitat within the development area is suitable habitat for least bittern. **Present in the Buffer Area:** Suitable habitat is present in the marsh vegetation communities west of the project development area. USFWS detected the species in the marsh west of the project development area in 2019.
Laterallus jamaicensis coturniculus black rail	ST, FP	Found in various habitats, from high coastal marshes to freshwater marshes along the lower Colorado River. Nests in or along the marsh edge, usually hidden in low vegetation but sometimes on damp ground.	**High Potential in the Project Development Area:** Potentially suitable habitat is present in the project development area; the vegetated riparian scrub in the project development area consists primarily of non-native reed, tamarisk, and native cattails and may provide suitable habitat to support the species. Cattail marsh habitat in the project development area is suitable for black rail nesting and foraging. **Present in the Buffer Area:** Suitable habitat is present in the marsh vegetation communities west of the project development area. USFWS detected the species in the marsh west of the project development area in 2017, 2018, and 2019.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Mycteria americana wood stork	SSC	Found in fresh and brackish wetlands, swamps, ponds, and marshes.	**High:** The vegetated riparian scrub and cattail marsh in the project development area provide suitable habitat to support the species. The open water areas could provide suitable foraging habitat. An unmapped CNDDB occurrence is documented within the same quad as the project development area.
Passerculus sandwichensis rostratus large-billed savannah sparrow	SSC	Breeds in salt marshes and disperses widely to coastal winter sites.	**Moderate:** Foraging habitat is present in the open water riparian scrub and cattail marsh vegetation communities in the project development area. No salt marsh habitat is present in the area. An unmapped CNDDB occurrence is documented within the same quad as the project development area.
Plegadis chihi white-faced ibis	WL	Found in marshes, swamps, ponds, and rivers, mostly in freshwater habitats (tropical to temperate zones). Nests in marshes; in low trees, on the ground in bulrushes or reeds, or on a floating mat.	**Present:** Suitable habitat is present in the project development area within open water areas, cattail marsh, and the vegetated riparian scrub, which consists primarily of non-native reed, tamarisk, and cattails. TRC Solutions observed the species in the project development area in 2016.
Rallus obsoletus yumanensis Yuma Ridgway's rail	FE, ST, FP	Inhabits freshwater and alkali marshes containing dense stands of cattails and bulrushes. Nests on dry hummocks or in small shrubs along the edges of shallow ponds.	**Present:** Suitable habitat is present in the project development area; the vegetated riparian scrub in the project development area consists primarily of non-native reed, tamarisk, and cattails and may provide suitable habitat to support the species. Cattail marsh areas within the project development area is suitable nesting habitat. Open water areas provide suitable foraging habitat. USFWS detected the species in the marsh area to the west of the project development area in 2014, 2017, 2018, and 2019.
Setophaga petechia yellow warbler	SSC	Habitat includes open scrub, second-growth woodland, thickets, farmlands, and gardens, especially near water, as well as riparian	**Moderate:** Suitable nesting and foraging habitat is present within the non-native riparian scrub vegetation communities and cattail marsh areas in the

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
		woodlands. Nests are placed in upright forks or crotches of bushes, saplings, or large trees.	project development area. A CNDDB occurrence from 1952 is documented in the project vicinity.
Xanthocephalus xanthocephalus yellow-headed blackbird	SSC	Breeds in wetlands in prairies, mountain meadows, quaking aspen parklands, and shallow areas of marshes, ponds, and rivers. Nests in cattails, bulrushes, or reeds.	**Moderate:** Suitable habitat occurs in the cattail marsh and riparian scrub vegetation communities in the project development area. An unmapped CNDDB occurrence is documented in a neighboring quad a minimum of 8 miles southwest of the project development area.
Fish			
Cyprinodon macularius desert pupfish	FE, SE	Inhabits desert springs and outflow marshes, river-edge marshes, lakes, backwaters, saline pools, and stream pools; can tolerate high salinity.	**Present:** Suitable habitat is present within the open waters of IID's irrigation canals in the project development area. The species was observed in IID's S drain by a CDFW biologist in 2019. The species previously was recorded in the Q, R, and S drains during various surveys conducted between 1993 and 2002.
Mammals			
Sigmodon hispidus eremicus Yuma hispid cotton rat	SSC	Found in agricultural lands, marshes, and riparian habitats.	**Moderate:** Habitat occurs in the riparian scrub and cattail marsh areas within the project development area. CNDDB occurrence 1 mile south of project development area.

Note:

a. The Pacific Coast population of the western snowy plover, defined as those individuals that nest adjacent to tidal waters of the Pacific Ocean, including all nesting birds on the mainland coast, peninsulas, offshore islands, adjacent bays, estuaries, and coastal rivers, is federally listed under the Endangered Species Act of 1973 as threatened (USFWS, 2021d). The project development area is outside the range of the Pacific Coast population of the species. The interior population of the species is listed by CDFW as a species of special concern (CDFW, 2008).

Sources: (CNPS, 2021; USFWS, 2021e; CDFW, 2021b; The Cornell Lab, 2021; CDFW, 2021a)

The surveys for burrowing owl conducted by Bloom Biological and AECOM between 2006 and 2011 indicated that the species inhabits IID's ROWs and service areas in the Imperial Valley. The majority of species observations occurred within unsubmerged canals and drains, while a smaller percentage included farmland irrigation ditches and access roads or road banks. The survey results also indicated that the overall territory for the species in the Imperial Valley steadily declined over the years that the surveys were conducted.

During the biological reconnaissance survey conducted by TRC Solutions in 2016, pellets, whitewash, and feathers from a burrowing owl were identified at a burrow on the edge of an access road along IID's Q drain in the southeast corner of CTR's lease area. This location is adjacent to the project development area. No burrowing owl individuals were observed during the survey.

During the 2017 and 2018 surveys conducted by Barrett's Biological Surveys, no burrowing owl individuals or active burrows were found in CTR's geothermal development lease area or within a 500-foot buffer zone (Appendix B).

Habitat for burrowing owl in the project development area is limited to the small areas of disturbed berms lining roads and irrigation drains, including the edges of McDonald Road, Davis Road, Pound Road, Alcott Road, and Noffsinger Road, as well as the edges of IID's O, P, Q, R, and S drains. The salt pan, riparian scrub, desert sink scrub, and open water land cover types, which make up the majority of the land uses in the project development area, do not provide suitable habitat for burrowing owl.

Western Snowy Plover

The western snowy plover is a small wader in the plover bird family. It is about 6 inches long, with a thin dark bill, pale brown to gray upper parts, white or buff colored belly, and darker patches on its shoulders and head, with a white forehead. The species breeds in the southern and western United States and the Caribbean. The Pacific Coast population of the western snowy plover, defined as those individuals that nest adjacent to tidal waters of the Pacific Ocean, is federally listed under the ESA as threatened (USFWS, 2021d). The project development area is outside the range of the federally listed Pacific Coast population of the species.

The interior population of the western snowy plover is listed by CDFW as a species of special concern (CDFW, 2008). In the interior of California, the species breeds on barren to sparsely vegetated flats, including salt pans, and along shores of alkaline and saline lakes, reservoirs, ponds, braided river channels, agricultural wastewater ponds, and salt evaporation ponds. Adults and broods typically forage near shallow water, sometimes up to two miles from their nests, and on dry flats. A moderate potential exists for this species to nest in the mostly-unvegetated salt pan/salt flat land cover types in the project development area and along the open water area.

Northern Harrier

The northern harrier is a raptor that breeds throughout North America. The species is most common in large, undisturbed tracts of wetlands and grasslands with low, thick vegetation. It breeds in freshwater and brackish marshes, lightly grazed meadows, old fields, tundra, dry upland prairies, drained marshlands, high-desert shrub steppe, and riverside woodlands across Canada and the northern United States. Western populations tend to breed in dry upland habitats, while northeastern and Midwestern populations tend to breed in wetlands. In winter, the species uses a range of habitats with low vegetation, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, old fields, estuaries, open floodplains, and marshes. The riparian scrub and cattail marsh communities in the project development area provide suitable foraging and nesting habitat for the species. Higher quality habitat for the species is present in the marsh vegetation communities west of the project development area.

White-Tailed Kite

The white-tailed kite is a small to medium-sized raptor with narrow, pointed wings and a long tail. It is found in grasslands, open woodlands, savannas, marshes, and cultivated fields. The species has a small range in the United States but occurs throughout North and South America. It often is found along tree-lined river valleys with adjacent open areas but usually is not found in forests or clear-cuts within forests. A white-tailed kite was observed hunting over a pickleweed patch in the southeast corner of Section 11 during the reconnaissance survey conducted by TRC Solutions in 2016. The riparian scrub and cattail marsh communities in the project development area provide suitable nesting and foraging habitat for the species.

Merlin

The merlin is a small falcon found at high latitudes throughout the northern hemisphere. Adult males have slate-blue backs with finely streaked underparts; females and immature birds have brown backs; all have tails with narrow white bands. During most of the year, merlin inhabits open country, ranging from marshlands to deserts, but many breed in conifer and birch woods. In open country, eggs are laid in a scrape on the ground amid bushes, but in forested areas, the tree nests of crows, rooks, or magpies are used. Its diet consists mainly of smaller birds that it catches in midair. The riparian scrub communities in the project development area provide potential foraging habitat for the species. While the riparian scrub communities consist primarily of non-native reed and tamarisk, native cattails do exist in this area and provide suitable habitat for nesting.

American Peregrine Falcon

The American peregrine falcon, which once bred from Hudson Bay to the southern United States, formerly was an endangered species. The species now is the most widely distributed species of bird of prey, with breeding populations on every continent except Antarctica and many oceanic islands. Its prey includes ducks and a wide variety of songbirds and shorebirds. Peregrine inhabits rocky, open country near water, where birds are plentiful. The peregrine falcon usually

nests in a mere scrape on a ledge high on a cliff, but a few populations use city skyscrapers or tree nests built by other bird species. The riparian scrub and cattail marsh communities in the project development area provide suitable foraging habitat for the species.

Gull-Billed Tern
A medium-sized tern with broader wings and a thicker bill than most other terns, the gull-billed tern is found along the Atlantic and Gulf coasts of the United States and very southern California. The species breeds on gravelly or sandy beaches and winters in salt marshes, estuaries, lagoons, and plowed fields, and less frequently along rivers, around lakes, and in fresh-water marshes. Typical prey include fish, insects, lizards, aquatic animals, and occasionally chicks of other birds. The riparian scrub communities in the project development area provide potential foraging habitat for the species. While the riparian scrub communities consist primarily of non-native reed and tamarisk, native cattails do exist in this area and provide suitable habitat for nesting. Higher quality habitat for the species is present in the marsh vegetation communities west of the project development area.

Least Bittern
The least bittern is one of the smallest herons in the world, adapted for life in dense marshes. It inhabits fresh marshes and reedy ponds, including mostly freshwater marsh but also brackish marsh. Rather than wading in the shallows like most herons, the least bittern climbs about in cattails and reeds, clinging to the stems with its long toes. Its narrow body allows it to slip through dense, tangled vegetation with ease. Because of its habitat choice, it often goes unseen except when it flies, but its cooing and clucking call notes are heard frequently at dawn and dusk and sometimes at night.

A maximum of six least bittern individuals were detected during 2019 surveys by USFWS. A maximum of three individuals were detected at the Alcott 1 survey point, while one individual was detected each at the Noffsinger 1, Noffsinger 2, and Pound 1 survey points. These survey results indicate that the species is present in the marshland west of Davis Road.

While the riparian scrub communities consist primarily of non-native reed and tamarisk, native cattails do exist in this area and provide suitable habitat for foraging and nesting. Higher quality habitat for the species is present in the marsh vegetation communities west of the project development area.

Black Rail
The black rail is a small, secretive shorebird that nests in marshes and wet meadows across North America, including riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of its habitats have stable shallow water, usually just 1.2 inches deep at most. On the Atlantic and Gulf coasts, black rail nests in the higher, drier parts of marshes, where tidal activity is least and where different types of grasses, sedges, and rushes occur in mosaic-like patches. Key plant species in these habitats include saltmeadow hay, sand cordgrass, chairmaker's bulrush, saltgrass, needlerush species (genus *Juncus*), and various species of pickleweed (genus *Salicornia*).

Between two and seven black rail individuals were detected during each year that the species was surveyed. Eleven of these detections occurred at the Alcott 3 survey point on IID's R drain west of Davis Road, with the six remaining detections at the nearby Alcott 2 and Pound 3 survey points. These survey results indicate that the species regularly is present in the marshland west of Davis Road, particularly in the vicinity of IID's R drain.

While the riparian scrub communities consist primarily of non-native reed and tamarisk, native cattails do exist in this area and provide suitable habitat for foraging and nesting. Higher quality habitat for the species is present in the marsh vegetation communities west of the project development area.

Wood Stork

The wood stork is a large American wading bird in the stork family. It formerly was named the "wood ibis," although it is not an ibis. It is found in subtropical and tropical habitats in the Americas, including the Caribbean. Its habitat can vary, but it must have a tropical or subtropical climate with fluctuating water levels. Its nest is found in trees, especially mangroves, usually surrounded by water or over water. The wood stork nests colonially. The diet of the adult changes throughout the year; in the dry season, fish and insects are eaten, and frogs and crabs are added in the wet season.

The project development area includes open water areas that provide suitable habitat for the wood stork. The cattail marsh area within the project development area and to the west also provide suitable nesting and foraging habitat.

Large-Billed Savannah Sparrow

The range-restricted "large-billed" savannah sparrow of Mexico barely enters the United States in southern California; it has a much heavier bill than other forms of the species. All subspecies show thin, crisp streaking on the underparts and usually have yellow in front of the eyes. The species breeds in open areas with low vegetation, including most of northern North America, from tundra to grassland, marsh, and farmland. Even in winter, it occurs on the ground or in low vegetation in open areas. The species feeds on seeds on or near the ground, alone or in small flocks. The riparian scrub and cattail marsh communities in the project development area provide suitable nesting and foraging habitat for the species. Higher quality habitat for the species is present in the marsh vegetation west of the project development area.

White-Faced Ibis

The white-faced ibis is a wading bird that breeds colonially in marshes, usually nesting in bushes or low trees. Its breeding range extends from the western United States south through Mexico, as well as from southeastern Brazil and southeastern Bolivia south to central Argentina, and along the coast of central Chile. Its winter range extends from southern California and Louisiana south to include the rest of its breeding range. Multiple individuals were observed foraging in a shallow pond in the eastern portion of CTR's geothermal lease area during the reconnaissance survey conducted by TRC Solutions in 2016. .

Yuma Ridgway's Rail

The Yuma Ridgway's rail is one of the smaller subspecies of the Ridgway's rail, with adults standing at about 8 inches tall. Its coloring is light grey to dark brown on the upper body, with a tawny-orange breast and orange legs. The species consistently is found in freshwater marshes that are composed of cattail and bulrush. This emergent vegetation averages greater than 6 feet tall, and water depth tends to be around 3.5 inches deep. Rail numbers are related directly to habitat quality, and the species has a range that extends from Nevada, California, and Arizona to Baja California and Sonora, Mexico.

Yuma Ridgway rails were detected during each year that a survey was conducted by USFWS, at nearly every survey point. A maximum of 40 individuals were detected in 2014, 56 individuals in 2017, 74 individuals in 2018, and 41 individuals in 2019.

The exact number of individuals was difficult to determine because the secretive bird often is detected by its call, and a single bird may be detected multiple times from different survey points or on different dates. However, the survey results indicate that a healthy population of the species is inhabiting the marshland west of Davis Road.

While the riparian scrub communities consist primarily of non-native reed and tamarisk, native cattails do exist in this area and provide suitable habitat for foraging and nesting. Higher quality habitat for the species is present in the marsh vegetation communities west of the project development area.

Yellow Warbler

The yellow is a New World warbler species and is the most widespread species in the diverse genus *Setophaga*, breeding in almost the whole of North America, the Caribbean, and down to northern South America. Its habitat includes bushes, swamp edges, streams, and gardens. The species breeds in a variety of habitats, including woods and thickets along edges of streams, lakes, swamps, and marshes, favoring willows, alders, and other moisture-loving plants. In winter, individuals migrate to the tropics, where they favor semi-open country, woodland edges, and towns. The riparian scrub and cattail marsh vegetation communities in the project development area provide suitable foraging and nesting habitat for the species.

Yellow-Headed Blackbird

Yellow-headed blackbirds have a large head with a sharply pointed bill, a long tail, and a stout body. Males are black with yellow heads and chests, and white patches where their wings bend. Females and immature males are generally gray-brown with a duller yellow head. Yellow-headed blackbirds breed in marshes with tall emergent vegetation including cattails cattails. Yellow-headed blackbirds prefer water depths of 0.5 to 4 feet. Breeding areas are often are on the edges of water bodies such as lakes, reservoirs, or larger ponds (CDFW, 2021b). The cattail marsh and riparian scrub vegetation communities within the development area provide marginally suitable breeding habitat, depending on the depth of adjacent open water areas, which tend to be shallower than desirable for the species.

Fish

Desert Pupfish

The desert pupfish is a small, robust fish, usually less than 3 inches in length. The lifespan is typically 1 year but can be as long as 3 years. During the breeding season, males turn bright blue with lemon-yellow tails. Females are tan to olive in color with irregular, darker vertical bars on their sides. In California, this species historically occurred in several springs, seeps, and slow-moving streams in the Salton Sink Basin, as well as in backwaters and sloughs along the lower Colorado River. Desert pupfish now are relegated to remnants of their former habitats, which generally are too harsh for most introduced species to exist. Naturally occurring populations of desert pupfish have been extirpated in Arizona but still occur in the Salton Sink Basin of California, the Colorado River Delta, and Laguna Salada Basin in Mexico.

The results of trapping surveys for desert pupfish conducted by CDFW, IID, and USGS at IID's Q, R, and S drains between 1991 and 2006 are summarized in Table 5.

During more recent surveys conducted by CDFW between 2018 and 2020, one juvenile desert pupfish individual was trapped in the S drain in 2019, and no individuals were trapped in the other drains (CDFW, 2021c). The survey methodology used can determine presence of the species but cannot confirm their absence. Therefore, the survey findings confirm that the species is present within the S drain, and do not confirm its presence or absence in the Q and R drains. However, the findings indicate that if the species is present in the Q and R drains, the population numbers are likely to be low. The most recent confirmed observation of desert pupfish in the Q drain was in 1994, and in the R drain was in 2002.

Mammals

Yuma Hispid Cotton Rat

Cotton rats are rodents that are thick bodied, with a medium-length tail slightly shorter than the head and body. Their ears barely project above their fur, and their tail is sparsely haired. There are two subspecies of cotton rats along the Lower Colorado River (LCR); the Colorado River cotton rat (*Sigmodon arizonae plenus*) and the Yuma hispid cotton rat (*Sigmodon hispidus eremicus*). Yuma hispid cotton rats occur in grass/cattail (Typha) communities with a dense understory. Yuma hispid cotton rats may be expanding their population and range into agricultural lands (Lower Colorado River Multi-Species Conservation Program, 2016). The cattail marsh areas within the project development area and the riparian scrub vegetation communities provide potentially suitabl habitat for Yuma hispid cotton rats. The riparian scrub vegetation community in most areas has brush vegetation that lacks the dense grasses or understory for Yuma hispid cotton rat; however, in some areas cattails occur as a sub-dominant species and the common reed could provide adequate cover/density.

Table 5 1991-2006 Desert Pupfish Survey Results

Year/Organization Surveyed	Survey Findings		
	Q Drain	R Drain	S Drain
1991 CDFW	No pupfish captured	No pupfish captured	Not surveyed
1993 IID	No pupfish captured	One or more pupfish captured	One or more pupfish captured
1994 CDFW	One or more pupfish captured	One or more pupfish captured	One or more pupfish captured
1996 CDFW	Not surveyed	One or more pupfish captured	Not surveyed
1998 CDFW	Not surveyed	Not surveyed	One or more pupfish captured
2001 CDFW	No pupfish captured	One or more pupfish captured	No pupfish captured
2002 CDFW	Not surveyed	Not surveyed	One or more pupfish captured
2005 USGS	No pupfish captured	No pupfish captured	No pupfish captured
2006 USGS	No pupfish captured	No pupfish captured	No pupfish captured

Source: *(CH2M HILL, 2006)*

4.1.3 Special-Status Plant Species

Based on known habitat requirements and the results of the database queries described in Section 2.2, no special-status plant species have suitable habitat in the project development area. A list of plant species that were evaluated are provided in Appendix A. No special-status plant species were recorded during reconnaissance biological surveys of the project development area.

4.2 Vegetation Communities

Table 6 shows the acreages of the vegetation communities and land cover types in the project development area, as mapped during field surveys conducted by Panorama Environmental in 2021.

Table 6 Vegetation Communities and Land Cover Types in the Project Development Area

Vegetation Community/Land Cover Type	Area in the Project Development Area (acres)	CDFW Sensitive Natural Community Status
Desert sink scrub (iodine bush series)	7.34	Sensitive
Riparian scrub (common reed–tamarisk series)	35.13	Not sensitive
Common Reed	0.33	Not sensitive
Salt pan/salt flat	42.70	Not sensitive
Cattail marsh	2.88	Not sensitive
Open water	16.46	N/A
Irrigation Canal/Drain	2.39	N/A
Developed or Disturbed	34.17	N/A
Total	**141.57**	

Source: *(CDFW, 2020)*

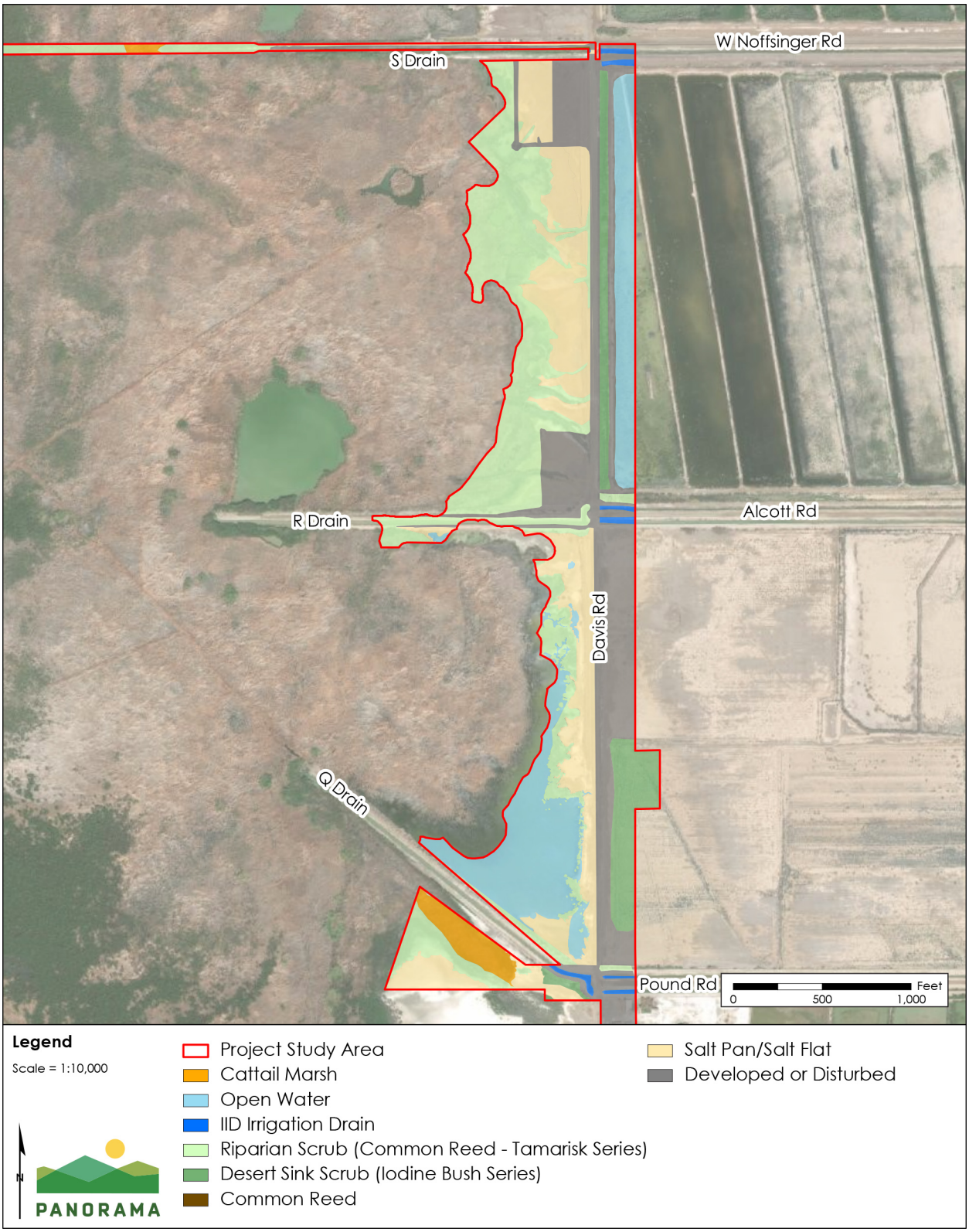
4.2.1 Sensitive Vegetation Communities

Desert sink scrub (iodine bush series) is a CDFW-designated sensitive natural community that was identified in the project development area during field surveys conducted by Panorama Environmental in 2021 (CDFW, 2020). This vegetation community was classified according to *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf, & Evens, 2009). The community is characterized by a dominance of iodine bush (*Allenrolfea occidentalis*), with associated annual and perennial vegetation such as shadscale (*Atriplex* sp.), saltgrass (*Distichlis spicata*), and bush seepweed (*Suaeda nigra*). This community is established in lowlands, where water flows or collects for some portion of a typical year. The specific location where this vegetation community occurs in the project development area is shown in Figure 6. No other sensitive natural communities as designated by CDFW or CNPS were identified during Panorama Environmental's field surveys.

4.2.2 Other Vegetation Communities

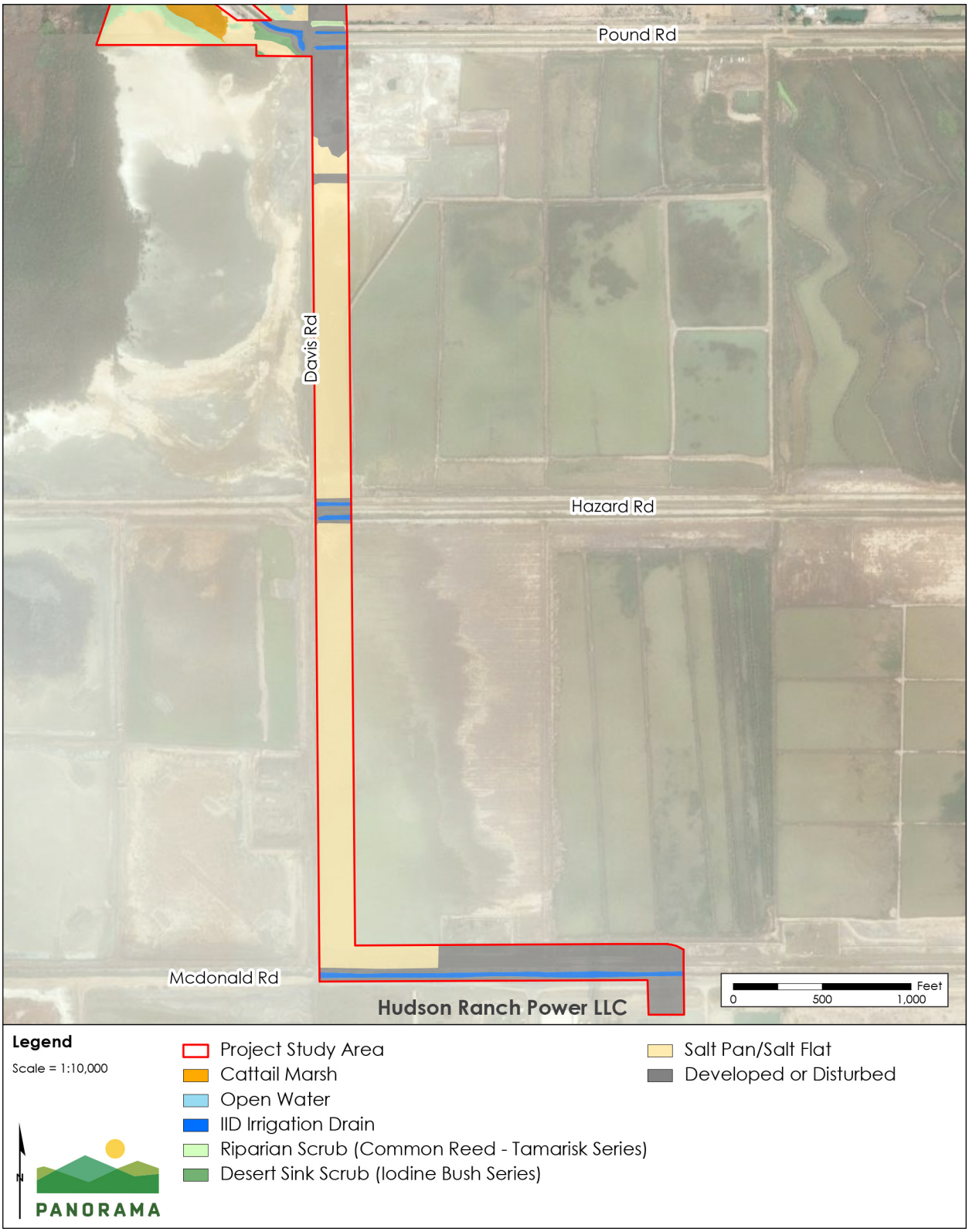
Other vegetation communities and land cover types that were identified in the project development area included riparian scrub, common reed, cattail marsh, and salt flat, classified according to *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf, & Evens, 2009). Other land uses in the project development area include developed areas and open water in the form of irrigation channels, classified according to *Preliminary Descriptions of the Terrestrial Natural Communities of California*, because *A Manual of California Vegetation* does not include classifications for these land cover types (Holland, 1986). These vegetation communities and land uses are shown in Figure 6 and Figure 7, and are described in further detail next.

Figure 6 Vegetation Communities (Map 1 of 3)



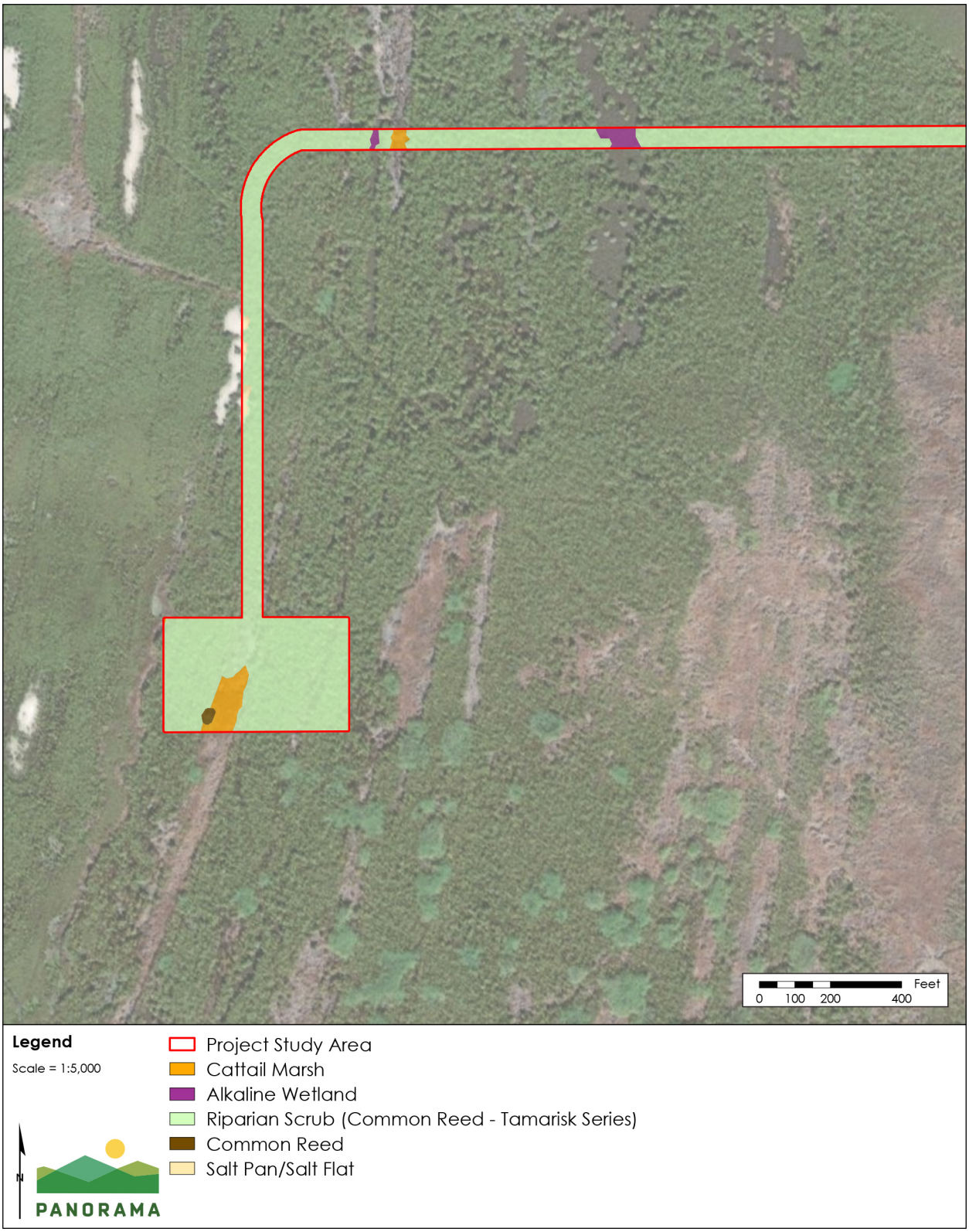
Sources: (Tele Atlas North America, Inc., 2018; Vivid, 2019; Panorama Environmental, Inc., 2021b)

Figure 7 Vegetation Communities (Map 2 of 3)



Sources: (Tele Atlas North America, Inc., 2018; Vivid, 2019; Panorama Environmental, Inc., 2021b)

Figure 8 Vegetation Communities (Map 3 of 3)



Riparian Scrub (Common Reed–Tamarisk Series)

Riparian scrub (common reed – tamarisk series) is characterized by a co-dominance of non-native common reed (*Phragmites australis*) and tamarisk (*Tamarix ramosissima*). Associated perennial vegetation includes sub-dominant native species, such as narrow-leaved cattail (*Typha domingensis*) and arrow weed (*Pluchea sericea*). This community is not listed as a sensitive vegetation community according to the CDFW Natural Communities List (CDFW, 2020).

Common Reed

Common reed (*Phragmites australis*) areas are characterized as monotypic stands of common reed with no sub-dominant species. Common reed occurs in patches along IID irrigation drains and within the marsh areas west of Davis Road. This community is invasive and not listed as a sensitive vegetation community according to the CDFW Naturla Communities List (CDFW, 2020).

Cattail Marsh

Cattail marsh (*Typha lattifolia*) is characterized by areas that are flooded with dense stands of emergent cattail vegetation (>50% cover). Cattail marsh occurs within areas of silty or clayey soils. Cattail marsh occurs within the project development area south of the Q Drain and small patches are present along the S-Berm access road and Well Pad 4 in areas that are frequently flooded. Historic aerials of the area indicate that cattail marsh transitions to riparian scrub habitat as water elevations in the area decrease.

Salt Pan/Salt Flat

In the project development area, salt pan (also known as salt flat) is characterized by a lack of vegetation of any kind, bare ground, highly saline soils, and muddy areas immediately adjacent to open water, wetlands, and riparian areas. These areas are at least partially covered in salt crust that is formed from evaporating water, following periods of inundation. A small area of salt pan at the north end of the project geothermal development area was observed to have iodine bush (*Allenrolfea occidentalis*) and desert saltgrass (*Distichlis spicata*) individuals present.

Open Water (Holland Code 64100)

Open water includes areas of ponded or contained water (e.g., lakes, rivers, oceans, and canals) that are devoid of vegetation. In the project development area, open water occurs within three irrigation channels managed by IID: the S drain, R drain, and Q drain, and areas south of the R drain and north of the Q drain. These irrigation channels hold water year-round and support habitat for small fish and other aquatic species.

Developed/Disturbed (Holland Code 12000)

Developed areas in the project development area include maintained dirt roads, a historic development southeast of the intersection of Pound Road and Davis Road, and a recently graded well pad northwest of the intersection of Alcott Road and Davis Road.

4.3 Aquatic Resources

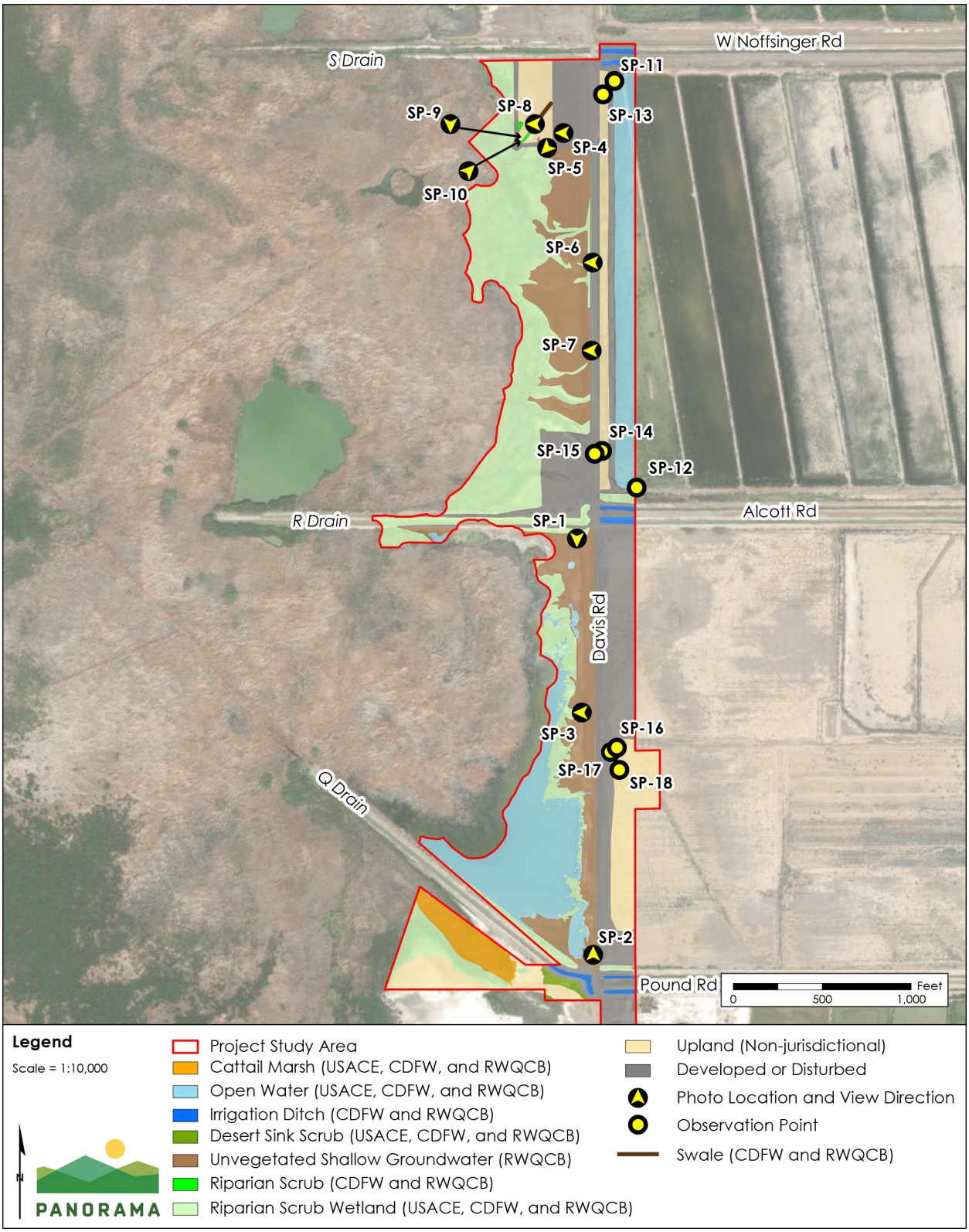
Potentially jurisdictional wetlands and other WOUS and WOS were delineated in the project development area (Panorama Environmental, Inc., 2021a). The locations of the potentially jurisdictional resources are shown in Figure 8 and Figure 9. The acreages of the specific jurisdictional features are shown in Table 7. The jurisdictional status of aquatic resources delineated in the project development area would need to be determined by the USACE, CDFW, and RWQCB.

Table 7 Potentially Jurisdictional Aquatic Resources in the Project Development Area

Water Resource Type	USACE (acres)	CDFW (acres)	RWQCB (acres)
Wetlands	38.75	38.75	38.75
Open Water / Ponded	16.46	16.46	16.46
Unvegetated - Shallow Groundwater	0.00	0.00	16.65
Swale	0.00	200 (linear feet)	200 (linear feet)
IID Irrigation Drain	0.00	2.39	2.39
Total	**55.21 acres**	**57.60 acres** **200 linear feet**	**74.26 acres** **200 linear feet**

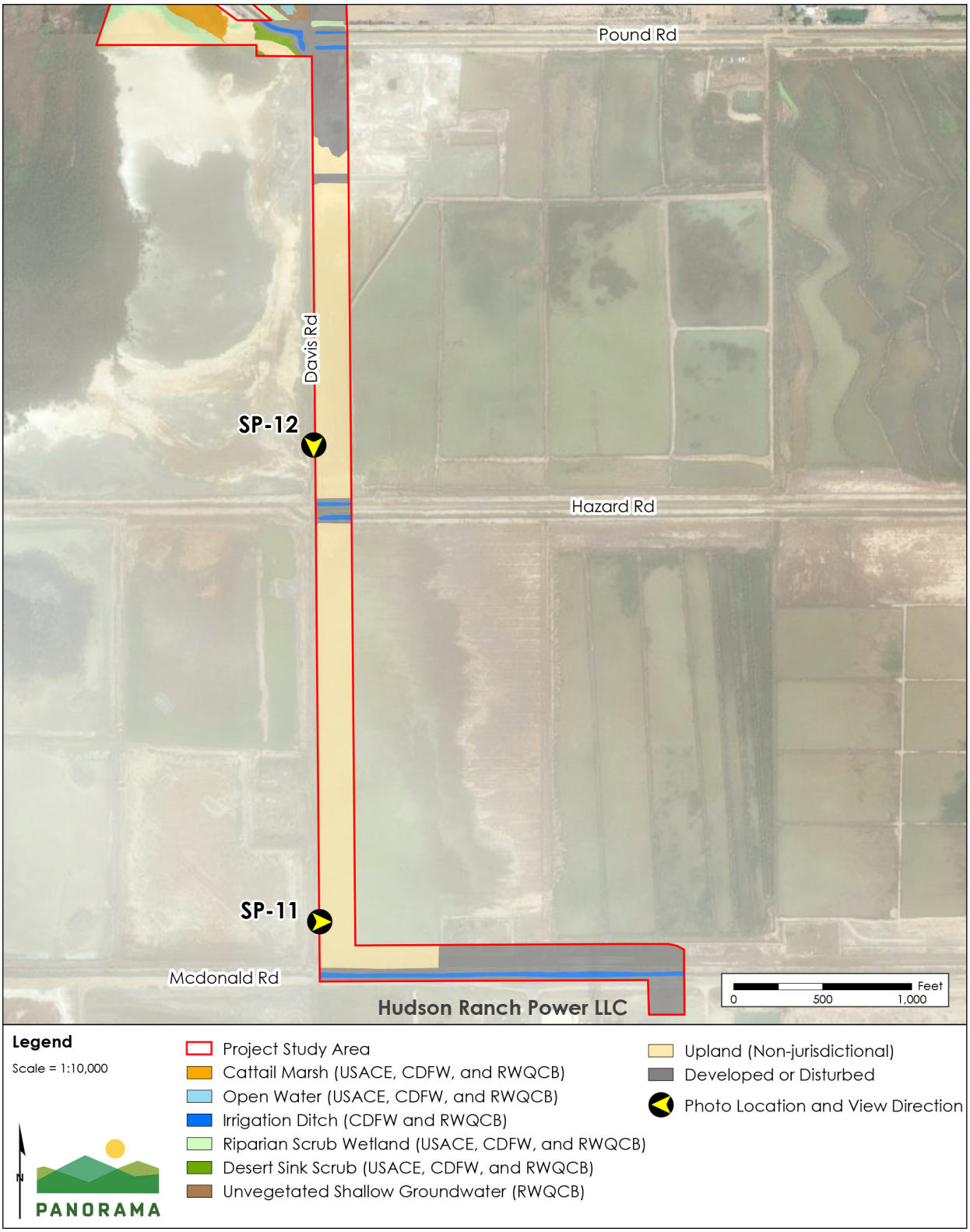
Source: (Panorama Environmental, Inc., 2018) (Panorama Environmental, Inc., 2021b)

Figure 9 Aquatic Resources (HKP1 and HKL1 Development Areas)



Sources: (Tele Atlas North America, Inc., 2018; Vivid, 2019; Panorama Environmental, Inc., 2021)

Figure 10 Aquatic Resources (Gen-Tie Right-of-Way)



Sources: (Tele Atlas North America, Inc., 2018; Vivid, 2019; Panorama Environmental, Inc., 2021)

4.4 Wildlife Movement and Nursery Sites

Wildlife corridors are defined as areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features—such as canyon drainages, ridgelines, or areas with dense vegetation cover—can provide corridors for wildlife travel. Wildlife corridors are important to mobile species because they provide access for individuals to find shelter, mates, food, and water; allow the dispersal of individuals away from high-density population areas; and allow immigration and emigration of individuals to other populations. Wildlife corridors are considered sensitive by resource and conservation agencies. Impacts on wildlife corridors are analyzed under CEQA. The project development area may serve as a corridor for movement of terrestrial species across similar wetland habitats to the north, along the Salton Sea shoreline. The Salton Sea also serves as a key rest stop for migrating avian species on the Pacific Flyway, a major north/south flyway for migratory birds extending from Alaska to Patagonia (USFWS, 2021c). Migrating birds use the vegetated habitats in the project vicinity, as well as the Salton Sea itself, as stopovers during their migrations south to wintering sites and north to breeding sites.

Wildlife nursery sites are habitats where juveniles of a species occur, that support a generally greater level of productivity per unit area than other juvenile habitats. These habitats are found in particular in marine environments, and mangroves and seagrasses are examples of common nursery sites for marine species. The project development area is adjacent to a developed roadway, contains a greater proportion of disturbed areas, and generally contains lower-quality habitat than the large, contiguous wetland areas to the west and along the Salton Sea shoreline. The project development area does not support a greater level of productivity for any species and is not considered to be a wildlife nursery site.

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5 Project Effects and Recommendations

5.1 Significance Criteria

Consistent with Appendix G of the State CEQA Guidelines, the project would have a significant impact on biological resources if it would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
c. Have a substantial adverse effect on State or federally protected wetlands (including marshes, vernal pools, coastal areas) through direct removal, filling, hydrological interruption, or other means;
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
f. Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State HCP.

5.2 Special-Status Species

5.2.1 Birds

Burrowing Owl

As discussed in Section 4, habitat for burrowing owl in the project development area is limited to the small areas of disturbed berms lining roads and irrigation drains. The salt pan, riparian scrub, desert sink scrub, common reed, cattail marsh, and open water land cover types, which make up the majority of the land in the project development area, do not provide suitable habitat for burrowing owl. If burrowing owl individuals were to occur in the small areas lining the roads and irrigation drains that provide suitable habitat for the species, project construction at these locations potentially could affect the species. Recommended mitigation for burrowing owl including pre-construction surveys to define the locations of any active burrows in the

project vicinity and avoidance procedures for active nests would reduce impacts on burrowing owl to a less than significant level.

Project operation would not involve any activities that may directly or indirectly harm burrowing owl. Therefore, no impact would occur.

Western Snowy Plover

The salt pan/salt flat in the project development area provides suitable habitat for the interior population of western snowy plover (*Charadrius nivosus nivosus*), a State-listed species of special concern. If the species is found to occur within the salt pan cover types in the project development area, construction activities at these locations potentially could affect the species. Without mitigation, potential impacts on the species from project activities may include injury or mortality, or destruction of nests from use of vehicles and heavy equipment for grading and other construction activities. If construction activities occur within the salt pan in the project development area between February 1 and August 31, these activities would have the potential to adversely affect snowy plover nests, if an active nest is present on the site.

In order to avoid impacts on snowy plover nests, ground disturbing construction activities would occur outside nesting bird season or preconstruction avoidance surveys would be conducted before the start of any ground-disturbing construction activities within salt pan during the nesting season, and protective buffers would be implemented for any nests discovered, until the nests are determined to no longer be active. Implementation of this avoidance strategy would reduce the impact on western snowy plover from project construction to less than significant.

Project operation would not involve any activities that may directly or indirectly harm western snowy plover. Therefore, no impact would occur.

Marsh Birds

As discussed in Section 4, the project development area provides suitable habitat for Yuma Ridgway's rail, black rail, least bittern, wood stork, white-faced ibis, and other marsh birds which rely on native marsh vegetation communities for nesting and molting. While the riparian scrub communities consist primarily of non-native reed and tamarisk, native cattails do exist in this area and may provide suitable habitat for foraging and nesting for marsh bird species.

If Project construction involves any vegetation removal within cattail marsh or riparian scrub between February 1 and August 31, these activities would have the potential to adversely affect nesting marsh birds if an active nest is present within the vegetation, which would be a potentially significant impact. If special-status marsh birds are detected within or within 500 feet of work areas during surveys, avoidance and minimization measures for potential impacts to nesting special-status marsh birds would include: 1) timing vegeteation removal activities within 500 feet of suitable habitat to occur outside of the nesting season and impacts within habitat to occur outside of the molting season, and 2) employing a qualified biologist to be on site throughout the duration of construction activities. The biologist would have the authority to halt construction activities if special-status species are observed in the work area. The project

would avoid capturing or killing of special-status marsh bird species through monitoring and avoidance procedures.

If any nests of special-status marsh birds were to occur in the riparian scrub communities within the project area or within the native marshland within 500 feet of the project, the noise from the construction could potentially result in nest abandonment, and the impact would be potentially significant. The operational noise would be continuous and would not be expected to cause nest abandonment because birds in the vicinity of the project would be accustomed to the on-going noise.

CTR would install noise barriers to provide a buffer for any construction activities that occur within 500 feet of the native marshlands west of the project development area during the marshbird nesting season (February 1 through August 31). Noise barriers could include a wall of hay bales, or another equivalent continuous, sound-absorbing physical barrier placed between the noise-emitting activity and the native marshland vegetation. With the implementation of the impact minimization measures, potential indirect impacts on nesting marshbirds from construction noise would be reduced to less than significant.

Other Migratory Birds

The project development area includes cattail marsh and riparian scrub (common reed–tamarisk series), a vegetation community composed primarily of non-native tamarisk (*Tamarix ramosissima*) and common reed (*Phragmites australis*). The cattail marsh and riparian scrub vegetation community has the potential to provide nesting habitat for other resident and migratory birds species. Active bird nests (i.e., nests that contain eggs or young) are protected under the MBTA and Fish and Game Code (USFWS, 2004; CDFW, 2007). The bird nesting season generally occurs between February 1 and August 31 each year, the period when trees and vegetation may have the potential to contain an active bird nest.

If project construction involves any vegetation removal within riparian scrub between February 1 and August 31, these activities would have the potential to adversely affect nesting birds, if an active bird nest is present within the vegetation, which would be a potentially significant impact. Avoidance and minimization measures for potential impacts to nesting birds would include ensuring vegetation removal occurs outside nesting bird season, conducting pre-construction surveys for nesting birds prior to any vegetation removal during the nesting bird season, and implementing protective buffers for any nests discovered until the nests are determined to no longer be active. Implementation of these avoidance procedures would ensure no take of any active nest occurs during construction, and would reduce any potential impacts to migratory birds from vegetation removal activities during construction to a less-than-significant level.

Operation of the proposed project includes use of a gen-tie and power line that could cause avian electrocution or collisions. The electrical lines will be designed in accordance with the Avian Power Line Interaction Committee (APLIC) guidelines and will have avian markers to reduce the risk of electrocution and collision. Because the transmission lines will be designed in

accordance with APLIC guidelines, the impact on migratory birds during facility operation would be less than significant.

5.2.2 Fish

Project construction would involve installation of a new pipeline and bridge crossing IID's R drain and gen-tie line crossing IID R, Q, and P Drains, which provide aquatic habitat for desert pupfish, which is protected under the CESA and ESA. The bridge and pipeline crossing the R drain and gen-tie lines would span the IID Drains. The S-Berm access road has been designed using sheet piles to avoid any impacts within the Drain waters and avoid associated potential impacts on desert pupfish.

The open water area adjacent to the Q Drain could provide suitable habitat for desert pupfish. Construction within the open water area could result in "take" of desert pupfish. A CDFW incidental take permit and USFWS authorization for take of desert pupfish would be required prior to construction in any areas containing suitable habitat for desert pupfish. The CDFW and USFWS take permits will include requirements for avoidance and mitigation of impacts on desert pupfish, including restrictions on the timing of construction activities, approaches to dewatering to avoid or minimize species take, and requirements for habitat compensation to support the species. The impact on desert pupfish would be less than significant due to compliance with the CDFW and USFWS incidental take permits and authorizations.

Project operation would not involve any activities that may directly or indirectly harm fish species. The Project has been designed to avoid discharge to any surface water resources. All drainage from the Project site would be contained within the stormwater retention basins and no stormwater runoff would flow to areas that contain habitat for desert pupfish; therefore, no impact of desert pupfish would occur during operation.

5.2.3 Mammals

The project includes removal of cattails and other vegetation that provide breeding habitat for Yuma hispid cotton rat. Yuma hispid cotton rat could be impacted by construction activities if the species were to occur in the construction area at the time of construction. In addition, construction activities include excavation of trenches and steep walled foundations where cotton rat could become trapped. Because a qualified biologist would be on site to observe all vegetation removal activities and could relocate Yuma hispid cotton rat out of harms way if one were observed in the area the impact from vegetation removal activities would be less than significant. In addition, because open trenches will be covered to avoid cotton rats from becoming trapped and a biologist will observe open excavations daily, the impact of open excavations on cotton rats will be less than significant.

5.3 Sensitive Natural Communities

As discussed in Section 4, the project development area contains desert sink scrub (iodine bush series), a CDFW-designated sensitive natural community. Any ground disturbance, vegetation

removal, or permanent land use conversion from project activities within this vegetation community would be a potentially significant impact. The habitat mitigation plan developed for the project should incorporate in kind compensatory mitigation for desert sink scrub habitats. With appropriate mitigation of desert sink scrub habitat, the impact from construction and operation of the Project on the sensitive natural community would be less than significant.

5.4 Wetlands and Riparian Areas

The project development area contains wetlands and riparian habitats that are potentially subject to RWQCB, CDFW, and USACE jurisdiction. The removal of vegetation and discharge of fill to these wetland and riparian resources from temporary construction activities, or permanent conversion to a developed land use during operation of the proposed project, could be a significant impact. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC will obtain all required USACE, CDFW, and RWQCB permits for impacts to wetlands and riparian areas prior to construction in any jurisdictional wetland or riparian area. The agencies permit processes requires compensatory mitigation for impacts to jurisdictional water resources. Because the Project will comply with all permit requirements, including development of compensatory wetland and riparian mitigation, the impacts on wetlands and riparian areas would be less than significant.

5.5 Wildlife Movement and Nursery Sites

Project construction would occur within a relatively small area of comparatively low habitat quality along the roadside adjacent to the large, contiguous wetlands to the east. Following construction completion, vegetated areas and unvegetated open space would be converted permanently to developed land uses. The conversion of these vegetated unvegetated open space areas would not result in a noteworthy loss of habitat compared to the large contiguous wetlands and open space areas to the north, west, and east, and would not impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their movement or reproduction. The project impacts are collocated adjacent to Davis Road, IID's existing power line, and other infrastructure. As discussed in Section 4.4, the project development area does not contain any wildlife nursery sites. The impact would be less than significant.

5.6 Local Policies and Ordinances

Table 8 shows the goals, objectives, policies, and programs of Imperial County's General Plan as related to preservation of biological resources, along with an analysis of the consistency of the project with these goals.

Table 8 Imperial County General Plan Consistency Analysis

General Plan Goals, Objectives Policies and Policies	Proposed Project Consistent with General Plan?	Justification
Conservation and Open Space Element		
Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.	Yes	Project implementation would comply with all State and federal regulations protecting biological resources, which would include evaluation of resources on site and either avoiding or minimizing impacts on those resources to the extent feasible. Therefore, project implementation would be consistent with this goal.
Objective 1.1: Encourage uses and activities that are compatible with the fragile desert environment and foster conservation.	Yes	Project implementation would not occur within any desert habitats. Therefore, project implementation would be consistent with this goal.
Objective 2.4: Use the CEQA and NEPA process to identify, conserve and restore sensitive vegetation and wildlife resources.	Yes	CEQA review and approval would occur during the planning stages of the project, and no construction activities would occur until the CEQA process has been completed. Therefore, project implementation would be consistent with this goal.
Objective 2.6: Attempt to identify, reduce, and eliminate all forms of pollution; including air, noise, soil, and water.	Yes	Project implementation would comply with all State and federal regulations minimizing pollution, which would be analyzed and verified during the CEQA review and mitigation monitoring processes. Therefore, project implementation would be consistent with this goal.
Program: Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.	Yes	All necessary consultation and submittal of permit applications would be conducted with the applicable agencies, including CDFW, USFWS, and USACE, before any potential impact on the biological resources under their jurisdictions, including special-status species or Waters of the U.S. Therefore, project implementation would be consistent with this goal.

Source: (Imperial County, 2016)

In accordance with to the consistency analysis provided in Table 8, the proposed project is not anticipated to conflict with the Imperial County General Plan. There are no other local policies or ordinances protecting biological resources that apply to the proposed project. Therefore, construction and operation of the proposed project is anticipated to have a less-than-significant impact with respect to conflicting with any local policies or ordinances protecting biological resources. However, the Imperial County Board of Supervisors provides the ultimate

determination regarding the proposed project's consistency with the Imperial County General Plan.

5.7 Habitat Conservation Plans

As discussed under Section 3.3, the project development area is not located within the coverage area of any adopted HCPs, NCCPs, or other approved local, regional, or state habitat conservation plan. Therefore, construction and operation of the proposed project is anticipated to have no impact with respect to conflicting with such a plan.

5.8 Recommended Mitigation Measures

The following measures are recommended to avoid or minimize impacts on biological resources. All impacts on biological resources would be less than significant with implementation of these recommended measures.

5.8.1 General Environmental Protection Measures

Bio-1. Designated Biologist: At least 15 days prior to start of construction (any ground disturbing activity), the contractor will submit the name(s) and résumés of Designated Biologist(s) to the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). No ground-disturbing activities will begin until proponents have received written approval from the USFWS and CDFW that the biologists are approved to conduct the work. The approval, if granted, will be provided in 15 (calendar) days. The designated biologist must have experience with identifying Yuma Ridgway's rail and black rail (by sight and by call) and desert pupfish during all distinct life stages, implementing conservation and other avoidance and minimization measures for these species, and interacting with contractors and construction workers to ensure these measures are enforced. The designated biologist must also have experience with capturing, handling, and relocating desert pupfish.

The Designated Biologist will be employed during construction and all vegetation removal and ground-disturbing activities. Each successive Designated Biologist will be approved by the USFWS and CDFW. The Designated Biologist will have the authority to ensure compliance with all measures in this biological opinion and will be the primary agency contact for the implementation of these measures. The Designated Biologist will have the authority and responsibility to halt any Project activities that are in violation of the terms and conditions of the Project biological opinion(s) or incidental take permit, as appropriate.

Bio-2. Biological Monitors: Biological monitor(s) will be employed to assist the Designated Biologist in conducting preconstruction surveys and monitoring ground disturbance, grading, construction, decommissioning, and restoration activities. The biological monitor(s) will have sufficient education and field experience to understand resident wildlife species biology. The Designated Biologist will submit a résumé, at least three references, and contact information for

each prospective biological monitor to the USFWS and CDFW for approval. To avoid and minimize effects to biological resources, the biological monitor(s) will assist the Designated Biologist with the following:

- Conduct inspections for listed species during ground-disturbing construction activities and ensure that habitat within the construction zone is not occupied by Yuma Ridgway's rail or desert pupfish.
- Ensure compliance with all conservation measures, including but not limited to monitoring for presence of listed species; halting construction activity in the area if an individual listed species is found; and checking the staking/flagging of all disturbance areas to be sure that they are intact and that all construction activities are being kept within the staked/flagged limits. If a Yuma Ridgway's rail or desert pupfish is found within a work area, the Biological Monitor(s) will immediately notify the Designated Biologist, who will determine measures to be taken to ensure that the individual is not harmed, such as temporarily halting construction.

Bio-3. Worker Environmental Awareness Program Training: A Worker Environmental Awareness Program will be implemented for construction crews prior to the commencement of Project activities. Training materials and briefings will include, but not be limited to, discussion of the federal and State statutes protecting threatened and endangered species, the consequence of noncompliance with these statutes, identification of values of wildlife and natural plant communities, hazardous substance spill prevention and containment measures, and review of all required conservation measures.

Bio-4. Flagging of Work Area Limits: All areas to be disturbed by the Project will be flagged prior to construction. All disturbance will be confined to these flagged areas, and all employees will be instructed that their activities must be confined to locations within the flagged areas.

Bio-5. Power Wash Equipment: All equipment used during construction of the Project will be required to be power washed prior to arrival at the Project site to prevent the transportation and establishment of noxious weeds in the area.

Bio-6. Sediment and Erosion Control: The Project proponent will acquire the appropriate Clean Water Act regulatory permits, prepare a Stormwater Pollution and Prevention Plan (SWPPP), and implement BMPs prior to construction and site restoration. The SWPPP will identify specific actions and BMPs relating to the prevention of stormwater pollution from Project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP reflects localized surface hydrological conditions and will be reviewed by the Service prior to commencement of work. A SWPPP will be a condition of the contract with each contractor selected to build and decommission the project. The SWPPP(s) at a minimum will incorporate soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching), dewatering and/or flow diversion practices, sediment control practices (temporary sediment basins, fiber rolls), temporary and post-construction onsite and offsite runoff controls, and special considerations and BMPs for water crossings, wetlands, and drainages.

The SWPPP will be prepared by a qualified SWPPP practitioner with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs is placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. Performance and effectiveness of these BMPs are determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination (inadvertent petroleum release) is required to determine adequacy of the measure.

Bio-7. Solid Waste Management: Solid waste will be properly contained in designated collection areas on site and regularly disposed of.

5.8.2 Desert Pupfish Measures

Bio-8. Desert Pupfish Protection and Relocation Plan: A desert pupfish protection and relocation plan will be prepared prior to construction activities in any suitable habitat for desert pupfish . Its implementation will ensure construction in the drain mouths and channels will be conducted with minimal effects on desert pupfish. The plan will provide the following:

- Avoidance of construction activities within suitable habitat for desert pupfish during the desert pupfish spawning season (April to October).
- Protocols for preconstruction surveys to assess species presence and spawning within or immediately adjacent to work areas (i.e., areas with ponded water).
- Protocols for capture (e.g., trapping for construction) and transport methods that will minimize handling and stress as well as exposure to heat, low dissolve oxygen, and crowding.
- Identification of locations for release of captured desert pupfish.

5.8.3 Yuma Ridgway's Rail Measures, Black Rail, and Other Marsh Bird Measures

Bio-9. Construction Timing: Construction activities within habitat for Yuma Ridgway's rail (i.e., cattail marsh) will be scheduled to avoid the nesting and molting flightless season (i.e., February 15 – September 15). Pile driving activities adjacent to Yuma Ridgway's rail habitat will avoid Yuma Ridgway's rail nesting season.

Bio-10. Pre-Construction Surveys and Construction Monitoring for Yuma Ridgway's Rail and Black Rail: Pre-construction surveys for Yuma Ridgway's rail and black rail and construction monitoring will be conducted by the USFWS and CDFW approved biologist(s) within all Project areas within suitable habitat and a 500-foot buffer from suitable habitat. In the event that Yuma Ridgway's rail(s) or black rail(s) are detected within the work area (the area of active equipment use), all construction activities in the area will halt and the USFWS and CDFW will be notified no later than noon of the next business day. Project activities in the area may not proceed until the birds have left the work area. The Service and CDFW will also be notified if any Yuma Ridgway's rail are detected within 500 feet of the construction area. Project activities may proceed with caution in this buffer area under the direction of the Designated Biologist.

Bio-11. Reduced Vehicle Speed Adjacent to Rail Habitat: Vehicle speeds will be reduced to 15 mph on access roads adjacent to Yuma Ridgway's rail habitat. These areas will be appropriately signed to identify the speed limit.

Bio-12. Noise Attenuation: The following noise attenuation measures will be implemented to minimize noise impacts on Yuma Ridgway's rail during the nesting season:

- At least 30 days prior to activities within 500 feet of Yuma Ridgway's rail habitat, the Applicant will conduct a noise study to evaluate the maximum predicted noise level within rail habitat.
- If the maximum predicted noise is less than 60 A-weighted decibel scale (dBA) equivalent continuous sound level (Leq), no additional measures are required.
- If the maximum predicted noise level exceeds 60 dBA Leq in rail habitat, noise attenuation measures such as noise walls or hay bales will be installed between the noise source and the suitable habitat. Noise monitors will be installed at the edge of the nearest Yuma Ridgway's rail habitat to assess the noise levels and verify that attenuation measures are successful. If necessary, additional noise reduction measures will be implemented to reduce the noise level to below 60 dBA at the edge of occupied habitat.

Bio-13. Habitat Conservation: To offset the loss of Yuma Ridgway's rail habitat, the Project proponent will preserve, create, or enhance habitat near the Project site for Yuma Ridgway's rail. The Project proponent will provide funding for construction and long-term management of the created habitat and will provide financial assurance for the construction of the wetland habitat in the form of performance bonds, escrow accounts, casualty insurance, or letters of credit. The performance bond, escrow account, casualty insurance, or letter of credit shall be of sufficient value to cover all construction, monitoring and reporting costs until the habitat is fully established. The financial assurance shall be in place prior to ground disturbance.

Long-term management funding will be provided sufficient to cover, at a minimum, the management costs related to procurement of water from IID, weed control, levee and control structure maintenance, and control structure repair or replacement. The Applicant will prepare a detailed Habitat Enhancement Mitigation and Mitigation Monitoring Plan for review and approval by the USFWS, Corps, and CDFW prior to Project construction. Habitat creation activities will be conducted outside of the bird breeding season (February 15 – September 15) to avoid potential noise impacts on Yuma Ridgway's rail.

5.8.4 Burrowing Owl Measure

Bio-14. Burrowing Owl. A pre-construction survey will be conducted for burrowing owls. The survey will be conducted during peak activity period (one hour before to two hours after sunrise or two hours before to one hour after sunset) no more than 14 days prior to the start of construction and within 500 feet surrounding the construction area. If owls are located during the pre-construction survey between February 1 and August 31 (nesting season), a buffer area will be established according to the guidelines in the 2012 Staff Report. A modified buffer

reduction may be used with CDFW concurrence. If burrowing owls are located during the non-breeding season, owls may be passively relocated in coordination with CDFW, by a qualified biologist according to the procedures outlined in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are found on site during pre-construction surveys, the Project proponent shall contact CDFW to prepare a plan of action for buffers or passive relocation.

5.8.5 Nesting and Migratory Bird Measures

Bio-15. Lighting. Except as necessary for safety or security purposes, no lighting shall be allowed to impact wetland or riparian habitats.

Bio-16. Nesting Bird Plan. A Nesting Bird Plan will be prepared that defines procedures for avoidance of nesting birds during project construction. The project will be scheduled to start construction activities outside the nesting season (February 1 through August 31), to the extent feasible. In the event that construction has to start during the nesting season, a qualified biologist will conduct surveys of the project area no more than 72 hours before any ground disturbance. If an active nest is observed in the project area, the qualified biologist will employ appropriate procedures for nest avoidance, and construction activities will not begin in the area of the active nest until all nesting activities have ceased and the young have fledged the nest.

Bio-17. Bird Flight Diverters. Bird flight diverters will be installed on any new transmission and power lines serving the project, to limit bird mortality associated with introducing new transmission lines in bird flyways. Flight diverters make transmission lines more visible to birds. The transmission and power lines will be designed to meet Avian Power Line Interaction Committee (APLIC) guidelines.

5.8.6 Mammal Mitigation Measure

Bio-18. Excavation Areas. Any open trench or excavated area shall be securely covered anytime project activities within the excavated/trenched rea have ceased. The designated biologist shall oversee the covering of all excavated, steep-walled holes or trenches by placing plywood or other barrier materials such that animals are unable to enter and become entrapped. The use of temporary fencing around the perimeter or trenches or holes may be an acceptable minimization measure, if deemed appropriate by the biological monitor. Before holes or trenches are filled, the Biological Monitors shall thoroughly inspect the areas for trapped animals. If any worker discovers that any animal has become trapped, they shall halt Project-related activities and notify the biological monitor immediately.

5.8.7 Wetlands and Riparian Areas

Bio-19. Wetland and Riparian Area Restoration/Compensation. The project will provide restoration/compensation for all unavoidable impacts on areas under the jurisdiction of USACE, RWQCB, and CDFW. Impacts on jurisdictional areas will be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible, the project applicant will provide the necessary mitigation required as part of wetland permitting, by creation, restoration, or preservation of suitable jurisdictional or equivalent habitat along with adequate buffers to

protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation will be determined in consultation with USACE, CDFW, and/or RWQCB as part of the wetland permitting process. Mitigation ratios will be developed through consultation with the permitting agencies.

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Attachment A Special Status Species Potential to Occur

Appendix A Special-Status Species Potential to Occur

Panorama conducted queries of the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS), and IPaC on February 17, 2021, for the 9 U.S. Geological Survey 7.5-minute quadrangles centered around the project development area (centered around the Niland quadrangle). Species of known public interest in the project development area were also reviewed. Panorama evaluated all special-status plant and wildlife species that were present in the database queries for their potential to occur in the project development area. For the purpose of this review, special-status species include:

- Species federally designated as "endangered," "threatened," or "candidate" by the U.S. Fish and Wildlife Service (USFWS) and protected under the federal Endangered Species Act (ESA).
- Species designated as "endangered," "threatened," "candidate," "species of special concern," "fully protected," or "watch list" at the State level by the California Department of Fish and Wildlife (CDFW) and protected under the California Endangered Species Act (CESA) or California Fish and Game Code (CFGC).
- Plant species identified on lists 1A, 1B, and 2 in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California, which are considered rare, threatened, or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines.

Plant Species

Scientific Name Common Name	Status	Habitat Requirements	Potential for Occurrence
Abronia villosa var. aurita chaparral sand-verbena	1B.1	Inhabits sandy soils in chaparral, coastal scrub, and desert dunes habitats.	**Presumed Absent:** No suitable habitat in the project development area.
Astragalus insularis var. harwoodii Harwood's milk-vetch	2B.2	Inhabits dunes, particularly associated with the creosote brush scrub community.	**Presumed Absent:** No suitable habitat in the project development area.
Astragalus magdalenae var. peirsonii Peirson's milk-vetch	FT, SE, 1B.2	Known from Algodones Dunes in Imperial County, California and the Gran Desierto of northwestern Sonora, Mexico. Grows in open sand of intact, active windblown sand dunes at Algodones Dunes.	**Presumed Absent:** No suitable habitat in project development area, and outside the known range for the species.
Astragalus sabulonum gravel milk-vetch	2B.2	Inhabits dunes, particularly associated with the creosote brush scrub community.	**Presumed Absent:** No suitable habitat in the project development area.
Cladium californicum California sawgrass	2B.2	Found in marshes, alkali sinks, and wetlands, including riparian wetlands. Most commonly found in alkaline soils.	**Low:** Potentially suitable habitat is present in the project development area; however, at the Salton Sea the species is only known to occur along the northern shoreline. The nearest CNDDB occurrences are approximately 23 miles northwest of project development area.
Cylindropuntia munzii Munz's cholla	1B.3	Inhabits sandy or gravelly soils in the Sonoran Desert scrub community. Range includes hot deserts of Baja California and far southwest California, in such places as the foothills of the Chocolate and Chuckwalla Mountains.	**Presumed Absent:** No suitable habitat in the project development area.
Ditaxis claryana glandular ditaxis	2B.2	Inhabits sandy soils in desert habitats, including the Sonoran Desert scrub and Mojavean Desert scrub communities.	**Presumed Absent:** No suitable habitat in the project development area.

Scientific Name Common Name	Status	Habitat Requirements	Potential for Occurrence
Euphorbia abramsiana Abrams' spurge	2B.2	Inhabits sandy soils in desert habitats, including the Sonoran Desert scrub, Mojavean Desert scrub, and Creosote Bush Scrub communities.	**Presumed Absent:** No suitable habitat in the project development area.
Salvia greatae Orocopia sage	1B.3	Grows in Sonoran Desert ecoregion habitats, on floodplains and along the edges of washes. Range includes the mountainous Colorado Desert of southern Riverside and northern Imperial Counties, mainly in the Orocopia and Chocolate Mountains.	**Presumed Absent:** The project site is outside the known range for this species.

Wildlife Species

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Amphibians			
Incilius alvarius Sonoran desert toad	SSC	Inhabits arid mesquite and creosote bush lowlands and arid grasslands, as well as oak, sycamore, and walnut groves in mountain canyons.	**Presumed Absent:** No suitable habitat in project development area.
Lithobates yavapaiensis lowland leopard frog	SSC	Inhabits rocky streams in canyon habitats surrounded by conifer forests or ponds and stream pools, usually in areas of scrub desert.	**Presumed Absent:** No suitable habitat in project development area.
Scaphiopus couchii Couch's spadefoot	SSC	Found underground or in rodent burrows within arid and semi-arid shrublands, shortgrass plains, mesquite savanna, creosote bush desert, thorn forest, cultivated areas, and tropical deciduous forest (Mexico).	**Presumed Absent:** No suitable habitat in project development area.

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Birds			
Accipiter cooperii Cooper's hawk	WL	Primarily inhabits forest and woodland habitats, including suburban areas with trees.	**Presumed Absent:** No suitable habitat in project development area.
Accipiter striatus sharp-shinned hawk	WL	Primarily inhabits forest and woodland habitats, including suburban areas with trees.	**Presumed Absent:** No suitable habitat in project development area.
Aquila chrysaetos golden eagle	FP, WL	Inhabits open areas around mountains, hills, and cliffs, including tundra, shrublands, grasslands, coniferous forests, farmland, and areas along rivers and streams.	**Low:** Marginal foraging habitat in the project development area.
Asio flammeus short-eared owl	SSC	Habitat includes grasslands, marshes and swamps, meadows, seeps, and wetlands.	**Moderate:** Suitable habitat present is present in the riparian scrub and cattail marsh vegetation communities located in the project development area and, and a CNDDB occurrence approximately 13 miles south of project development area.
Athene cunicularia burrowing owl	SSC	Found primarily in grasslands and along irrigation banks adjacent to intensive agriculture, in expansive grasslands, and in small patches of grassland surrounded by urban development.	**High:** Potentially suitable habitat within the project development area is limited to the disturbed berms lining the roads and irrigation drains. In 2016, TRC Solutions, Inc. detected indicators of species presence adjacent to the project development area along IID's Q drain. No indicators of species presence were observed during a survey of CTR's geothermal lease area, which includes the project development area, in 2018.
Charadrius montanus mountain plover	SSC	A wintering resident in southern California; primarily associated with short grasslands, including overgrazed pastures and very arid plains. Winter habitats include desert flats and plowed fields.	**Low:** Marginal habitat is present in the project development area, as the vegetation communities within the project development area do not support any grasses. CNDDB occurrences are present within one mile of the project development area

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Charadrius nivosus nivosus western snowy plover (interior population)	SSC[a]	In the interior of California, Snowy Plovers breed on barren to sparsely vegetated flats and along shores of alkaline and saline lakes, reservoirs, ponds, braided river channels, agricultural wastewater ponds, and salt evaporation ponds.	**Moderate:** Potentially suitable habitat is present in the salt pan vegetation communities in the project development area. A large, non-specific area along the Salton Sea shoreline was mapped as a CNDDB occurrence for the species in 1999, which overlaps with the western side of the project development area. The Salton Sea has receded by approximately 1 mile since that occurrence was mapped.
Chlidonias niger black tern	SSC	Inhabits freshwater marshes and lakes in the summer and tropical coastal areas in the winter.	**Presumed Absent:** No suitable habitat in project development area.
Circus hudsonius northern harrier	SSC	Inhabits open, vegetated habitats including prairie grasslands, fields, and marshes. Nests on the ground in dense clumps of vegetation, primarily grasses, but which can also include willows, sedges, reeds, bulrushes, and cattails.	**Moderate:** Potential foraging habitat is present in the project development area; unmapped CNDDB occurrence within the same quad as the project development area. The vegetated riparian scrub and cattail marsh vegetation communities in the project development area are suitable.
Elanus leucurus white-tailed kite	FP	Inhabits savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nests in trees, often near marshes.	**Moderate:** Foraging habitat is present in the project development area. The cattail marsh vegetation community provides suitable nesting habitat.
Empidonax traillii willow flycatcher	SE	Inhabits dense willow stands, often in broad, open river valleys or large mountain meadows.	**Presumed Absent:** No suitable habitat present in the project development area.
Empidonax traillii extimus southwestern willow flycatcher	FE, SE	Inhabits riparian woodlands along streams and rivers with mature, dense stands of willows, cottonwoods or smaller spring fed or boggy areas with willows or alders.	**Presumed Absent:** No suitable habitat present in the project development area.

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Falco columbarius merlin	WL	Found in a variety of habitats including marshes, deserts, seacoasts, near coastal lakes and lagoons, open woodlands, and fields. Nests in conifer woodland or wooded prairie, often near water.	**Moderate:** Foraging and nesting habitat is present in the cattail marsh and riparian scrub habitats in the project development area. A CNDDB occurrence was documented approximately 2 miles north of the project development area.
Falco peregrinus anatum American peregrine falcon	FP	Breeds in open landscapes with cliffs (or skyscrapers) for nest sites, and inhabit open habitats including along barrier islands, mudflats, coastlines, lake edges, and mountain chains during the non-breeding season.	**Moderate:** Foraging and nesting habitat is present in the cattail marsh and riparian scrub habitats in the project development area. Unmapped CNDDB occurrence within the same quad as the project development area.
Gelochelidon nilotica gull-billed tern	SSC	Inhabits coastlines, marshes, estuaries, lagoons, plowed fields, and less frequently along rivers, around lakes, and in freshwater marshes.	**Moderate:** Foraging and nesting habitat is present in the open water, cattail marsh, and riparian scrub habitats in the project development area.
Hydrobates melania black storm-petrel	SSC	A pelagic species that nests on rocky islands and spends the rest of the year on the open ocean.	**Presumed Absent:** No suitable habitat in the project development area. Three unmapped CNDDB occurrences are documented in the project region by the Salton Sea, including one within the same quad as the project development area. However, the project region is outside the usual range for the pelagic species. Pelagic birds are occasionally found at the Salton Sea, and the sea has receded substantially since the documented occurrences of the species.
Icteria virens yellow-breasted chat	SSC	Nests in bushes, briar tangles, vines, and low trees, generally in dense vegetation less than 6 feet above ground.	**Presumed Absent:** No suitable habitat present in project development area. Inhabits shrubland/chaparral and hardwood woodland.
Ixobrychus exilis least bittern	SSC	Inhabits freshwater or brackish marshes with tall grasses, cattails, and reeds.	**High/Present:** Suitable habitat occurs in the cattail marsh and riparian vegetation communities. USFWS detected the species west of the project development area in 2019.

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Junco hyemalis caniceps gray-headed junco	WL	Primarily inhabits forest and woodland habitats, including suburban areas with trees.	**Presumed Absent:** No suitable habitat in project development area.
Lanius ludovicianus loggerhead shrike	SSC	Inhabits open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. Frequents agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses and cemeteries.	**Low:** Marginal foraging habitat present in the project development area. No breeding habitat present in the project development area.
Larus californicus California gull	WL	Nests inland on open sandy or gravelly areas on islands or along shores of lakes and ponds, generally with scattered grasses.	**Low:** Marginal quality foraging habitat present in the project development area. No breeding habitat present in the project development area. TRC Solutions, Inc. observed the species near the Salton Sea west of the project development area in 2016.
Laterallus jamaicensis coturniculus black rail	ST, FP	Found in various habitats, from high coastal marshes to freshwater marshes along the lower Colorado River. Nests in or along edge of marsh, usually in site hidden in low vegetation, sometimes on damp ground.	**High/Present:** Suitable habitat is present in the cattail marsh, open water, and riparian scrub areas of the project development area. USFWS detected the species at that location in 2017, 2018, and 2019.
Leucophaeus atricilla laughing gull	WL	Found in marshes, coastal bays, piers, beaches, and the ocean.	**Low:** No salt marsh or beach habitat occurs in the area. An unmapped CNDDB occurrence is documented within the same quad as the project development area, but the occurrence dates to a period when the Salton Sea was at a higher elevation and within the development area.
Melanerpes uropygialis Gila woodpecker	SE	Inhabits desert, shrubland/chaparral, dry subtropical forests, riparian woodlands, and plantations.	**Presumed Absent:** Occurs primarily on ranchlands in Brawley and forages on fruit or food scraps. No suitable habitat in the project development area

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Mycteria americana wood stork	SSC	Found in fresh and brackish wetlands, swamps, ponds, and marshes.	**High:** The riparian scrub, open water, and cattail marsh in the project development area are suitable habitat. An unmapped CNDDB occurrence is documented within the same quad as the project development area.
Numenius americanus long-billed curlew	WL	Inhabits grasslands with sparse-short grasses and agricultural fields. Winters in wetlands, tidal estuaries, mudflats, flooded fields, and beaches.	**Low:** Marginal habitat is present in the project development area, as the vegetation communities within the project development area do not support any grasses. An unmapped CNDDB occurrence is documented within the same quad as the project development area. The agricultural areas east of the project development area provide suitable habitat.
Pandion haliaetus osprey	WL	An uncommon breeder along southern Colorado River. Associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats found near oceans, rivers, lakes, mangroves, coastal wetlands, lagoons, reefs, estuaries and marshes.	**Presumed Absent:** No suitable habitat occurs in the project development area. An unmapped CNDDB occurrence is documented within the same quad as the project development area.
Passerculus sandwichensis rostratus large-billed savannah sparrow	SSC	Breeds in salt marshes and disperses widely to coastal winter sites.	**Moderate:** Marginal quality habitat is present in the non-native riparian scrub and cattail marsh vegetation communities in the project development area. No salt marsh habitat occurs int eh area. An unmapped CNDDB occurrence is documented within the same quad as the project development area.
Pelecanus erythrorhynchos American white pelican	SSC	Habitat includes rivers, lakes, reservoirs, estuaries, bays, and open marshes, sometimes inshore marine habitats. Nests on islands and peninsulas.	**Presumed Absent:** No suitable habitat present in the project development area. TRC Solutions, Inc. observed the species at the Salton Sea in 2018.

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Pelecanus occidentalis californicus California brown pelican	FP	Generally associated with estuarine, marine subtidal, and pelagic waters; however, a population is known to occur at the Salton Sea.	**Presumed Absent:** No suitable habitat present in the project development area. CNDDB occurrence from 2004 within the project development area, since that time the Salton Sea shoreline has receded significantly to the west.
Phalacrocorax auritus double-crested cormorant	WL	The most widespread cormorant in North America, and inhabits a variety of aquatic habitats including coasts, bays, lakes, rivers, swamps, and ponds.	**Presumed Absent:** No suitable habitat present in the project development area. an unmapped CNDDB occurrence is documented within the same quad as the project development area.
Plegadis chihi white-faced ibis	WL	Found in marshes, swamps, ponds and rivers, mostly in freshwater habitats (tropical to temperate zones). Nests in marshes; in low tree, on the ground in bulrushes or reeds, or on a floating mat.	**Present:** Suitable habitat is present in the project development area within open water areas, cattail marsh, and the vegetated riparian scrub, which consists primarily of non-native reed, tamarisk, and cattails. TRC Solutions observed the species in the project development area in 2016.
Polioptila melanura black-tailed gnatcatcher	WL	Inhabits tall riparian vegetation in washes; also found in desert brush and scrub. Nests in bushes, 60-90 cm above ground.	**Low:** Limited habitat present; CNDDB occurrence 6.5 miles southeast of project development area.
Rallus obsoletus yumanensis Yuma Ridgway's rail	FE, ST, FP	Inhabits freshwater and alkali marshes containing dense stands of cattails and bulrushes. Nests on dry hummocks or in small shrubs along the edges of shallow ponds.	**Present:** Suitable habitat is present in the project development area; the vegetated riparian scrub in the project development area consists primarily of non-native reed, tamarisk, and cattails and may provide suitable habitat to support the species. Cattail marsh areas within the project development area is suitable nesting habitat. Open water areas provide suitable foraging habitat. USFWS detected the species in the marsh area to the west of the project development area in 2014, 2017, 2018, and 2019.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Rynchops niger black skimmer	SSC	Generally inhabits coastal areas around sandy beaches and islands, although a few colonies are found in inland locations with very large lakes.	**Presumed Absent:** No suitable habitat present in the project development area; CNDDB occurrence at Mullet Island approximately one mile west of the project development area.
Setophaga petechia yellow warbler	SSC	Habitat includes open scrub, second- growth woodland, thickets, farmlands, and gardens, especially near water, as well as riparian woodlands. Nests are placed in upright forks or crotches of bushes, saplings, or large trees.	**Moderate:** Suitable nesting and foraging habitat is present within the non-native riparian scrub vegetation communities and cattail marsh areas in the project development area. A CNDDB occurrence from 1952 is documented in the project vicinity.
Sternula antillarum browni California least tern	FE, SE, FP	Typically inhabits coastal areas, and nests on open beaches free of vegetation.	**Presumed Absent:** No suitable habitat present in the project development area; unmapped CNDDB occurrence in neighboring quads, 3 miles from the project development area.
Toxostoma crissale Crissal thrasher	SSC	Found in desert scrub, mesquite, tall riparian brush and, chaparral; usually beneath dense cover. Nests in low tree or shrub.	**Low:** Vegetation communities in the project development area do not include suitable nesting habitat (no trees). CNDDB occurrence from 1969 at the Salton Sea Wildlife Refuge southwest of project development area.
Toxostoma lecontei Le Conte's thrasher	SSC	Inhabits low, sandy, open deserts that are home to few other bird species. Over most of their range, saltbush, shadscale, cholla cactus, creosote, yucca, mesquite, and ocotillo are common plants, but they are usually sparsely distributed in these mostly flat or rolling landscapes.	**Presumed Absent:** The project development area does not provide large, open expanses of desert necessary for the species. CNDDB occurrence approximately 4 miles southwest of the project development area.
Vireo bellii pusillus least Bell's vireo	FE, SE	Breeds in willow-dominated riparian areas but can occupy a variety of habitats during the non-breeding season, including mesquite scrub within arroyos, palm groves, and hedgerows bordering agricultural and residential areas.	**Presumed Absent:** No suitable willow habitat present in the project development area. An unmapped CNDDB occurrence is documented within the same quad as the project development area.

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Xanthocephalus xanthocephalus yellow-headed blackbird	SSC	Breeds in wetlands in prairies, mountain meadows, quaking aspen parklands, and shallow areas of marshes, ponds, and rivers. Nests in cattails, bulrushes, or reeds.	**Moderate:** Suitable habitat occurs in the cattail marsh and riparian scrub vegetation communities in the project development area. An unmapped CNDDB occurrence is documented in a neighboring quad a minimum of 8 miles southwest of the project development area.
Fish			
Cyprinodon macularius desert pupfish	FE, SE	Inhabits desert springs and outflow marshes, river-edge marshes, lakes, backwaters, saline pools, and stream pools; can tolerate high salinity.	**Present:** Suitable habitat is present within the open waters of IID's irrigation canals in the project development area. The species was observed in IID's S drain by a CDFW biologist in 2019.
Xyrauchen texanus razorback sucker	FE, SE, FP	According to CDFW's Incidental Take Permit No. 2081-2003-024-006 2003, the population of razorback sucker is limited to the All American and East Highline Canal systems as well as a reservoir near Niland. The population is considered a remnant population with limited. Associated with sand, mud, and rock substrate in areas with sparse aquatic vegetation, where temperatures are moderate to warm.	**Presumed Absent:** CNDDB occurrence from 1949 in the Alamo River approximately 0.8 mile southwest of Hudson Ranch Substation. The most recent CNDDB occurrence within 5 miles of the project development area is from 1994. The species requires freshwater rivers and streams with depths of 4 to 10 feet. None of the waterbodies in the project area have a depth of 4 feet or more.
Mammals			
Antrozous pallidus pallid bat	SSC	Inhabits habitats that are open and semi-arid, including desert scrub, chaparral, woodlands, and coastal scrub.	**Presumed Absent:** No suitable habitat present in project development area.
Eumops perotis californicus western mastiff bat	SSC	Inhabits habitats that are open and semi-arid, including grasslands, chaparral, woodlands, and coastal scrub.	**Presumed Absent:** No suitable habitat present in project development area.
Lasiurus xanthinus western yellow bat	SSC	Inhabits valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.	**Presumed Absent.** No suitable habitat present in the project development area.

APPENDIX A

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Nyctinomops femorosaccus pocketed free-tailed bat	SSC	Associated with rugged canyons, high cliffs, and rock outcroppings in semiarid landscapes. Roosts in crevices in cliffs, outcrops, slopes, shallow caves, and under building roof tiles.	**Presumed Absent:** No suitable habitat present in project development area.
Ovis canadensis nelsoni desert bighorn sheep	FP	Inhabits remote mountain and desert regions consisting of semi-open, precipitous terrain with rocky slopes, ridges, and cliffs or rugged canyons.	**Presumed Absent.** No suitable habitat present in the project development area.
Sigmodon hispidus eremicus Yuma hispid cotton rat	SSC	Found in agricultural lands, marshes, and riparian habitats.	**Moderate:** Habitat occurs in the riparian scrub and cattail marsh areas within the project development area. CNDDB occurrence 1 mile south of project development area.
Taxidea taxus American badger	SSC	Found in a variety of habitats including desert, shrub, forest, and herbaceous habitats.	**Presumed Absent:** No suitable habitat present in project development area. Inhabits arid, open areas with friable soils for digging.
Reptiles			
Aspidoscelis tigris stejnegeri coastal whiptail	SSC	Inhabits a variety of habitats including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, mixed conifer, pine-juniper, chamise-redshank chaparral, mixed chaparral, desert scrub, desert wash, alkali scrub, and annual grassland.	**Presumed Absent:** No suitable habitat is present in the development area. An unmapped CNDDB occurrence is documented within the same quad as the project development area.
Gopherus agassizii desert tortoise	FT, ST	Inhabits desert scrub habitats, arid sandy washes, and canyon bottoms.	**Presumed Absent:** No suitable habitat in project development area.
Phrynosoma mcallii flat-tailed horned lizard	SSC	Generally found in desert scrub on sandy flats and valleys with little or no windblown sand, as well as on salt flats and gravelly soils.	**Presumed Absent:** No suitable habitat in project development area.

Scientific Name Common Name	Status	Range and Habitat Requirements	Potential for Occurrence
Uma notata Colorado Desert fringe-toed lizard	SSC	Inhabits areas containing fine wind-blown sand dunes, the margins of dry lakebeds, desert washes, and hillsides.	**Presumed Absent:** No suitable habitat is present in the project development area.

[a] The Pacific Coast population of the western snowy plover, defined as those individuals that nest adjacent to tidal waters of the Pacific Ocean, and includes all nesting birds on the mainland coast, peninsulas, offshore islands, adjacent bays, estuaries, and coastal rivers, is federally listed under the Endangered Species Act of 1973 as threatened (USFWS, 2021). The project development area is outside the range of the Pacific Coast population of the species. The interior population of the species is listed by CDFW as a species of special concern (CDFW, 2008).

Source: (CDFW, 2021; CNPS, 2021; U.S. Fish and Wildlife Service, 2021; CDFW, 2021; The Cornell Lab, 2021)

Federal Status Designations:

FE – Federally Listed Endangered

FT – Federally Listed Threatened

California Rare Plant Rank:

1A – Plants Presumed Extinct in California

1B – Plants Rare, Threatened, or Endangered in California and Elsewhere

2 – Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

State Status Designations:

SE – State-listed as Endangered

ST – State-listed as Threatened

SSC – California Department of Fish and Wildlife Species of Special Concern

FP – California Department of Fish and Wildlife Fully Protected Species

WL – California Department of Fish and Wildlife Watch List Species

CNPS Threat Rank (extension to California Rare Plant Rank)

0.1 - Seriously threatened in California

0.2 - Fairly threatened in California

0.3 - Not very threatened in California

References

CDFW. (2021). *California Natural Diversity Database.* Retrieved from https://wildlife.ca.gov/Data/CNDDB

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Attachment B Burrowing Owl Survey Report

HELL'S KITCHEN GEOTHERMAL PROJECT

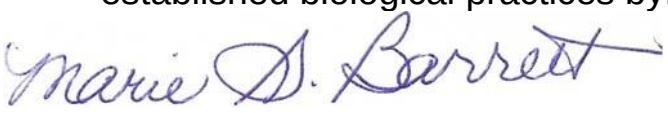
Burrowing Owl Habitat Assessment Survey County of Imperial, California

APRIL, 2018

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CONTENTS

I.	PROJECT DESCRIPTION AND BIOLOGICAL REQUIREMENTS	3
II.	BURROWING OWL HABITAT ASSESSMENT SURVEY	3
	Table 1: Survey Information	
III.	BIOLOGICAL OBSERVATIONS	4
	Table 2: California Native Diversity Database BUOW Locations Iris/Niland/Obsidian Butte/Wister Quadrangles	4
	Table 3: Vegetation	5
	Table 4: Animals/Invertebrates	6
	Table 5: Bird Nests	6

PHOTOGRAPHS
BIOLOGICAL RESOURCE MAP

I. PROJECT DESCRIPTION AND BIOLOGICAL REQUIREMENTS

Controlled Thermal Resources (CTR) is planning a baseload geothermal power plant and minerals extraction facility with possible subsequent phases of resource development on an approximately three square mile lease area within a Known Geothermal Resource Area along the southeast shore of the Salton Sea, Imperial County, California. CTR has obtained development rights for the lease area geothermal resource from the Imperial Irrigation District (IID).

Barrett's Biological Surveys has conducted a burrowing owl (BUOW) habitat assessment field survey of the lease area to conform with requirements of the *Staff Report on Burrowing Owl Mitigation, California Department of Fish and Game (Wildlife),2012.* The results of the survey are provided in this report.

This project will involve construction activities, including grading, removal of dirt ditches, trenching, erection of geothermal equipment, and establishment of an electrical substation and installation of office trailers.

II. BURROWING OWL HABITAT ASSESSMENT SURVEY

On 18 April, 2018, the first survey of the *Staff Report on Burrowing Owl Mitigation, California Department of Fish and Game (Wildlife),2012* (BUOW habitat assessment survey) was conducted by Marie Barrett, Glenna Barrett, Shawna Bishop and Dani Figueroa, biologists, on the Project site, where accessible. Drone pictures of the site were acquired and ground proofed to ascertain BUOW suitable habitat (attached). A 500 foot buffer area was surveyed. This was accomplished by binoculars and drone pictures as buffer area was difficult to access or private property. The project is bordered on all sides by vacant lots, geothermal or Salton Sea.

Table 1: Survey Information

Date	Surveyors	Hours/Surveyor	Total hours/day	Conditions
4/18/17	Glenna Barrett Marie Barrett Shawna Bishop Dani Figueroa	700-1100 4.0 hrs	16.0	55-68°F/clear/- 0-4 mph
		Total hours in field	16.0	

Photographs and a map are attached.

On July 19-24, 2017, BUOW and Migratory Bird Treaty Act (MBTA) surveying and monitoring was done in support of geothermal seismic measurement activities within the freshwater marsh area located to the west of the Q, R, and S Drains. MBTA and BUOW monitoring was performed by biologist Jacob Calanno, Mr. Calanno conducted MBTA

and burrowing owl survey and monitoring activities within the development area for 49.75 hours.

III. BIOLOGICAL OBSERVATIONS

Burrowing Owl

Surveys were conducted to determine the presence/absence of Western Burrowing Owl, *Athene cunicularia hypugaea,* using procedures found in *Staff Report on Burrowing Owl Mitigation, California Department of Fish and Game (Wildlife),2012.*

No burrowing owls, a CDFW species of concern, or active burrows were found within the site or buffer zone of project activities during the BUOW habitat assessment and survey. No BUOW or burrows were observed during the seismic survey and monitoring. Table 2 below provides a summary of burrowing owl occurrences recorded within the quadrangles surrounding the project site. No burrowing owl have been recorded within 500 feet of the project site.

Table 2: California Native Diversity Database BUOW Locations Iris/Niland/Obsidian Butte/Wister Quadrangles

Location	Observation Date	Comments
1. 33.25137/-115.5309	2007	Not within 500 feet of project site
2. 33.24874/-115.5309	2008	Not within 500 feet of project site
3. 33.23690/-115.49723	2007	Not within 500 feet of project site
4. 33.12815/-115.1361	2006	Not within 500 feet of project site
5. 33.17474/-115.61363	2010	Not within 500 feet of project site
6. 33.16974/-115.62636	2006	Not within 500 feet of project site
7. 33.18010/-115.61604	2006	Not within 500 feet of project site
8. 33.18395/-115.5862	2006	Not within 500 feet of project site

No suitable or marginal burrowing owl habitat was observed within the potential project development area. The road network near the project area and Imperial Irrigation District (IID) water conveyance system provide marginally suitable habitat in proximity to the project site. These areas were thoroughly surveyed and no BUOW or burrows were observed.

If the project uses McDonald Road as a haul route, it is noted that BUOWs have been observed along the IID drain adjacent to McDonald Road. It is not expected that

additional traffic would affect any BUOW along McDonald Road as this is an active route for the Energy Source Geothermal Plant.

Incidental Observations

Table 3 provides a list of all vegetation species that were observed on the project site during the burrowing owl surveys. No vegetation was observed that would be considered endangered, threatened or species of concern.

Table 3: Vegetation

Common name	Scientific name	Cal-IPC Rating*
Alkali mallow	*Malvella leprosa*	
Quail bush	*Atriplex lentiformis*	
Bermuda	*Cynodon dactylon*	
Watergrass	*Echinochloa sp.*	
Saltgrass	*Distichlis spicata*	
Rabbits foot grass	*Polypogon monspeliensis*	
Canary grass	*Sonchus oleraceus*	
Curley dock	*Rumex crispus*	
Sowthistle	*Sonchus oleraceus*	
Alkali heliotrope	*Heliotropium curassavicum*	
Alkali weed	*Cressa truxillensis*	
Mesquite	*Prosopis sp.*	
Fan palm	*Washingtonia sp.*	
Saltcedar	*Tamarix sp.*	Ca Noxious Weed Cal-IPC rating: High
Spurge	*Euphorbia spp.*	
Wild oats	*Chasmanthium latifolium*	
Iodine bush	*Allenrolfea occidentali*	
Phragmites	*Phragmites australis*	
5 hook bassia	*Bassia hyssopifolia*	Cal-IPC rating: Limited

*California Invasive Plant Council definitions:

- **High** – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
- **Moderate** – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
- **Limited** – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
- **Alert** – An Alert is listed on species with High or Moderate impacts that have limited distribution in California, but may have the potential to spread much further.
- **Watch** – These species have been assessed as posing a high risk of becoming invasive in the future in California.

Table 4: Animals/Invertebrates

Common name	Scientific name
American coot	*Fulica americana*
Avocet	*Recurvirostra americana*
Black phoebe	*Sayornis nigricans*
Blue heron	*Ardea herodias*
Black necked stilt	*Himantopus mexicanus mexicanus,*
Cattle egret	*Bubulcus ibis*
Cliff swallow	*Petrochelidon pyrrhonota*
Snowy egret	*Egretta thula*
White Egret	*Ardea alba*
Grackle	*Quiscalus mexicanus*
Long billed curlew	*Numenius americanus*
Western Kingbird	*Tyrannus verticalis*
Mallards	*Anas platyrhynchos*
White chinned sparrow	*Zonotrichia albicollis*
Mourning dove	*Zenaida macroura*
Common bee	*Aphis spp.*
Ants	*various*
Ant lion	*Myrmeleon spp.*
Dragonfly	*various*
Coyote	*Canis latrans*
Desert cottontail	*Sylvilagus audubonii*

Other Migratory Birds

Four abandoned unidentified avian nests were observed. Results are documented in Table 5 and on attached map.

Table 5: Unidentifed Bird Nests Found During Seismic Monitoring Within Marshy Areas

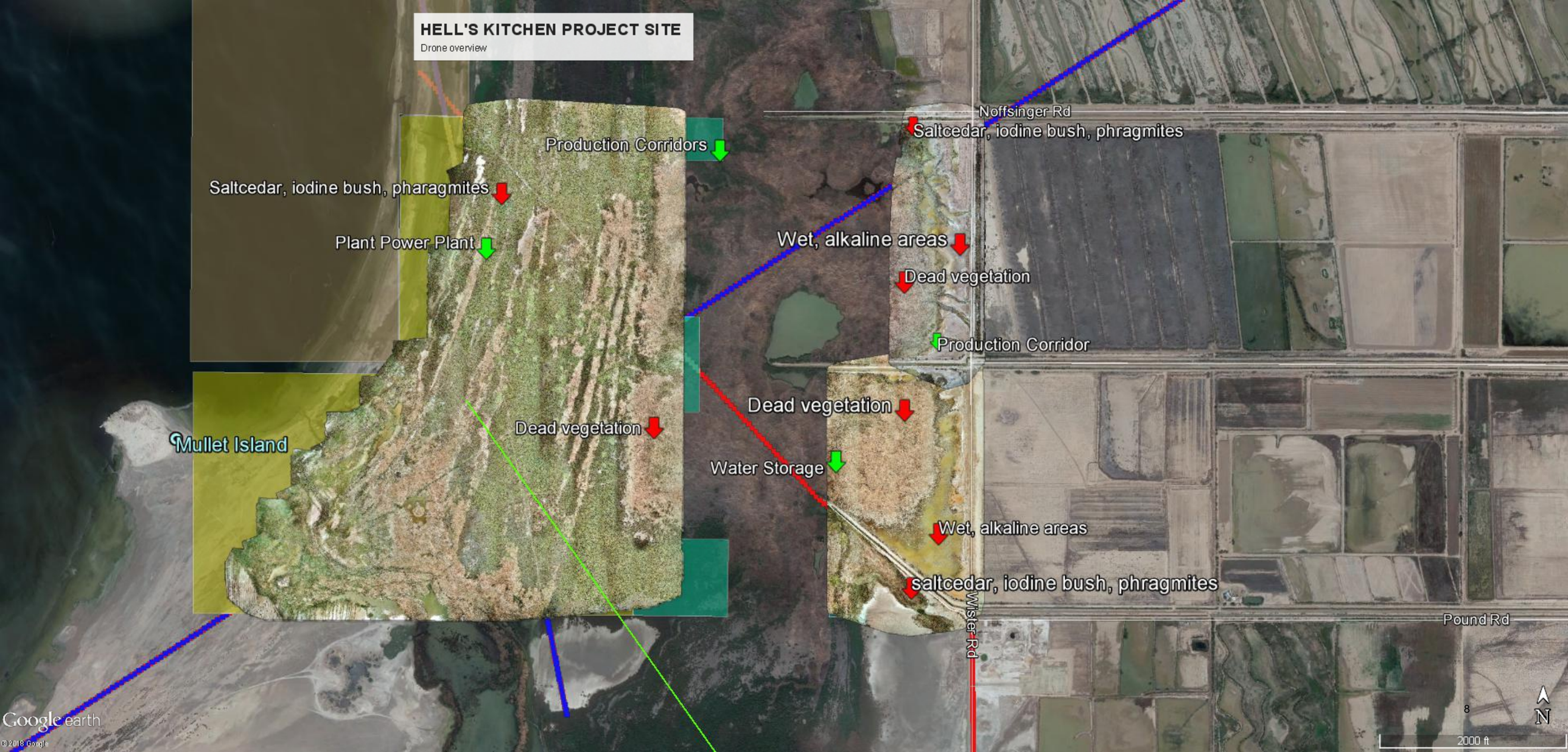
Location	Observation	Vegetation
33°14’7.5”/115°34’37.6”	1 empty nest	cattails
33°13’59.2”/115°34’54.0”	1 empty nest	saltcedar
33°13’29.8”/115°35’11.9”	1 empty nest	saltcedar
33°13’22.5”/115°36’01.6”	1 empty nest	cattail

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IV. CONCLUSION

This survey was conducted during the prime nesting season for BUOW. No BUOW or BUOW burrows were observed and the habitat within the project site was determined not suitable for BUOW burrowing by a combination of surveying and drone observations. It is recommended that no future BUOW surveys would be required.

MAPS


HELL'S KITCHEN PROJECT SITE
Drone overview
Production Corridors
Saltcedar, iodine bush, pharagmites
Plant Power Plant
Mullet Island
Dead vegetation
Noffsinger Rd
Saltcedar, iodine bush, phragmites
Wet, alkaline areas
Dead vegetation
Production Corridor
Dead vegetation
Water Storage
Wet, alkaline areas
saltcedar, iodine bush, phragmites
Wister Rd
Pound Rd
Google earth
©2018 Google
8
N
2000 ft


Pound Rd
Alkaline, barren areas
HELL'S KITCHEN PROJECT SITE
Drone overview
Hazard Rd
Transmisison Line A
Davis Road
Duck clubs
alkaline, barren areas
Geothermal well
McDonald Road
Wister Road
Wister Rd
Hudson Ranch Geothermal Plant
Red Hill Rd
Google earth
9
N
2000 ft

PHOTOGRAPHS

PHOTOGRAPHS



1. Eastern boundary of site; saturated with water; vegetation includes iodine: not BUOW foraging or burrowing habitat; looking southwest



2.Typical vegetation and alkaline soil found on site looking southwest: not BUOW foraging or burrowing habitat; looking southwest



3. Saltcedar and iodine bush: not BUOW foraging or burrowing habitat; looking southwest



4. Saltcedar with phragmites in background: not BUOW foraging or burrowing habitat; looking southwest



5. Typical vegetation and wet conditions found within project site: not BUOW foraging or burrowing habitat; looking west



6. Rabbitsfoot grass found on project site: not BUOW foraging or burrowing habitat; looking southwest



7. Phragmites and saltcedar found on project site: not BUOW foraging or burrowing habitat; looking west



8. Intersection of McDonald and Davis Roads looking south: not BUOW foraging or burrowing habitat



9. McDonald Road looking east – Hudson Ranch Geothermal plant in background: not BUOW foraging or burrowing habitat



10. Davis Road looking north from McDonald Road: not BUOW foraging or burrowing habitat



11. Pound and Davis Roads intersection looking north along east boundary of project: not BUOW foraging or burrowing habitat



12. Pound Road looking east; IID canal and drain: not BUOW foraging or burrowing habitat



13. Alkaline soil with sparse iodine bush vegetation on east boundary of site near Alcott Road: not BUOW foraging or burrowing habitat



14. Alcott and Davis Road intersection looking north; east boundary of site: not BUOW foraging or burrowing habitat



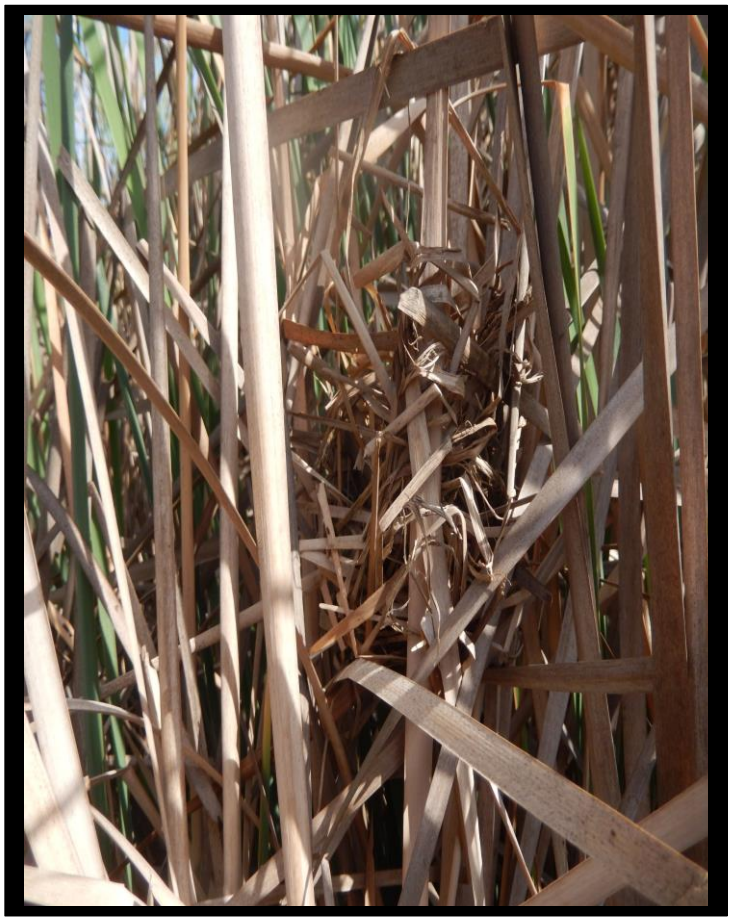
15. Alcott Road looking east; IID drain and canal: not BUOW foraging or burrowing habitat



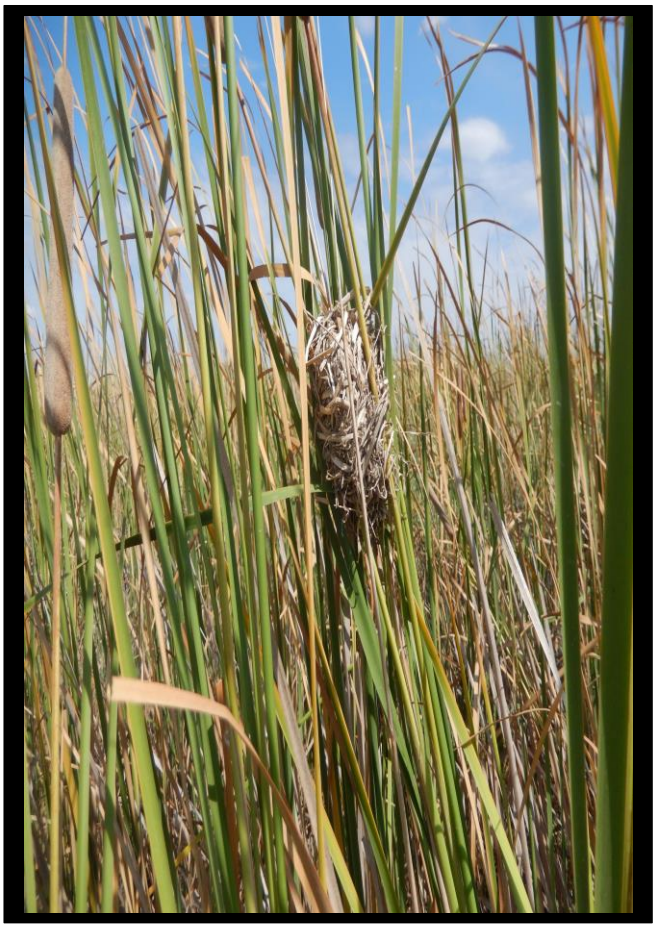
16. Inactive nest saltcedar; possibly marsh wren



17. Inactive nest in saltcedar



5. Inactive nest found in cattails



6. Inactive nest in cattails



WETLAND DELINEATION REPORT
HELL'S KITCHEN GEOTHERMAL PROJECT – STAGE 1
Imperial County, California

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TABLE OF CONTENTS

1.0 PROJECT BACKGROUND 1

1.1 Project Location 1

1.2 Historical Landscape Change 2

2.0 EXISTING RESOURCE CHARACTERIZATION 3

2.1 National Land Cover Database Classification 3

2.2 Federal Emergency Management Agency Flood Rating 3

2.3 National Wetland Inventory Wetland & Water Resources 3

2.4 Natural Resource Conservation Service Soil Resources 4

2.5 Hydrology & Connectivity 5

3.0 WETLAND DELINEATION (2021-2022) 8

3.1 Methods 8

3.2 Wetland Delineation Results 9

4.0 REFERENCES 17

FIGURES

Figure 1. Regional Site Vicinity 20
Figure 2. Regional Watershed and Subbasin 21
Figure 3. Local Site Vicinity 22
Figure 4. Topography within Delineation Area 23
Figure 5. Regional Land Use 24
Figure 6. Surrounding Local Land Use 25
Figure 7. FEMA Flood Insurance Rate Map 26
Figure 8. National Wetland Inventory Types 27
Figure 9. NRCS Soil Types 28
Figure 10. Aquatic Resources Delineation Overview 29
Figure 11. Aquatic Resources Delineation - North Zone 30
Figure 12. Aquatic Resources Delineation - South Zone 31

TABLES

Table 1. Wetland and Water Resources within Delineation Area (NWI) 4
Table 2. Soil Resources within Delineation Area (NRCS) 4
Table 3. Average Monthly Rainfall (1991-2021) 6
Table 4. Summary of Aquatic Resources within Delineation Area 9
Table 5. Summary of Wetland Indicators within Delineation Area 10
Table 6. Complete List of Delineated Aquatic Resources 11

CHARTS

Chart 1. Annual Precipitation – 1942 – 2020 Trend (WETS, Niland Station) 6

APPENDICES

Appendix A: Supporting Maps
Appendix B: Onsite Photographs
Appendix C: Wetland Delineation Data Sheets

1.0 PROJECT BACKGROUND

On behalf of Hell's Kitchen Geothermal, LLC., a wetland delineation was prepared to identify the wetland line in support of permitting and California Environmental Quality Act (CEQA) documentation in response to a planned geothermal and lithium extraction facility: the Hell's Kitchen PowerCo 1 Project and the Hell's Kitchen LithiumCo 1 Project. The project is in Imperial County, California, and is referred to as Stage 1 of the Hell's Kitchen Geothermal Project.

1.1 Project Location

Hell's Kitchen PowerCo 1 LLC proposes to develop the Hell's Kitchen PowerCo 1 Project (HKP1 Project) and Hell's Kitchen LithiumCo 1 LLC proposes to construct and operate the Hell's Kitchen LithiumCo 1 Project (HKL1 Project) in Imperial County, California, collectively referred to herein as Stage 1. The Stage 1 wetland delineation area is in the Niland, California U.S. Geological Survey (USGS) Quadrangle, Section 11, Township 11 and 10 South, Range 13 East. The approximate project center is 33.22759257 (latitude), -115.58115921 (longitude) or 632206 (easting), 3677415 (northing). The delineation area can be accessed by traveling east on CA Highway 8, north on Highway 111, west on McDonald Road near the town of Niland, and north on Davis Road (FIGURE 1).

The delineation area straddles the boundary between two watersheds (HUC 10: 1810020411 & 1810020414) (FIGURE 2). The entire Imperial Valley is contained within a single, larger subbasin (HUC 8: 18100204). Regionally and locally, water flow is heavily controlled via the Imperial Irrigation District's (IID) irrigation network, which supplies virtually all the Imperial Valley's water, the majority of which is to support agriculture. This expansive water delivery system redirects freshwater from the Colorado River to the numerous residential, commercial, and industrial users throughout the Imperial Valley, and then accepts the irrigation return flow. Irrigation return flow exits the network in two primary ways: through the Alamo and New Rivers or directly from terminal drainage endpoints near the Salton Sea.

The delineation area is bounded by the S-Drain to the north, the Q-Drain to the south, and bisected by the R-Drain, all of which enter the delineation area via culverts underneath Davis Road (FIGURE 3). Elevations within the delineation area range from approximately -222 feet below sea mean level (ft MSL) closest to Davis Road along the eastern border down to -225 ft MSL toward the western border (FIGURE 4). The local topography has been heavily transformed by both the introduction of IID's irrigation network in the early 1900s as well as climatological and ensuing anthropogenic changes that have influenced the Salton Sea's surface water elevation for over a century.

1.2 Historical Landscape Change

The delineation area and surrounding region have historically experienced major changes in land cover in direct response to the fluctuating shoreline of the Salton Sea, which in turn is controlled largely by extreme climate events and chronic anthropogenic drivers. Sustained agricultural activity was nearly infeasible in the Imperial Valley prior to the introduction of irrigation, despite many attempts throughout the late-1800s (IVPM 2022). Prior to 1905, the Sea (then the "Sink") sat at approximately -273 ft MSL, an elevation approximately 35 ft lower than today (USGS 10254005). In 1905, human error resulted in a catastrophic breach of the Colorado River's embankment, resulting in the full hydrologic flow rerouting directly into the Salton Sink for two years until, in 1907, it was finally repaired. Much of the existing infrastructure was destroyed, and the present-day delineation area was fully underwater, as was much of the surrounding region. Expansive areas of previously exposed lakebed remained inundated as the floodwaters gradually receded through the 1910s, with surface water levels finally stabilizing in the early 1920s.

From the 1920s through the 1930s, the newly formed IID began constructing a vast irrigation delivery and drainage network, originating in Calexico and expanding in a south to north direction toward the Salton Sea shoreline. By the late 1930s, most of the shoreline north of the Alamo River that encompasses the delineation area was dominated by a large drainage delta fed by canals further east.

From the 1940s through the 1970s, the shoreline continued to expand inland as growing agricultural activity increased irrigation demand and in turn increased irrigation return flow to the Salton Sea.

Throughout the 1970s and 1980s, an above-average precipitation trend maintained high surface water levels around -227 ft MSL. These high-water elevation levels were maintained throughout the 1990s, as a result of steady inflow from the Alamo River.

As the Salton Sea shoreline began to recede during the early 2000s, vegetation colonized the newly exposed playa and filled in areas that were inundated only a few years prior. Drone imagery of the present-day configuration (as of August 2022) reveals an assemblage of various vegetation types. Southern cattail (*Typha domingensis*) stands and similar emergent wetland types are consistently found adjacent to and surrounding drain outlets and often encircling open water areas. At the fringes of these emergent marsh areas are scrub-shrub species, such as invasive tamarisk (*Tamarix spp.*) and iodine bush (*Allenrolfea occidentalis*) that occupy areas primarily along the shoreline. However, pockets of both cattail marsh and open water areas are interspersed throughout small depressions in between ridges of marginally higher elevation that support tamarisk and iodine bush.

2.0 EXISTING RESOURCE CHARACTERIZATION

2.1 National Land Cover Database Classification

The Multi-Resolution Land Characteristics Consortium (MRLC), a group of federal agencies, has coordinated and generated land use and land cover classification raster data for the lower 48 states, Hawaii, and Puerto Rico every three years since 2001. The most recent iteration was released in 2019 by the USGS and evaluated for this report. The region surrounding the delineation area is predominantly mapped as cultivated crops with scrub-shrub land cover along ephemeral drainage pathways at the fringes of the watershed and following seepage areas from the All-American Canal (AAC) and IID irrigation network (FIGURES 5 & 6). Areas that are classified as cultivated crops include both true agricultural land use as well as parcels that are currently used as wildlife refuge and managed freshwater marshes.

Playa is classified as barren land while roadways and infrastructure are classified as developed features ranging from low to high intensity. Since the native resolution is only 30 by 30 meters, the IID irrigation network is unmapped and unclassified. Open water is classified as open water, regardless of salinity or source, and includes both the extent of the Salton Sea, Morton Bay (north of the Alamo River), and numerous smaller freshwater ponds located along the shoreline and further inland.

On the local level, the delineation area is situated on the fringe of an area classified as emergent herbaceous wetlands that is in turn bordered by scrub-shrub, herbaceous grassland, and varying patches of barren land. The delineation area on the eastern fringe shares a similar classification, with major portions of land cover classified as either emergent herbaceous wetland or scrub-shrub that includes a patch of open water and patches of barren land. The only mapped development in the immediate vicinity are the bordering roads.

2.2 Federal Emergency Management Agency Flood Rating

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) number 06025C0725C, revised September 26, 2008, designates the entire delineation area as located outside of the 100-year floodplain (FIGURE 7).

2.3 National Wetland Inventory Wetland & Water Resources

The delineation area contains 91.07 acres of mapped wetlands (90% of the total area) according to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (FIGURE 8). NWI maps are based on remote sensing and are predictive tools to help assess the likelihood that an area contains wetlands without a detailed assessment of sources of water or specific species of wetland plants.

Three NWI wetland types occur within the delineation area: palustrine (64.17 acres, 70%), lacustrine (26.62 acres, 29%) and riverine (0.25 acres; <1%) (TABLE 1). The NWI maps describe these wetland types as a mixture of semi-permanently, seasonally, and temporarily flooded.

Table 1. Wetland and Water Resources within Delineation Area (NWI)

Cowardin Code	Cowardin Description	Water Regime (Flood Frequency)	Modifier	Wetland Acres	Percent of Total
L2USA	Lacustrine littoral unconsolidated shore	Temporarily	NA	24.35	27%
PEM1C	Palustrine emergent persistent	Seasonally	NA	35.36	39%
PUSA	Palustrine unconsolidated shore	Temporarily	NA	14.06	15%
PEM1F	Palustrine emergent persistent	Semi-permanently	NA	14.75	16%
L2UBF	Lacustrine littoral unconsolidated bottom	Semi-permanently	NA	2.27	2%
R2UBFx	Riverine lower perennial unconsolidated bottom	Semi-permanently	Excavated	0.28	<1%
			Total	**91.07**	**100%**
Source: US Fish & Wildlife Service National Wetland Inventory (2022)					

2.4 Natural Resource Conservation Service Soil Resources

The Natural Resource Conservation Service (NRCS) Web Soil Survey identified three soil types within the delineation area (TABLE 2) that cover the entire extent (FIGURE 9). Based on the field assessment, soils were primarily clays and silty clays throughout the top 12 to 18 inches with a thin layer of muck present in some areas.

Table 2. Soil Resources within Delineation Area (NRCS)

Symbol	Map Unit Name	Hydrologic Soil Group	Hydric Soil Rating	Depth to Water Table (in)	Acres	Percent of Total Area
114	Imperial silty clay, wet	C	No	No Data	48.03	47.6%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	C	No	No Data	35.82	35.5%
104	Fluvaquents, saline	No Data	Yes	No Data	17.08	16.9%
				Total	**100.93**	**100%**
Source: Natural Resource Conservation Service (2022)						

2.5 Hydrology & Connectivity

2.5.1 Irrigation Drains

The largest hydrologic source within and around the delineation area is direct surface water discharge and seepage from the IID irrigation return flow drains. The AAC, an 82-mile aqueduct, imports water from the Colorado River into the Imperial Valley. Based on a five-year average (2016 to 2020), drains discharged between 1,817 (Q-Drain) and 2,735 (R-Drain) acre-feet of water per year into the delineation area as distal discharge and/or seepage from unlined berms.

2.5.2 Groundwater

The delineation area is in the Imperial Valley Groundwater Basin (Basin Number 7-30), an area that encompasses over 1,800 square miles. Groundwater in the basin occurs in two main water-bearing zones (GEI Consultants 2012).

- A shallow (0 to 300 feet), unconfined aquifer bounded by a low permeability clay layer (referred to as an aquitard); and
- An intermediate (300 to 1,500 feet), semi-confined aquifer bounded above by the aquitard and below by marine and non-marine sediments

Groundwater flows across the Imperial Valley in a general south to north trajectory, with groundwater elevation rising as the underflow approaches the Salton Sea. Major groundwater recharge sources in the basin consist of irrigation return flow, including seepage from unlined canals (CH2MHill 2018). The USGS maintains a long-term groundwater monitoring well in Niland, approximately 13 miles east of the Salton Sea shoreline (USGS 331144115231501). However, to-date there have been no groundwater surveys conducted within the immediate vicinity of the delineation area, and therefore inferences were made from regional studies and existing data. IID has estimated the annual contribution of groundwater inflow to the Salton Sea from the Imperial Valley at approximately 1,000 acre-feet, two percent of the total annual groundwater in flow (IID 2002).

Finally, local soil conditions (e.g., the presence or absence of semi-permeable clay layers) can affect groundwater elevation in areas surrounding the Salton Sea. Localized artesian conditions create a pressure gradient that forces groundwater closer to the surface in select areas where there are breaks in the less-permeable layers. This effect is most pronounced east of the Alamo River (GEI Consultants 2012).

2.5.3 Precipitation

A minor hydrologic source within and around the delineation area is precipitation. Precipitation is very low over much of the Basin, particularly in low-lying areas away from the mountains in the Coachella Valley. The Imperial Valley experiences approximately

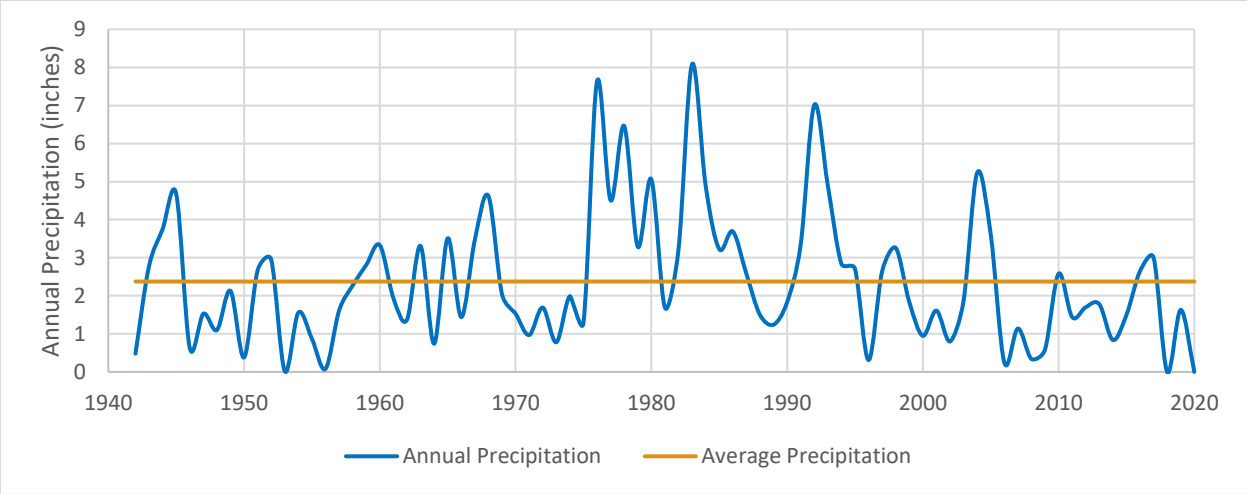
2.50 inches of rainfall per year, on average, with fewer than six days per year, on average receiving >0.10 inches of rainfall (WETS Station, Niland CA, 1991 – 2021) (TABLE 3), well below the surface evaporation rate.

Table 3. Average Monthly Rainfall (1991-2021)

Month	Average Rainfall (in)
January	0.49
February	0.51
March	0.32
April	0.06
May	0.03
June	0.02
July	0.11
August	0.16
September	0.25
October	0.09
November	0.11
December	0.32
Total	**2.49**
Source: WETS 1991-2021 for Niland, CA	

Presently, the region is experiencing a long-term below-average precipitation trend characterized by a longer duration between above-average rainfall years and decades of precipitation that fall below the historical average. In comparing multi-decadal periods, the average precipitation for the region from 1980 to present is approximately 2.42 inches per year, whereas the average precipitation from 2000 to present is approximately 1.60 inches per year (CHART 1).

Chart 1. Annual Precipitation – 1942 – 2020 Trend (WETS, Niland Station)



2.5.4 Evapotranspiration

A major source of hydrologic loss is through evaporation and evapotranspiration. Evapotranspiration (ETo) rates obtained from California Irrigation Management Information System's (CIMIS) Westmorland North Station Number 181 (Imperial County/ Coachella Valley) show a 2020/2021 ETo rate of 61.12 inches. This rate is 10.48 inches less than the CIMIS's monthly average reference ETo rate for Zone 18 (Imperial County/ Coachella Valley) set forth in the CIMIS's ETo guidance document for California (California Department of Water Resources 2012). High evapotranspiration rates combined with very low hydraulic conductivity in surface soils severely limits the potential for subsurface water to sustain plants because rates of withdrawal exceed the potential rate of recharge.

2.5.5 Freshwater Lagunas

Three lagunas are situated south and outside of the delineation area. Aerial imagery suggests the largest laguna, Morton Bay, may discharge water into the delineation area through a narrow, meandering channel which does not appear to have a defined bed and bank. The two lagunas immediately east of Morton Bay do not appear to contribute water to the delineation area, but may receive inflow from Morton Bay, which then flows into the Salton Sea.

3.0 WETLAND DELINEATION (2021-2022)

3.1 Methods

The delineation area was surveyed on November 11, 2022 to delineate the limits of wetlands and waters that have the potential to be subject to Clean Water Act (CWA) Section 404 jurisdiction. Prior to visiting the delineation area, USFWS NWI maps, USGS topographical maps, aerial imagery, and past aquatic resource delineation reports were reviewed to identify potential wetlands or waters. Wetlands and waters were delineated using methods described in the *1987 U.S Army Corps of Engineers Wetland Delineation Manual* (USACE 1987), the Regional Supplement to the U.S. Army Corps of Engineers: Arid West Region (Version 2.0) (USACE 2008), and the *South Pacific Regulatory Program: Wetlands Determination and Delineation Procedures for Irrigated Lands* (USACE 2012).

Wetland boundaries were delineated using a three-parameter approach consisting of dominance of hydrophytic vegetation, hydric soils, and wetland hydrology. The indicator status for vegetation was determined by the most current National Wetland Plant List (USACE 2020, version 3.5) and using nomenclature offered in the USDA PLANTS Database (USDA 2021).

Data points were recorded within the delineation area at 14 locations, to verify wetland/upland transition zones. Great Ecology recorded data point locations and wetland boundaries using a sub-meter accuracy Global Positioning System (GPS) unit, which were post-processed before incorporating onto delineation area maps. Photographs and data forms collected during the wetland delineation appear in APPENDIX B and APPENDIX C, respectively.

Multiple attempts were made to access the western boundary of the delineation area from both the northern and southern portion of the delineation area; however, dense stands of southern cattails and tamarisk made traversing the landscape extremely slow. Observations and data collected on the eastern portion of the delineation area were extrapolated to delineate the wetland/upland boundaries on the western portion using current ortho-imagery taken with a drone and pre-existing U.S. National Agricultural Imagery Program (NAIP) color infrared imagery from 2020.

Aerial ortho-imagery was captured within the delineation area using a drone in September 2021 and recorded at a resolution of four inches per pixel. Real-time kinematic (RTK) transects consisting of 20 survey shots at a spacing of 20 to 40 feet were used to accomplish field calibration of vertical accuracy. The resulting ortho-imagery used to classify landform types and vegetation provides coverage for the entire delineation area.

3.2 Wetland Delineation Results

A total of 12.10 acres of waters and 63.26 acres of wetlands were delineated within the study area (TABLES 4-6, FIGURES 10-12). Representative delineation area photographs appear in APPENDIX B and wetland data sheets in APPENDIX C.

Table 4. Summary of Aquatic Resources within Delineation Area

	Cowardin Type	Dominant Community	Acres
Wetlands	**Palustrine Emergent (PEM)**	Cattail Marshes	50.13
		Saltgrass Flats	8.09
		PEM Subtotal	**58.22**
	Palustrine Scrub Shrub (PSS)	Iodine Bush Scrub	3.38
		Tamarisk Thickets	1.62
		Fourwing Saltbush Scrub	0.04
		PSS Subtotal	**5.04**
	Wetlands Subtotal		**63.26**
Waters	**Palustrine Open Water**	Permanent & Intermittent Water	12.09
		Irrigation Ditch	0.01
	Waters Subtotal		**12.10**
Total Aquatic Resources			**75.36**

Table 5. Summary of Wetland Indicators within Delineation Area

Survey ID	Survey Season	Wetland Status	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Observational Notes From Survey
W2	Fall 2022	Wetland*	**X**	**X**	**X**	Depletion matrix, salt crust/soil cracks, relict invertebrate shells, saltgrass, drift deposits, saturation
W2	Fall2022	Wetland	**X**	**X**	**X**	Redox soft masses, surface cracks, salt crust, senesced cattails and saltgrass, iodine bush seedlings
W4	Fall 2022	Wetland	**X**	**X**	**X**	Redox depressions, salt crust, hydrogen sulfide odor. Surface soil cracks
W5	Fall 2022	Wetland*	**X**	**X**	**X**	Senesced saltgrass in open playa, redox depressions, surface soil cracks
W6	Fall 2022	Wetland*	**X**	**X**	**X**	Depleted matrix, surface soil crust, distinct salt crystals in top 3 inches, Arundo, saltgrass
W7	Fall2022	Wetland	**X**	**X**	**X**	Redox depressions in pore linings, salt crusts, surface soil cracks, iodine bush, tamarisk, senesced saltgrass
W8	Fall 2022	Wetland	**X**	**X**	**X**	Redox depression, salt grass growing through thick mat of senesced cattails, tamarisks
U1	Fall 2022	Upland	**X**		**X**	senesced cattails, iodine bush, sample taken next to dirt road, may contain grade overburden
U2	Fall 2022	Upland	**X**		**X**	Senesced cattails and salt grass, Arundo, iodine bush. Site at toe of berm.
U4	Fall 2022	Upland	**X**			Roadside, sample contains fill from nearby drain, senesced Arundo, tamarisk, subject to seasonal sheet flow
U5	Fall 2022	Upland	**X**		**X**	30' from roadside, senesced saltgrass, iodine bush
U6	Fall 2022	Upland			**X**	salt crust, surface cracks
U7	Fall 2022	Upland	**X**		**X**	Salt crust, surface soil cracks, iodine bush and tamarisk
w8	Fall 2021	Upland	**X**		**X**	Sample adjacent to dirt road, no apparent grade overburden, senesced cattails, iodine bush

Table 6. Complete List of Delineated Aquatic Resources

ID	Resource	Cowardin Type	Description	Acres	Longitude	Latitude
RPW1	Water	Palustrine Open Water	Relatively Permanent Water	0.16	-115.5810428	33.23277191
RPW2	Water	Palustrine Open Water	Relatively Permanent Water	10.54	-115.5809245	33.22212784
RPW3	Water	Palustrine Open Water	Relatively Permanent Water	0.21	-115.5805822	33.22463645
RPW4	Water	Palustrine Open Water	Relatively Permanent Water	0.89	-115.5804543	33.2267527
RPW5	Water	Palustrine Open Water	Relatively Permanent Water	0.23	-115.5802044	33.22348501
RPW6	Water	Palustrine Open Water	Relatively Permanent Water	0.01	-115.5799483	33.22316128
RPW7	Water	Palustrine Open Water	Relatively Permanent Water	0.05	-115.5799159	33.22151403
PEM1	Wetland	Palustrine Emergent	Cattail Marshes	50.09	-115.5817087	33.22816951
PEM2	Wetland	Palustrine Emergent	Cattail Marshes	0.04	-115.5806495	33.2237014
PEM3	Wetland	Palustrine Emergent	Common/Giant Reed	0.24	-115.5807086	33.22728995
PEM4	Wetland	Palustrine Emergent	Saltgrass Flats	0.45	-115.5810572	33.22771085
PEM5	Wetland	Palustrine Emergent	Saltgrass Flats	0.78	-115.5809524	33.228547
PEM6	Wetland	Palustrine Emergent	Saltgrass Flats	4.26	-115.5808243	33.23160524
PEM7	Wetland	Palustrine Emergent	Saltgrass Flats	0.77	-115.5805213	33.22311484
PEM8	Wetland	Palustrine Emergent	Saltgrass Flats	0.66	-115.5803678	33.22121142
PEM9	Wetland	Palustrine Emergent	Saltgrass Flats	1.13	-115.5801621	33.22436806
PEM10	Wetland	Palustrine Emergent	Saltgrass Flats	0.03	-115.5801376	33.22659523
PEM11	Wetland	Palustrine Emergent	Common and Giant Reed Marshes	.05	-115.5825919	33.22737183
PSS1	Wetland	Palustrine Scrub Shrub	Fourwing Saltbush	0.04	-115.5804404	33.22629825
PSS2	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	0.14	-115.5810455	33.22808014
PSS3	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	0.16	-115.5809417	33.23103281

ID	Resource	Cowardin Type	Description	Acres	Longitude	Latitude
PSS4	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	1.96	-115.580511	33.22951386
PSS5	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	0.16	-115.5805006	33.22615572
PSS6	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	0.15	-115.580353	33.22318559
PSS7	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	0.04	-115.5803356	33.23129869
PSS8	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	0.40	-115.580272	33.22379958
PSS9	Wetland	Palustrine Scrub Shrub	Iodine Bush Scrub	0.36	-115.5799502	33.23106551
PSS10	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.11	-115.582253	33.22180642
PSS11	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.21	-115.5818712	33.22748629
PSS12	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.16	-115.5812134	33.2335417
PSS13	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.52	-115.5811406	33.22930569
PSS14	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.08	-115.580829	33.22715902
PSS15	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.40	-115.5807584	33.22079591
PSS16	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.04	-115.5804749	33.22716987
PSS17	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.03	-115.5800155	33.22712211
PSS18	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.02	-115.5799381	33.22051235
PSS19	Wetland	Palustrine Emergent	Tamarisk Thickets	2.88	-115.5829235	33.22714186
IID1	Other	Riverine, unconsolidated bottom	Irrigation Ditch	0.01	-115.5819246	33.22733394
PA1	Other	NA	Playa	0.09	-115.5823045	33.22746588
PA2	Other	NA	Playa	0.19	-115.5809854	33.22754552
PA3	Other	NA	Playa	0.22	-115.5808425	33.22720808
PA4	Other	NA	Playa	0.01	-115.580828	33.22783363
PA5	Other	NA	Playa	3.67	-115.5807751	33.23084227
PA6	Other	NA	Playa	0.13	-115.5805417	33.2287605
PA7	Other	NA	Playa	0.11	-115.5802943	33.22328868
PA8	Other	NA	Playa	<0.01	-115.5802748	33.22628815

ID	Resource	Cowardin Type	Description	Acres	Longitude	Latitude
PA9	Other	NA	Playa	0.55	-115.5802559	33.22900745
PA10	Other	NA	Playa	0.09	-115.5802194	33.22054707
PA11	Other	NA	Playa	2.23	-115.5802057	33.23252385
PA12	Other	NA	Playa	4.24	-115.5800761	33.22198237
PA13	Other	NA	Playa	0.34	-115.5800292	33.23155216
Cowardin type based on Cowardin et al. 1979 Longitude and latitude represent approximate centroid of delineated feature						

3.2.1 Wetlands

3.2.1.1 Vegetation

Extremely low plant species diversity characterizes the delineation area, with two distinct vegetation communities present: palustrine scrub-shrub (PSS) and freshwater emergent wetlands, which are expected in a soft playa desert ecosystem. Iodine bush (facultative wet [FACW]) dominated features, sometimes containing a saltgrass (*Distichlis spicata,* facultative [FAC]) understory, were mapped as PSS. Iodine bush typically occurred along the eastern wetland/upland boundary, adjacent to intermittent open waters. Some areas within the southeastern portion of the delineation area contained stands of dead and/or stressed iodine bush likely due to lack of hydrology or extremely saline soil conditions. These areas contained dry and blocky clay loam and sandy clay soils with relict redoximorphic features within the soil matrix. Areas containing dead iodine bush were not delineated as wetlands due to the lack of living hydrophytic vegetation and primary wetland hydrology indicators.

Southern cattail (obligate [OBL]) dominated features mapped as palustrine emergent wetlands (PEM) and included some dense stands of giant reed (*Arundo donax,* OBL) and saltgrass interspersed throughout. Southern cattail and giant reed dominated communities were confined to areas adjacent to intermittent open water and areas with intermittent shallow standing water. Saltgrass dominated communities were confined to the edges of intermittent open water on the southeastern portion of the delineation area.

Tamarisk (FAC) was present throughout the delineation area, sometimes in areas of slightly higher elevation (several inches to feet) than PEM wetland communities. However, hummock features were common in areas dominated by tamarisk and standing water was occasionally present between hummocks. Most tamarisk within the delineation area is relatively young and below three inches in diameter at breast height (DBH) and were therefore mapped as PSS wetlands.

3.2.1.2 Soils

The determining characteristic differentiating wetland and upland points in this delineation was the presence of soil indicators, specifically redox concentrations and depletion matrixes. Upland points superficially appeared similar to wetland points before soil excavation. Soils within the delineation area showed faint, distinct, or prominent redoximorphic features, which varied depending on the vegetation community in the areas sampled. In playa wetland fringes, seasonal and annual weather variation can result in inconsistent soil indicators, especially for relatively young wetlands in which soil conditions are not as well developed (USACE 2008). Sampling was conducted in the dry season, but the soil indicators used can be expected to be observable year-round in seasonal wetlands. Most of the soil matrixes fell in a color range between 10YR 6/2 and 10YR 4/3 in the Munsell Color System. Hydric soils were identified by the presence of redox concentrations along pore linings and occurring as soft masses or as depletion matrixes. Great Ecology used the 2022 Pocket Guide to Hydric Soil Field Indicators to confirm indicators occurred at depths, thicknesses, and percentages consistent with hydric soil qualifiers. Redox interactions occurred in colors ranging from 5YR 4/6 to 10YR 5/8. Depletion matrixes ranged from 10GY 3/0 to N 2.5/0. Soil textures in wetland areas were predominantly characterized by clay loam and silty clay loam. Soils in upland points were predominantly characterized by sandy loam and clay loam. Most sample areas were minimally saturated or completely unsaturated (with the exception of W1), despite recent downpours and the presence of saturated soils along roads and areas adjacent to the delineation area. Cattails and saltgrass in sample areas were mostly senesced and more resilient species such as iodine bush and saltgrass still had green leaves.

A pH probe was used to confirm alkaline water and soil conditions common in areas adjacent to the Salton Sea. Open water had an average pH of 9.2, groundwater within soil pits had an average pH of 7.8, and irrigation water had an average pH of 8.5. Solutions with deionized water and soil from test pits were tested to determine if soils throughout the delineation area could be categorized as alkaline. Solutions of deionized water and soil from test pits had an average pH of 8.1 and indicated alkaline conditions. The formation of redoximorphic features is dependent on the ability of iron and manganese to "readily enter into solution as reduction occurs and then precipitates in the form of redox concentrations as the soil becomes oxidized" (USACE 2008). These reactions typically do readily take place in moderately to very strongly alkaline soils; therefore, alkaline soils are typically considered naturally problematic. Although soils throughout the delineation area were categorized as alkaline, redoximorphic features were observed in several wetland areas during field surveys and indicated that desert playa soils, which are typically more alkaline, occur throughout the delineation area. However, soil saturation from nearby drain discharge may have contributed to anaerobic conditions that promoted the development of redoximorphic features in some areas.

3.2.1.3 Hydrology

Water was present in the delineation area as intermittent to permanent features, with most features showing visible saturation only part of the year. Primary indicators of wetland hydrology observed include Hydrogen Sulfide Odor (C1), Oxidized Rhizospheres along Living Roots (C3), Salt Crust (B11), Inundation Visible on Aerial Imagery (B7), and Drift Deposits (B3). Secondary hydrology indicators observed included confirmation of the FAC-Neutral Test (D5), along with Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9). Although there may be enough lateral percolation occurring from the ditches to sustain wetlands within the delineation area, soil pits did not reveal the presence of a water table or spatially uniform observations of soil saturation within an acceptable depth to be considered indicative of wetland hydrology.

3.2.2 Waters

Three irrigation return flow drains (S, R, Q) surround and, until recently, discharged directly into the delineation area. Historically, specific areas surrounding these drains exceeded field capacity and were permanently to intermittently flooded. RPW1 (0.16 acres) exists as a low point between the R- and S-Drains and is an example of such a water feature seasonally flooded during the growing season.

RPW4 (0.89 acres) is adjacent to the R-Drain. Aerial imagery shows hydrologic connectivity between RPW2 (10.54 acres), RPW5 (0.23 acres), RPW6 (0.01 acres), and RPW7 (0.05 acres) and potentially some hydrologic connection between this system of open waters and RPW3 (0.21 acres), all of which are, or have been previously, influenced by waters from the Q-Drain.

Approximately 12.09 acres of open waters were mapped in the form of small depressional ponds within the delineation area and are classified as permanent-to-intermittent palustrine open water (POW).

3.2.3 Desert Playa

Desert playa lacking vegetation was observed in the southeastern portion of the delineation area adjacent to Davis Road. Playa within the delineation area contains features consistent with descriptions in reference literature of desert playa habitat, including a barren landscape with salt crust and soil cracking (Brostoff et al. 2001). The presence of salt crusts can be attributed to the shallow topography and high rates of evaporation in this region and is not considered to be a valid wetland indicator.

A dense clay aquitard was also identified in one soil pit location during the spring delineation. The presence of this aquitard likely contributes to the strong levels of depletion in the top layer of the soils due to the extensive anaerobic conditions inherent to a perched water table.

Certain areas in the delineation area exhibited signs indicative of soft playa characterized by a friable puffy surface that develops from capillary input of groundwater and subsequent deposition of evaporative minerals (Motts 1970; Neal 1975). Aerial imagery shows darker areas along the fringe of this alkali playa likely resulting from the hydroscopic condition and capillary action within the soil profile.

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Appendix A:
Supporting Maps

Figure 1. Regional Site Vicinity

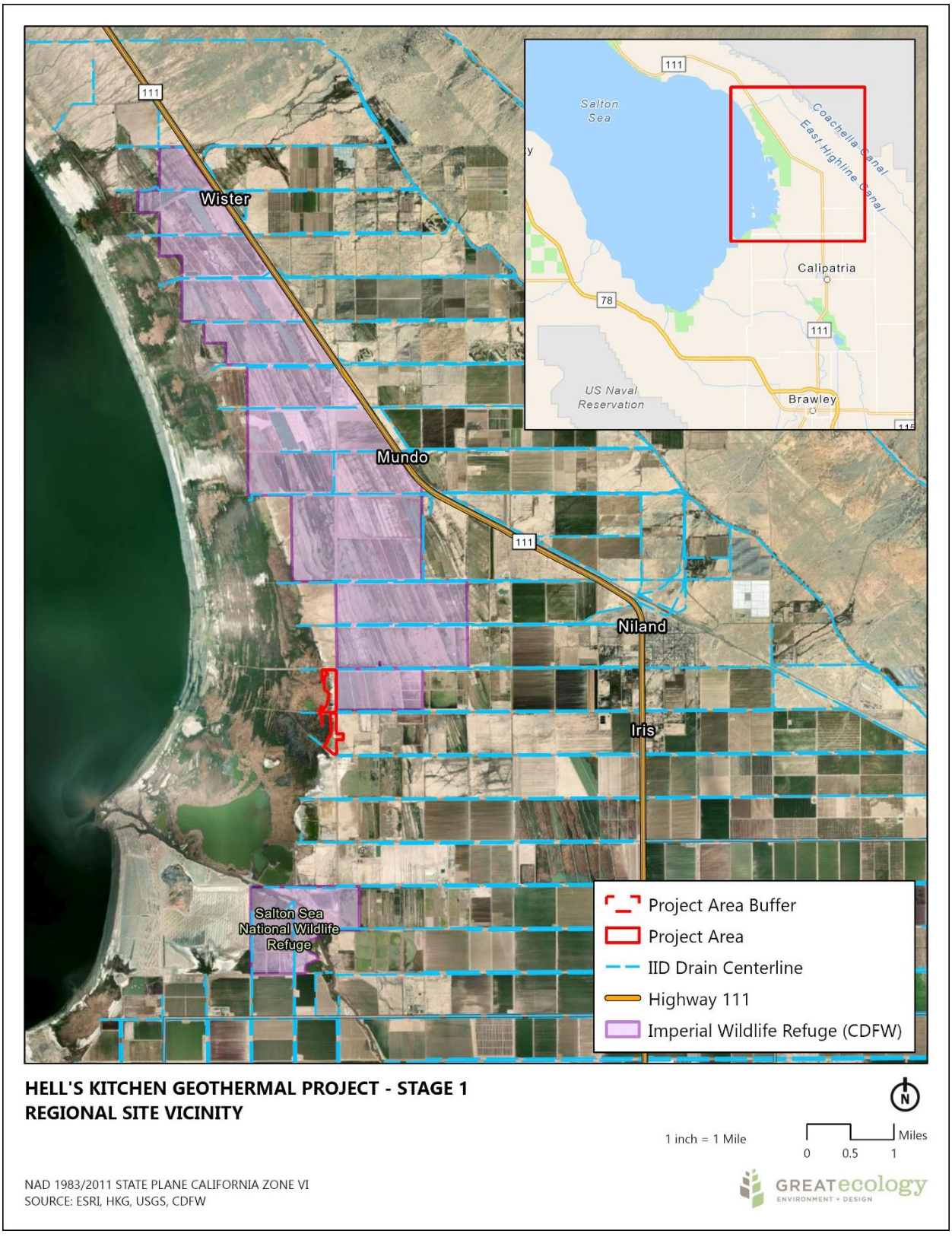


Figure 2. Regional Watershed and Subbasin

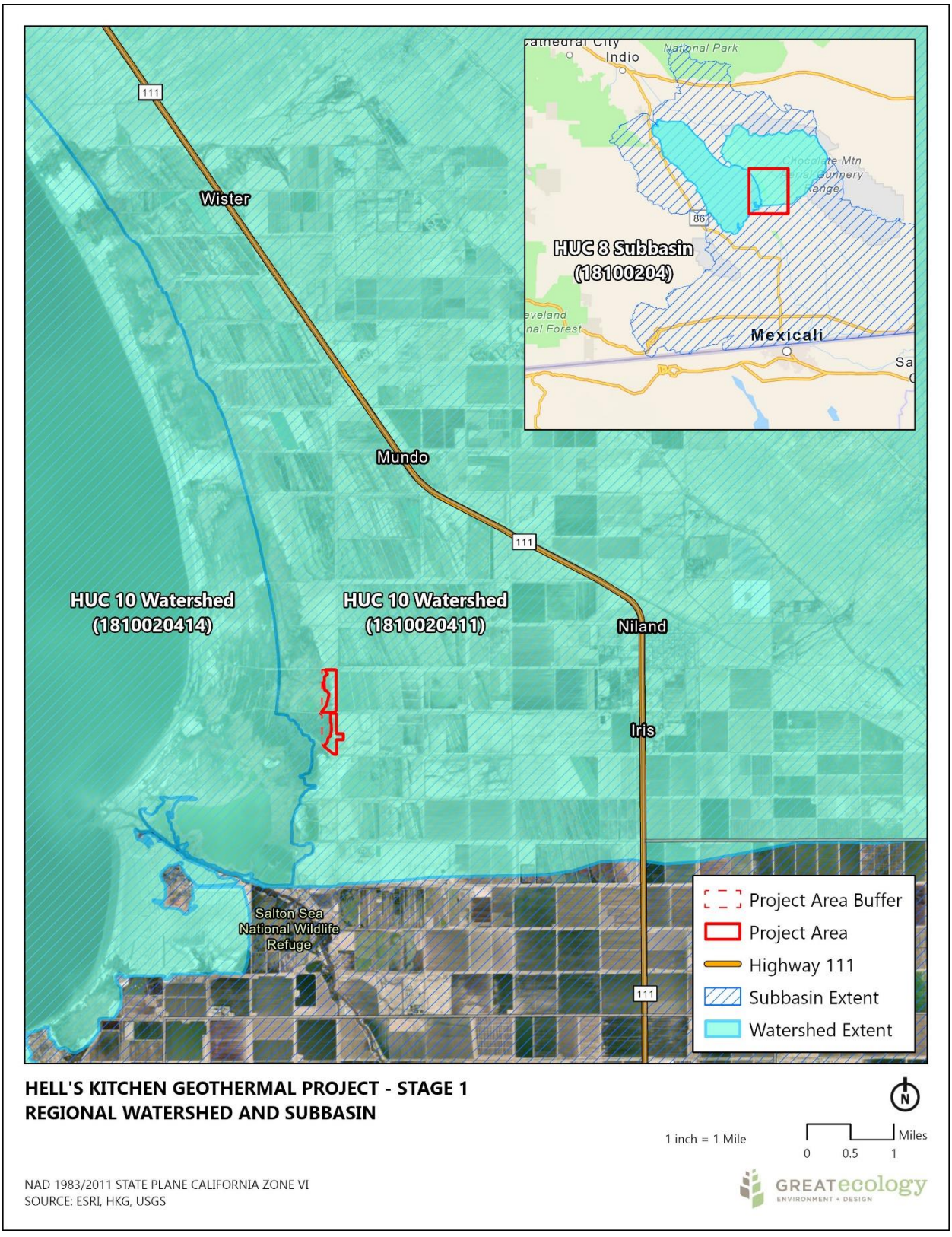


Figure 3. Local Site Vicinity

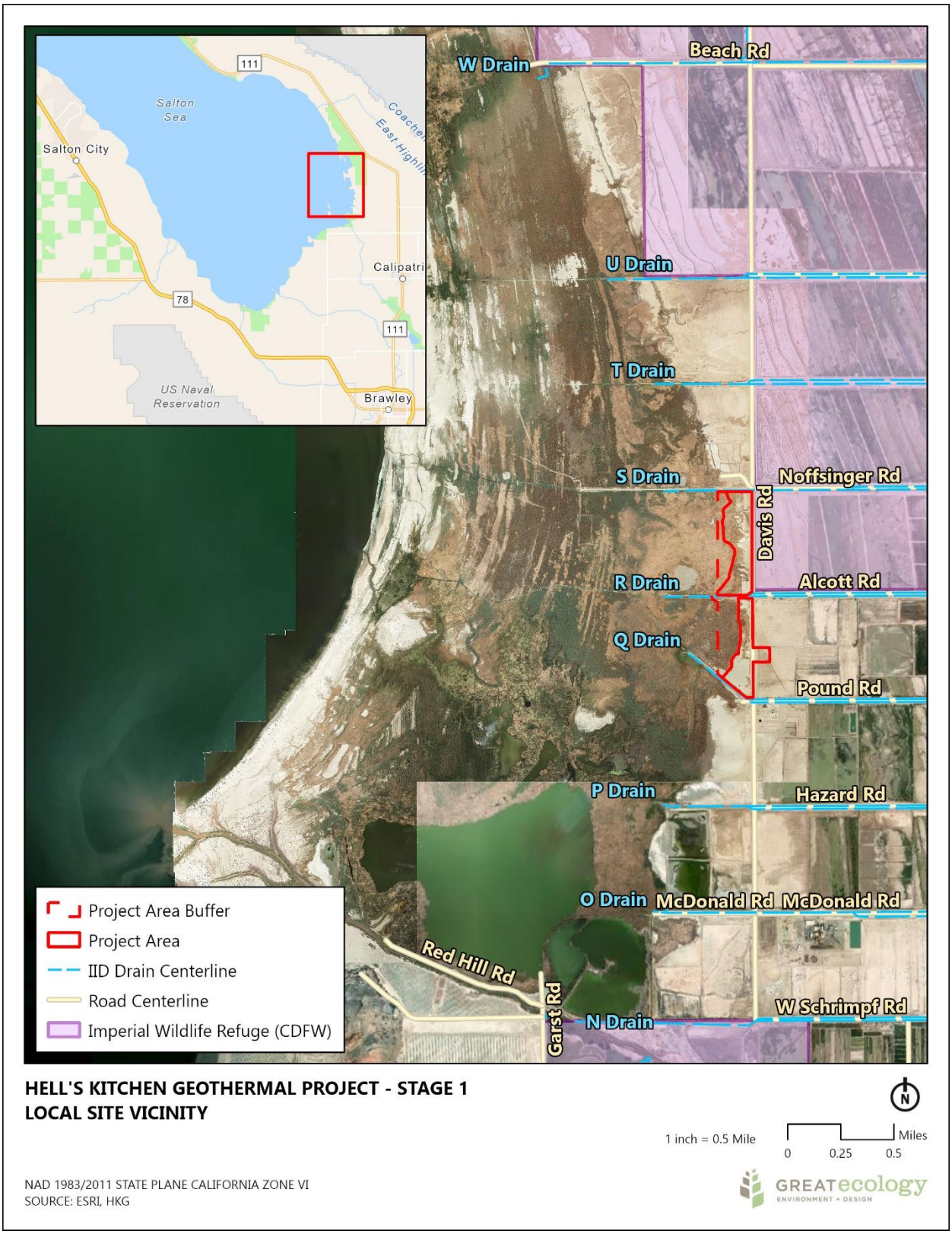


Figure 4. Topography within Delineation Area

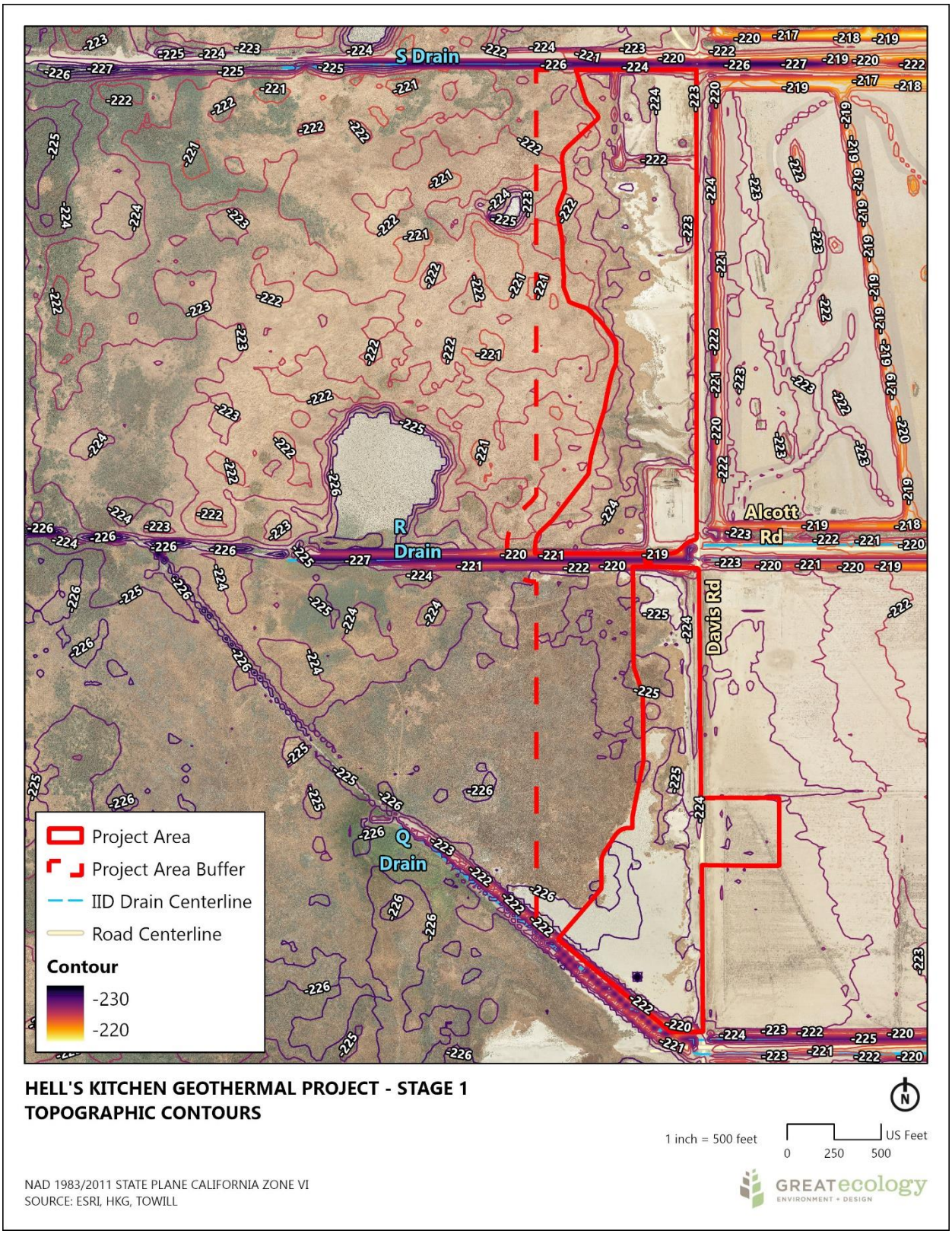


Figure 5. Regional Land Use

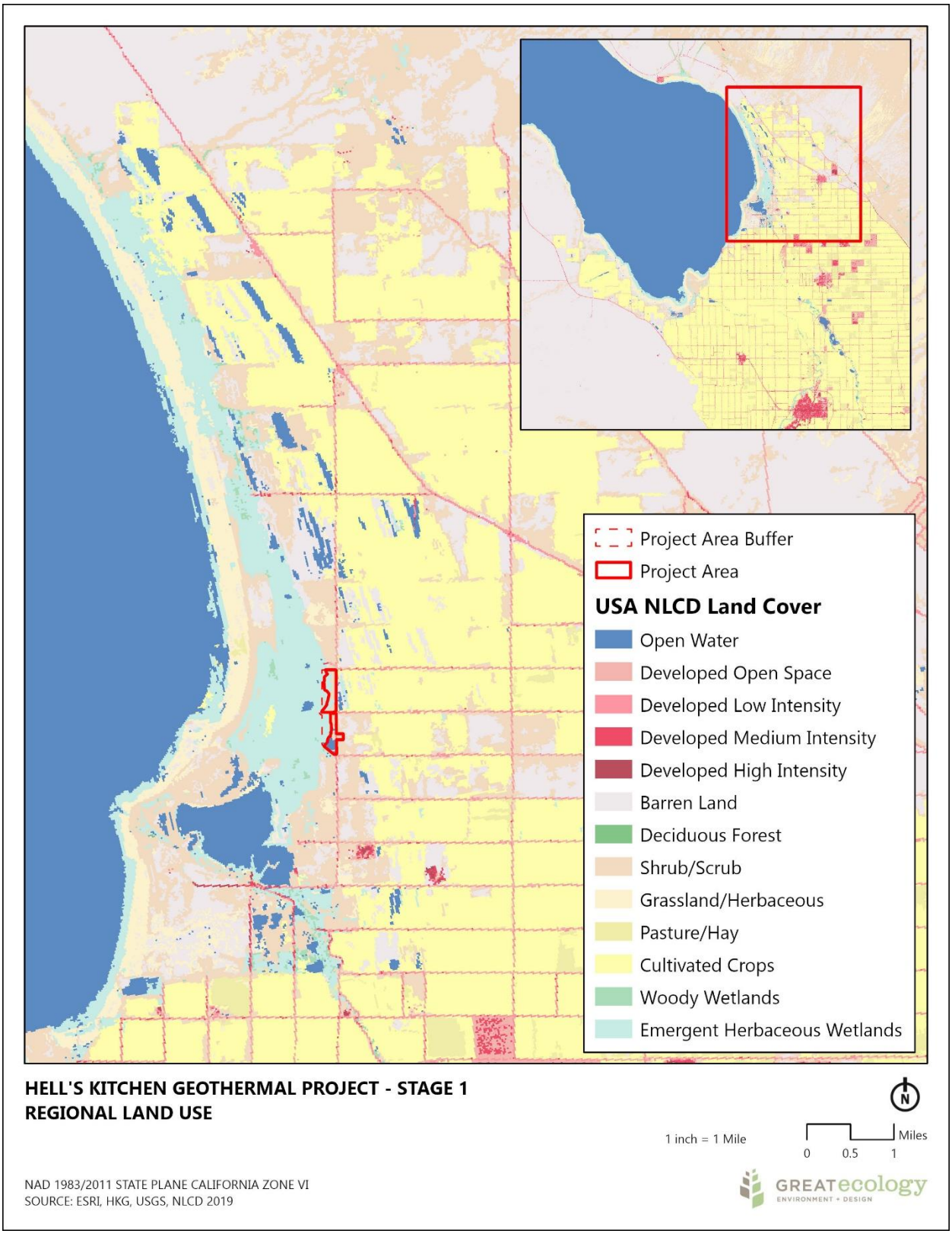


Figure 6. Surrounding Local Land Use

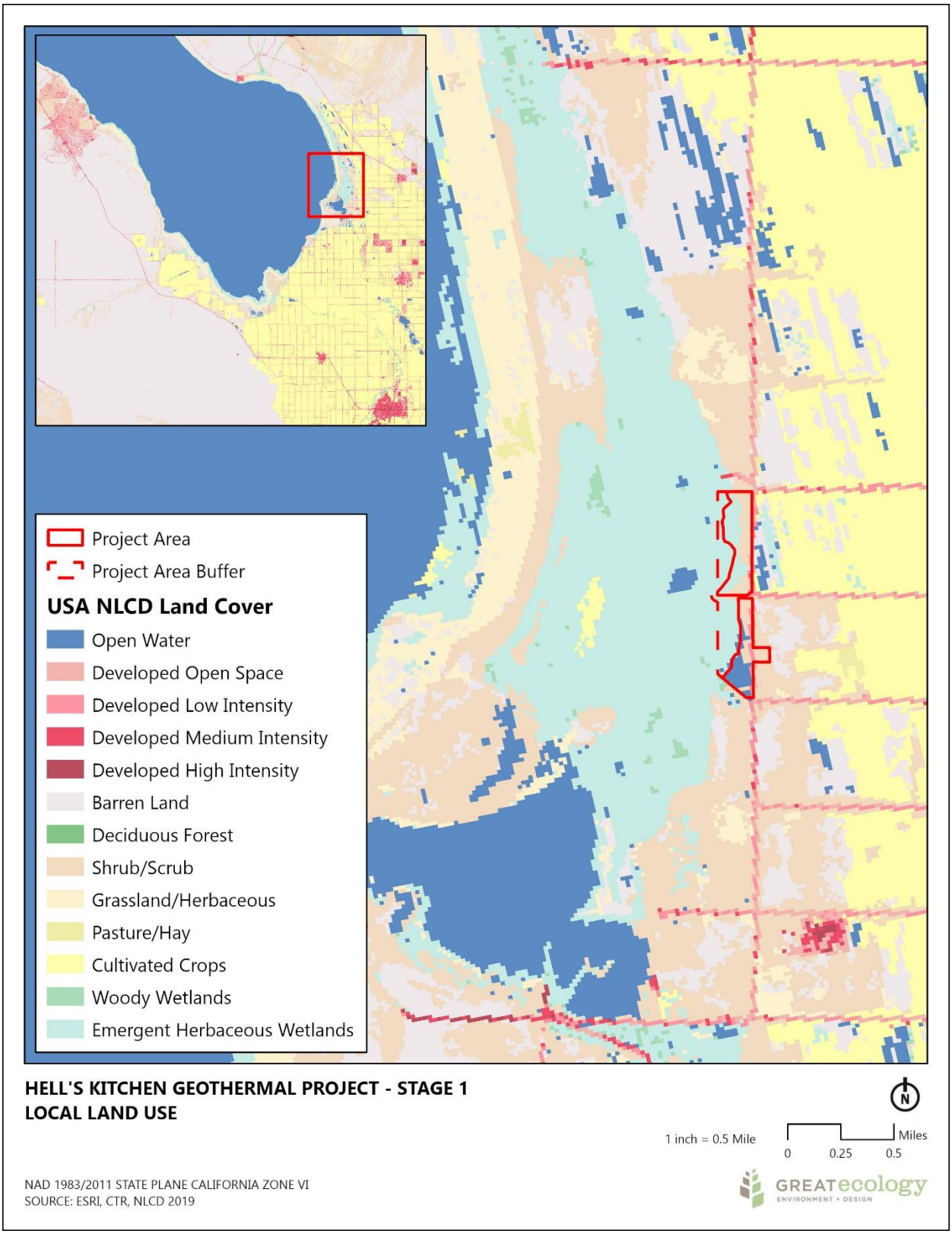


Figure 7. FEMA Flood Insurance Rate Map

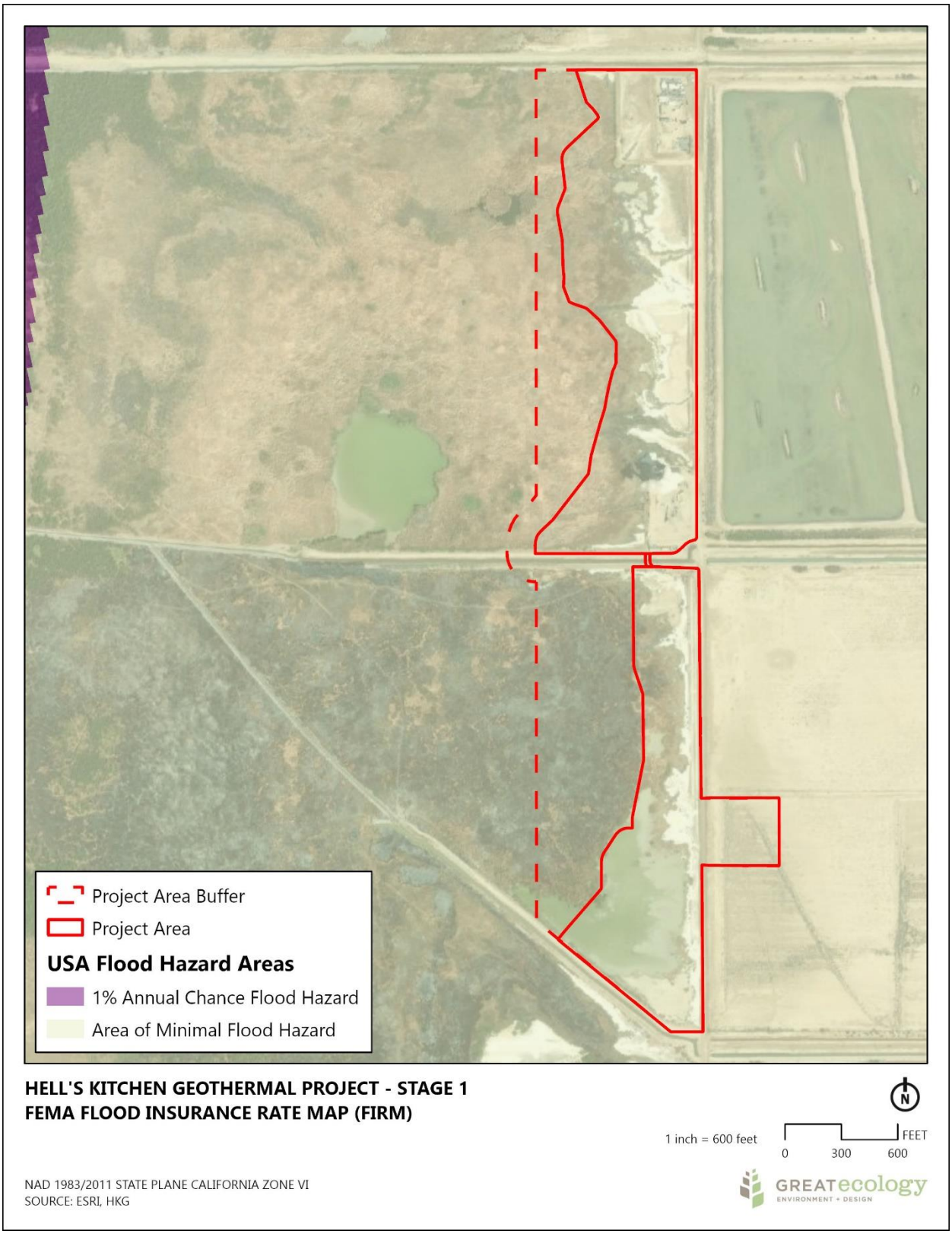


Figure 8. National Wetland Inventory Types

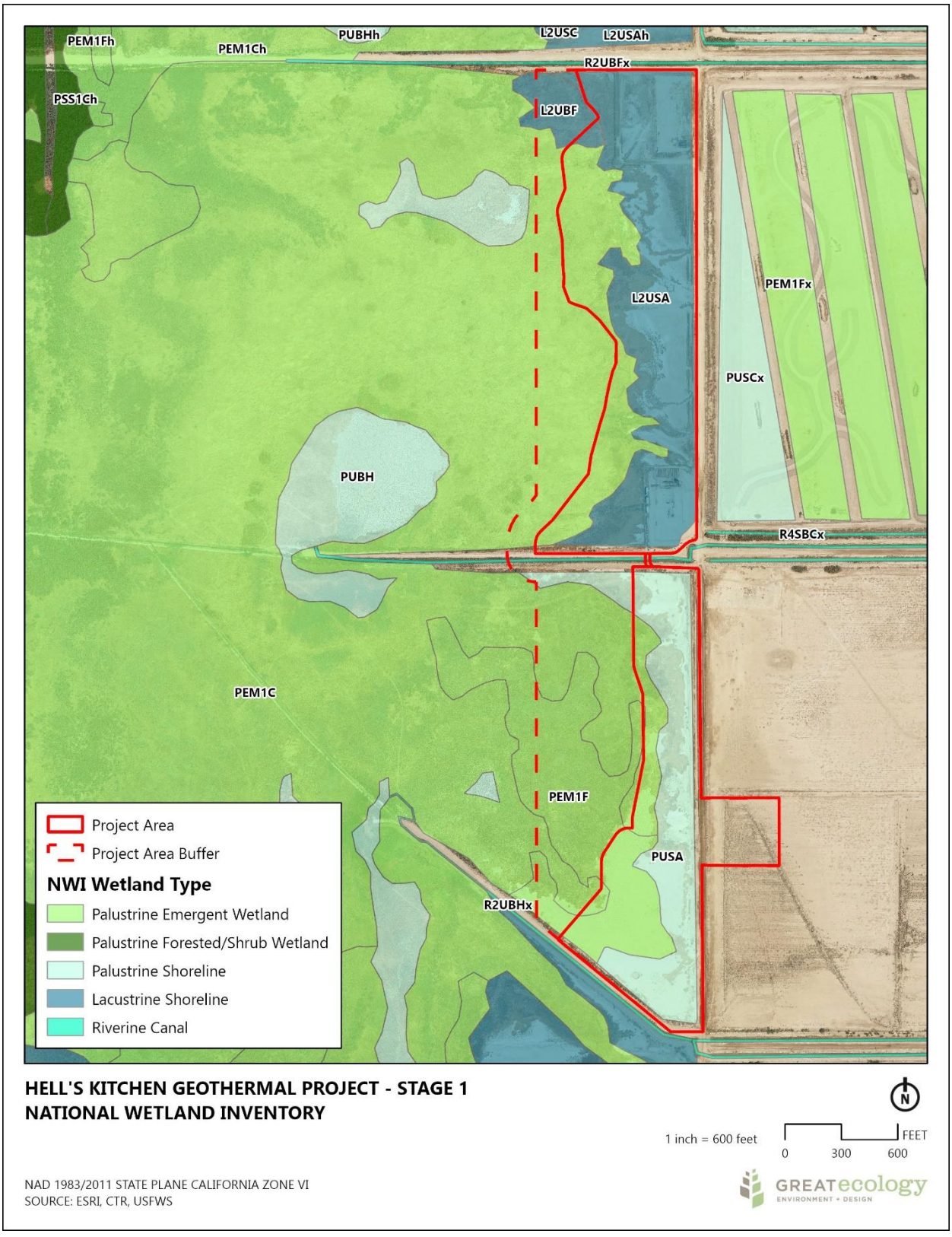


Figure 9. NRCS Soil Types

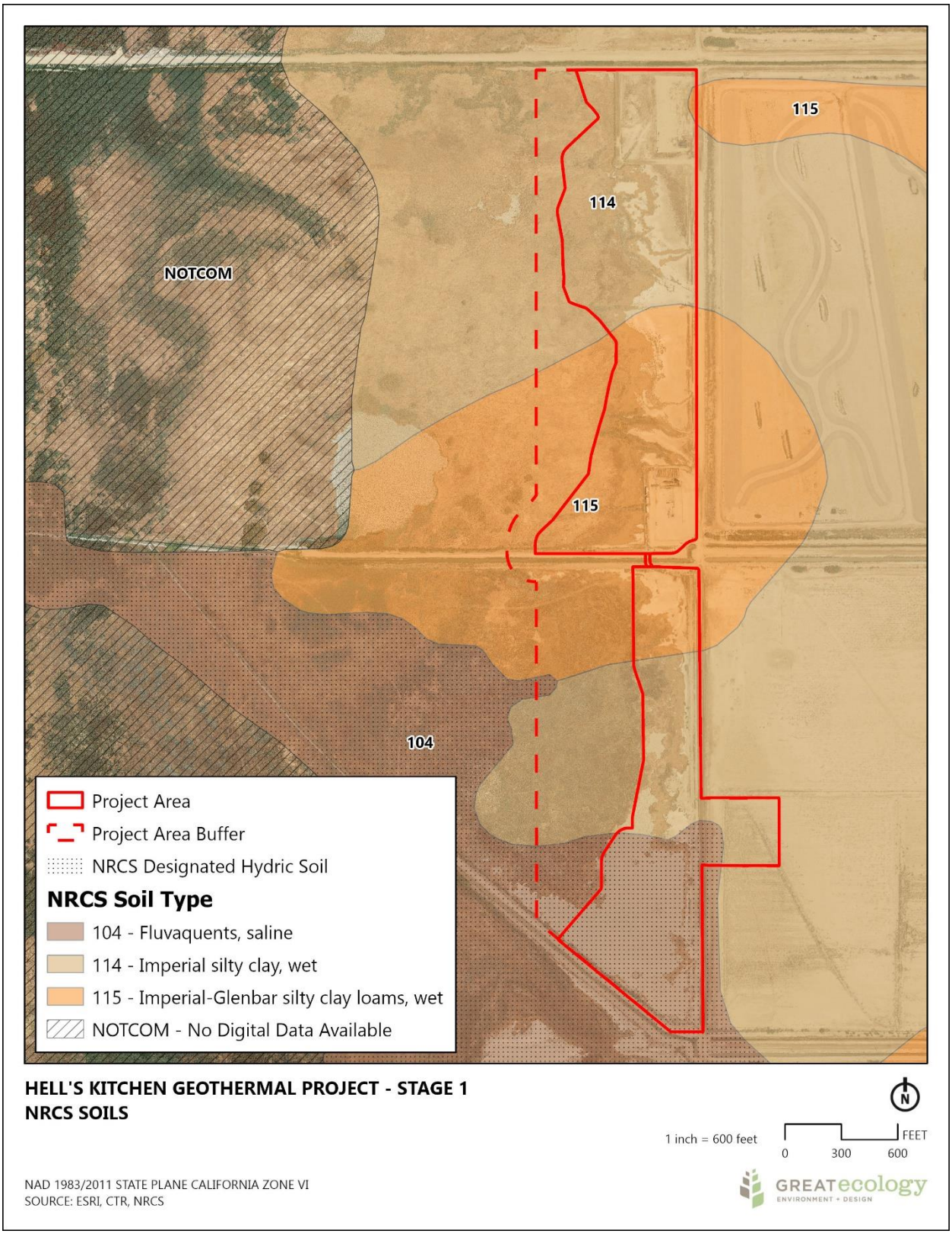


Figure 10. Aquatic Resources Delineation Overview

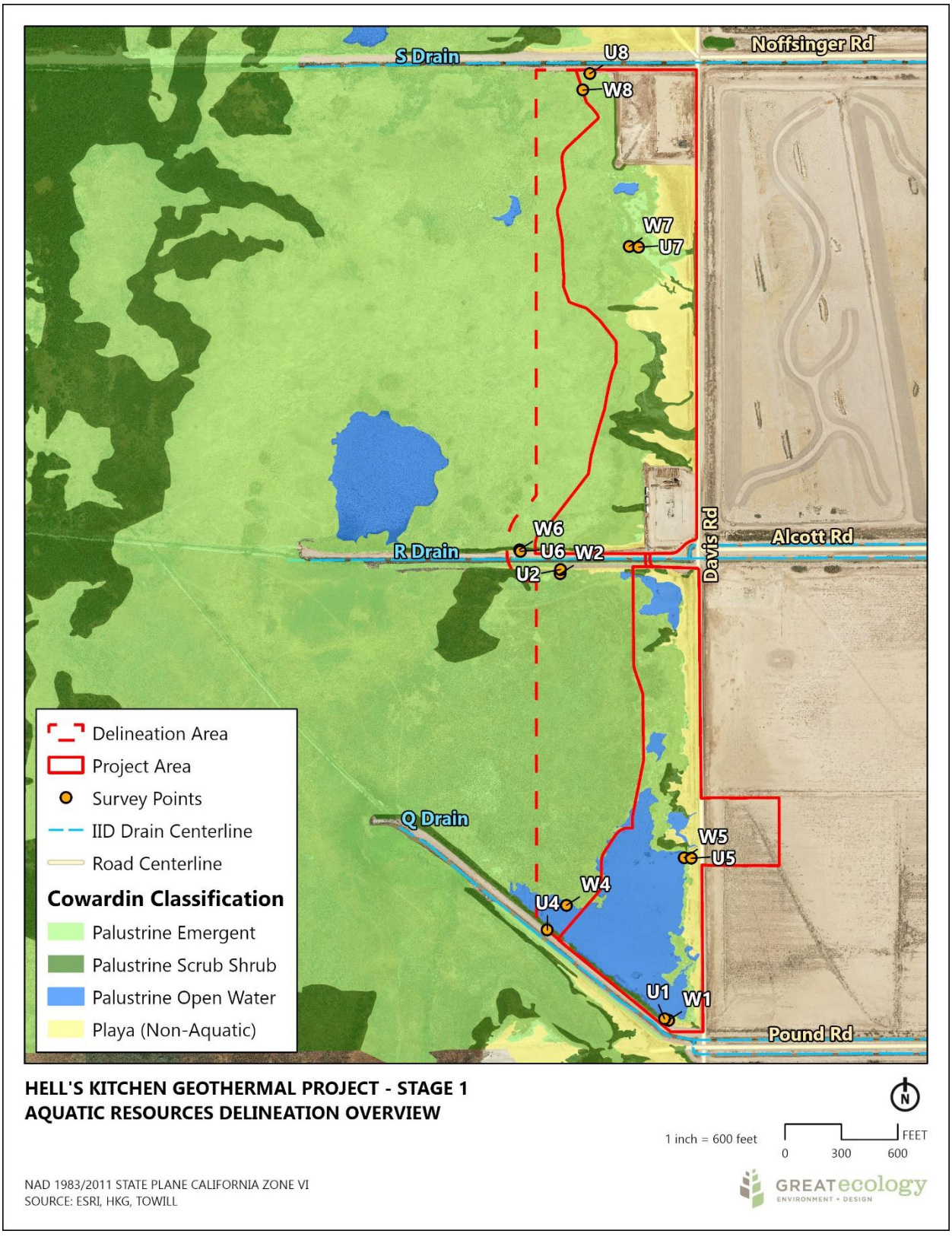


Figure 11. Aquatic Resources Delineation - North Zone

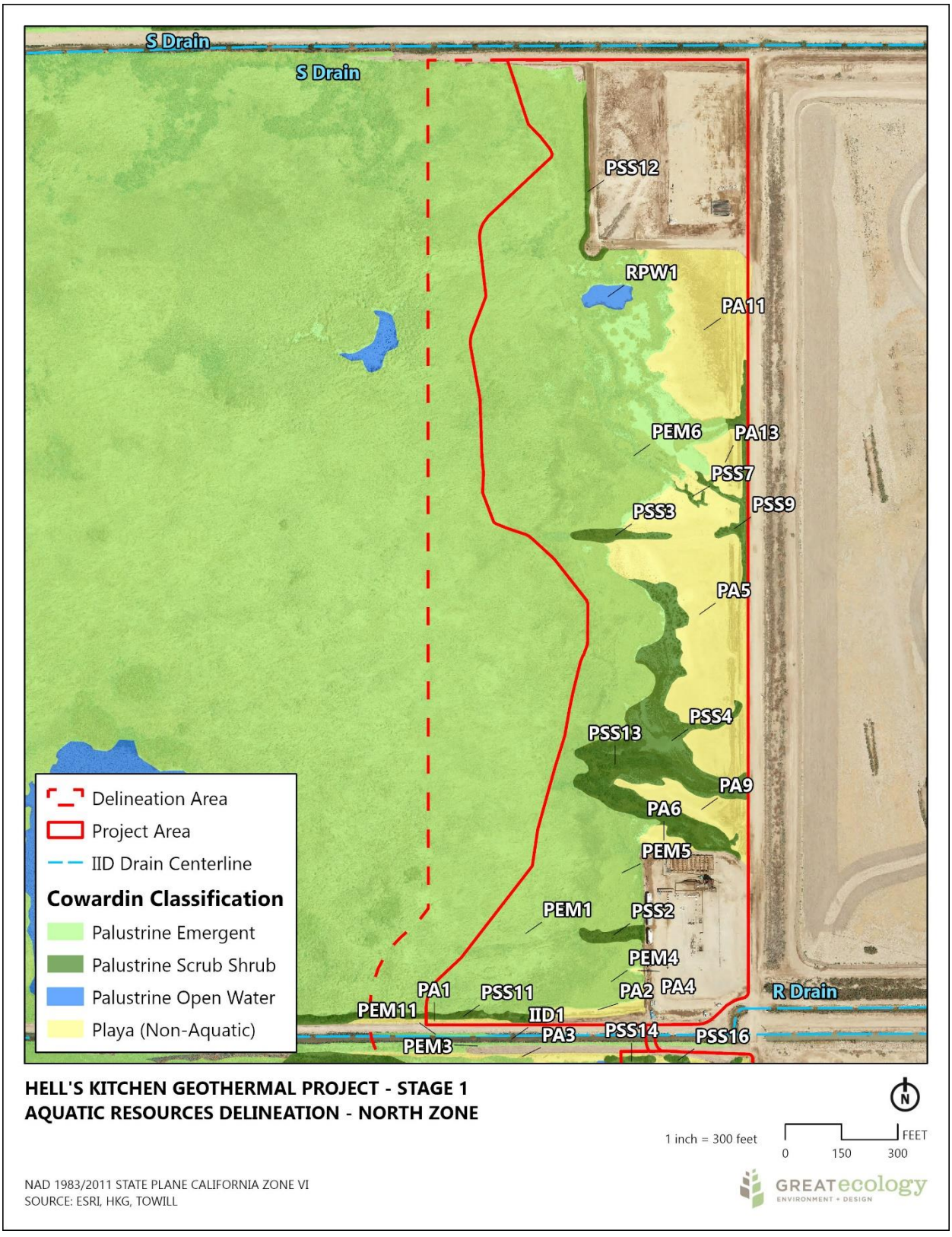
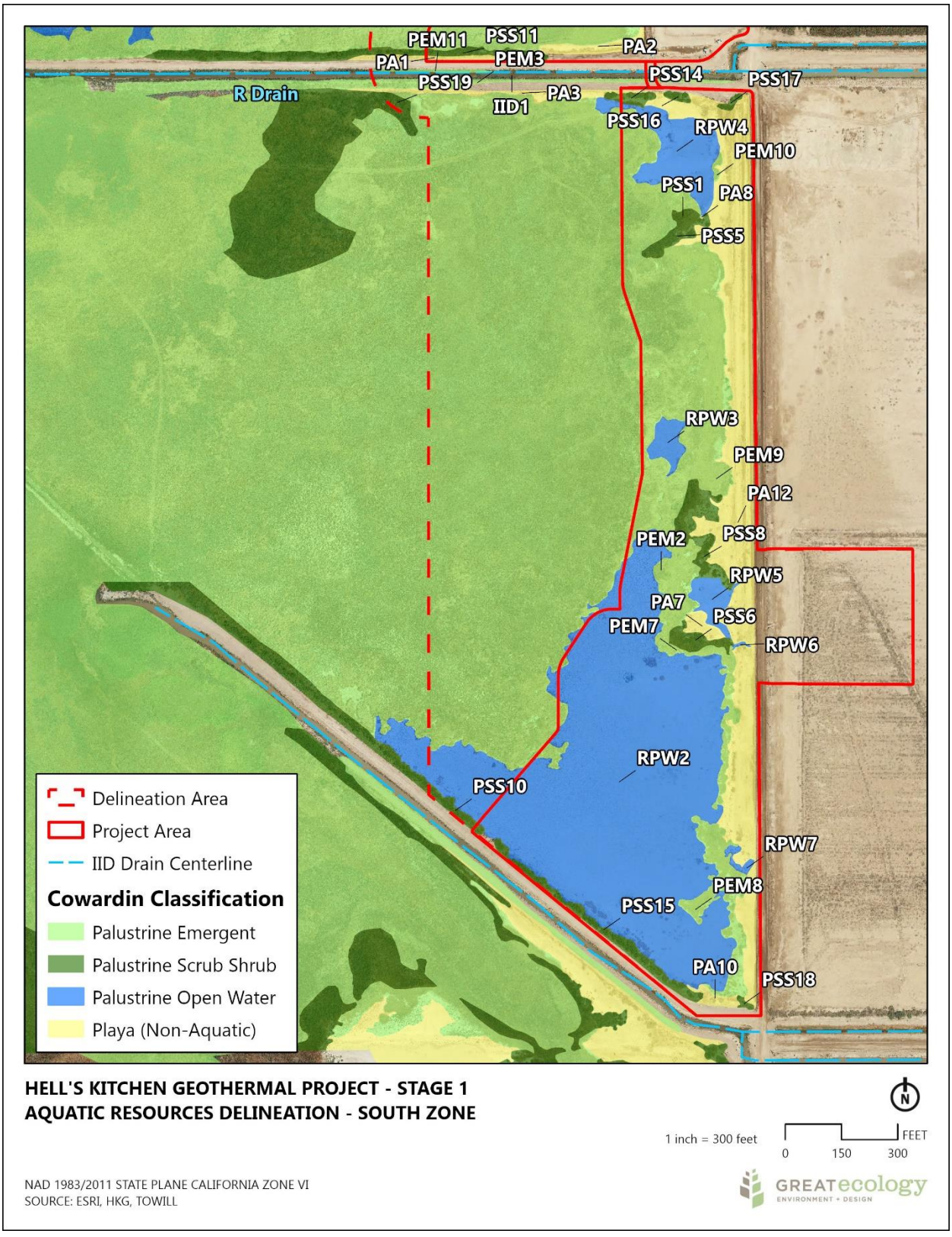


Figure 12. Aquatic Resources Delineation - South Zone



Appendix B:
Onsite Photographs



Photo 1: View of PSS vegetation community at W1.



Photo 2: View of clay loam soils with depleted matrix (F3) at W1.



Photo 3: Representative view of vegetation community and soil pit at U1.



Photo 4: View of sandy clay loam soil cross-section at U1.



Photo 5: View of surface soil cracks and PEM vegetation community at W2.



Photo 6: Cross section of clay loam soils at W2.



Photo 7: View of redox soft masses (F8) at W2.



Photo 8: View of soi pit and vegetation at U2.



Photo 9: View of soil cross-section at U2.



Photo 10: View surface soil cracks (B6) and facultative vegetation at W4.



Photo 11: View of redox matrix (F8) at W4.



Photo 12: View of soil pit at U4.



Photo 13: View of PEM vegetation community at W5.



Photo 14: Soil cross section at U5.



Photo 15: View of PEM vegetation community at W6.



Photo 16: Soil cross section showing depleted matrix (F3) at W6.



Photo 17: Soil pit in upland playa next to wetland margin at U6.



Photo 18: Soil cross section at U6.



Photo 19: Soil pit and facultative vegetation at W7.



Photo 20: View of soil profile at W7.



Photo 21: View of redox soft masses (F8) at W7.



Photo 22: Soil pit and vegetation at U7.



Photo 23: Soil cross section at U7.



Photo 24: Soil pit and facultative wetland vegetation at W8.



Photo 25: Soil cross section with redox depressions (F8) at W8.



Photo 26: Soil cross section at U8.

Appendix C:
Wetland Delineation Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: W1

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5804021°W Long: 33.2206042°N Datum: NAD83

Soil Map Unit Name: 104 - Fluvaquent Saline NWI classification: Palustrine Scrub Shrub

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. Allenrolfea occidentalis	20	Y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Distichlis spicata	5	Y	FAC
2. Allenrolfea occidentalis	5	Y	FAC
3. Typha domingenesis	10	Y	FACW
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent cattails present

SOIL

Sampling Point: W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.5	10YR 4/3	100					C L	
0.5-4	10YR 4/3	10	N 2.5 / 0	90	D	M	C L	
4-18	10 YR 4/3	100					C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Prominent depletion observed within first 4" of surface

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 14

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drift deposits and clam shells

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: U1

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

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Subregion (LRR): LRR D Lat: U1 115.5804714°W Long: 33.2206226°N Datum: NAD83

Soil Map Unit Name: 104 - Fluvaquent Saline NWI classification: Palustrine Scrub Shrub

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. Allenrolfea occidentalis	25	Y	FACW
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Allenrolfea occidentalis	5	Y	FACW
2. Typha domingensis	5	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent cattails present

SOIL

Sampling Point: U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	100					Sa C L	
12-18	10YR 4/3	60	10YR 2/1	30	D	M	Sa C L	
			10YR	10	C	M	Sa C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Intermixed depletion, reduced soft masses at depths greater than 12"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Clam shells

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: W2

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5822377°W Long: 33.2271416°N Datum: NAD83

Soil Map Unit Name: 115 -Imperial-Glenbar silty clay loams. wet NWI classification: Palustrine Emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Dried area on margin of senescent Southern cattail marsh that recently burned

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. Allenrolfea occidentalis	30	Y	FACW
2.			
3.			
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Allenrolfea occidentalis	10	Y	FACW
2. Distichlis spicata	5	Y	FAC
3. Typha domingenesis	5	Y	FACW
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent saltgrass and southern cattail observed. Recently germinated iodinebush seedlings, presumably from recent rainstorm

SOIL

Sampling Point: W2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 5/3	100					Si C L	
1-10	10YR 5/3	90	2.5YR 4/6	10	C	M	C L	
10-18	10YR 4/3	90	5YR 4/4	10	C	M	C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soft Fe masses in matrix, throughout soil profile 1-18"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: U2

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Toe of roadside berm Local relief (concave, convex, none): Concave Slope (%): 4

Subregion (LRR): LRR D Lat: 115.5822325°W Long: 33.2272055°N Datum: NAD83

Soil Map Unit Name: 115 -Imperial-Glenbar silty clay loams. wet NWI classification: Playa

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology ✓ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. Arundo donax	5	Y	FACW
2. Allenrolfea occidentalis	5	Y	FACW
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Distichlis spicata	15	Y	FAC
2. Typha domingenesis	15	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent saltgrass and Southern cattail

SOIL

Sampling Point: U2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/4	100					Sa L	
5-6	10YR 5/6	80	10YR 4/6	20	C	M	C L	faint redox
6-18	10YR 4/3	100					C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

There is an unlined drainage ditch on the other side of the berm

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: W4

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR D Lat: 115.5825030°W Long: 33.2219333°N Datum: NAD83

Soil Map Unit Name: 104 - Fluvaquent Saline NWI classification: Palustrine Open Water

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: R = 30ft.)			
1. None			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. Tamarix sp.	10	Y	FAC
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent cattails in immediate vicinity

SOIL

Sampling Point: W4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10Y 6/0	65	10YR 5/8	30	C	M, PL	Si C	
			10GY 3/0	5	D	M	Si C	
6-18	5GY 5/0	60	10GY 3/0	15	D		C L	
			10YR 5/8	25	C		C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Significant levels of depletions and reductions present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Old shells found on soil surface.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: U4

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Side of dirt road Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): LRR D Lat: 115.5825030°W Long: 33.2219333°N Datum: NAD83

Soil Map Unit Name: 104 - Fluvaquent Saline NWI classification: Palustrine Scrub Shrub

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Roadside sampling point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	40	Y	FAC
2.			
3.			
4.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. Tamarix sp.	30	Y	FAC
2.			
3.			
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent arundo donax in imeediant vicinity. Site is on roadside/berm that is built up from fill from the nearby irrigation drain and potentially fill from elsewhere.

SOIL

Sampling Point: U4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/4	100					Sa C	Dead arundo intermixed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soil cracks on road, may be subjected to seasonal sheet flow along dirt road.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: W5

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5801079°W Long: 33.2229793°N Datum: NAD83

Soil Map Unit Name: 104 - Fluvaquent Saline NWI classification: Palustrine Open Water

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Distichlis spicata	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent saltgrass flat located in open playa

SOIL

Sampling Point: W5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 6/2	90	2.5YR 2.5/4	10	C	M	Si C	soft masses
3-6	10YR 4/3	100					C L	
6-18	10YR 3/6						C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Open playa that may still be subjected to seasonal flooding from precipitation

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: U5

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5799871°W Long: 33.2229693°N Datum: NAD83

Soil Map Unit Name: 104 -Fluvaquent Saline NWI classification: Playa

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

30' from Davis Road

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: R = 5ft.)			
1. Allenrolfea occidentalis	25	Y	FACW
2. Distichlis spicata	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45	= Total Cover	
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 55 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Dead saltgrass along the margin of the site

SOIL

Sampling Point: U5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 5/3	100					Sa L	
5-18	10YR 3/6	100					Si C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: W6

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5829450°W Long: 33.2274986°N Datum: NAD83

Soil Map Unit Name: 115 -Imperial-Glenbar silty clay loams. wet NWI classification: Palustrine Scrub Shrub

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Northside of bern by R Drain

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	20	Y	FAC
2.			
3.			
4.			
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Arundo donax	15	Y	FAC
2. Distichlis spicata	30	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 55 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: W6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/6	100					Sa L	Distinct Salt crystal formation at
3-8	10YR	100					Sa C L	1" depth
8-18	10YR	35	N 3/0	65			C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: U6

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 1115.5829327°W Long: 33.2274748°N Datum: NAD83

Soil Map Unit Name: 115 -Imperial-Glenbar silty clay loams. wet NWI classification: Playa

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp	5	Y	FAC
2.			
3.			
4.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: U6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/4	100					Sa L	Salt crystal formation at 1" depth
10-18	10YR 5/3	100					C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: W7

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5810019°W Long: 33.2319262°N Datum: NAD83

Soil Map Unit Name: 114 -Imperial silty clay, wet NWI classification: Palustrine Emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: R = 30ft.)			
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. Allenrolfea occidentalis	5	Y	FACW
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: R = 5ft.)			
1. Tamarix sp.	15	N	FAC
2. Distichlis spicata	40	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	55	= Total Cover	
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: W7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/3	85	7.5YR 5/8	15	C	PL	Si C L	Wide pore linings
6-18	10YR 5/2	98	7.5YR 5/8	2	C	PL	Sa C L	Slight PL redox at 3"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: U7

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5808358°W Long: 33.2319131°N Datum: NAD83

Soil Map Unit Name: 114 -Imperial silty clay, wet NWI classification: Palustrine Emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Allenrolfea occidentalis	5		
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: U7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/4	100					Sa C L	
10-18	10YR 3/3	100					Sa C L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: W8

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5816665°W Long: 33.2344562°N Datum: NAD83

Soil Map Unit Name: 114 -Imperial silty clay, wet NWI classification: Palustrine Emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	10	Y	FAC
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Distichlis spicata	30	Y	FAC
2. Typha domingenesis	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent cattail with Distichlis spicata growing through

SOIL

Sampling Point: W8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 6/2	85	5YR 7/6	15	C	PL	S C	approx. 25% live roots OM
8-18	10YR 4/3	100					S C	approx. 10% live roots OM

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ✓ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Niland, Imperial County Sampling Date: 11/10/2022

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: U8

Investigator(s): Elias Potashov and Brandon Reeder Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Alkali sink Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): LRR D Lat: 115.5816665°W Long: 33.2344562°N Datum: NAD83

Soil Map Unit Name: 114 -Imperial silty clay, wet NWI classification: Not Classified

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R = 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R = 15ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: R = 5ft.)			
1. Distichlis spicata	30	Y	FAC
2. Allenrolfea occidentalis	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: Radius = 30ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: U8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/3	100					S C	no indicators

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
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- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



WETLAND DELINEATION REPORT
HELL'S KITCHEN GEOTHERMAL PROJECT – WELL PAD 4
Imperial County, California

Prepared for:

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Carlsbad Field Office
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Carlsbad, CA 92008

On Behalf of:

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NOVEMBER 4, 2022

TABLE OF CONTENTS

1.0 PROJECT BACKGROUND 1

1.1 Project Location 1

1.2 Historical Landscape Change 2

2.0 EXISTING RESOURCE CHARACTERIZATION 3

2.1 National Land Cover Database Classification 3

2.2 Federal Emergency Management Agency Flood Rating 4

2.3 National Wetland Inventory Wetland & Water Resources 4

2.4 Natural Resource Conservation Service Soil Resources 5

2.5 Hydrology & Connectivity 6

3.0 WETLAND DELINEATION (2022) 9

3.1 Methods 9

3.2 Wetland Delineation Results 10

4.0 SUMMARY OF RESOURCES WITHIN DELINEATION AREA 13

4.1 Verification of Wetland Delineation 13

5.0 REFERENCES 14

FIGURES

Figure 1. Regional Site Vicinity 17
Figure 2. Regional Watershed and Subbasin 18
Figure 3. Local Site Vicinity 19
Figure 4. Topography within Delineation Area 20
Figure 5. Regional Land Use 21
Figure 6. Surrounding Local Land Use 22
Figure 7. FEMA Flood Insurance Rate Map 23
Figure 8. National Wetland Inventory Types 24
Figure 9. NRCS Soil Types 25
Figure 10. Aquatic Resources Delineation Survey Locations 26
Figure 11. Aquatic Resources Delineation 27

TABLES

Table 1. Well Pad and Access Road Location 1
Table 2. Wetland and Water Resources within Delineation Area (NWI) 5
Table 3. Soil Resources within Delineation Area (NRCS) 5
Table 4. IID Drain Flow Summary for 2016-2020 6
Table 5. Average Monthly Rainfall (1991-2021) 7
Table 6. Summary of Aquatic Resources within Delineation Area 10
Table 7. Complete List of Delineated Aquatic Resources 10
Table 8. Summary of Wetland Indicators within Delineation Area 12
Table 9. Summary of Linear Aquatic Features within Delineation Area 12
Table 10. Summary of Resources within Delineation Area 13

CHARTS

Chart 1. Annual Precipitation – 1942 – 2020 Trend (WETS, Niland Station) 8

APPENDICES

Appendix A: Supporting Maps
Appendix B: Onsite Photographs
Appendix C: Wetland Delineation Data Sheets

1.0 PROJECT BACKGROUND

On behalf of Hell's Kitchen Geothermal, LLC (HKG), a wetland delineation was prepared to identify the wetland line in support of permitting and California Environmental Quality Act (CEQA) documentation in response to a planned permanent geothermal well pad for testing of geothermal resources and the extension of Imperial Irrigation District's (IID) northern S Drain berm (S-Berm access road) to provide access to the well pad. The project is in Imperial County, California, and is referred to as the Well Pad 4 and S-Berm Access Road Extension of the Hell's Kitchen Geothermal Project.

1.1 Project Location

HKG is proposing an exploratory well pad (Well Pad 4) for geothermal and minerals testing and an associated access road (S-Berm Access Road) in Imperial County, California. The Well Pad 4 wetland delineation area is in the Niland, California U.S. Geological Survey (USGS) Quadrangle, Section 2 and 11, Township 11 South, Range 13 East. Approximate coordinates of well pad corners and access road start- and endpoints appear in TABLE 1.

Table 1. Well Pad and Access Road Location

Location	Northing	Easting	Latitude	Longitude
Well Pad 4				
Northwest Corner	3977996.93	631008.56	33.232982	-115.593926
Northeast Corner	3677997.77	631103.62	33.232978	-115.592906
Southwest Corner	3677780.05	631010.83	33.231026	-115.593933
Southeast Corner	3677780.77	631105.88	33.231021	-115.592913
S-Berm Access Road				
Tie In with Existing S-Berm	3678189.49	631019.67	33.234717	-115.593779
Tie In with Well Pad 4	3677996.93	631016.49	33.232981	-115.593841

The delineation area can be accessed by heading north on State Highway 111 from Brawley, CA for 18 miles and turning left (west) onto Noffsinger Road just before Niland, CA. Travel approximately 3.5 miles west on Noffsinger Road. The project area is located southwest of the Davis Road and Noffsinger Road intersection.

The delineation area straddles the boundary between two watersheds (HUC 10: 1810020411 & 1810020414) (FIGURE 2). The entire Imperial Valley is contained within a single, larger subbasin (HUC 8: 18100204). Regionally and locally, water flow is heavily controlled via the IID irrigation network, which supplies virtually all the Imperial Valley's water, the majority of which supports agriculture. This expansive water delivery system redirects freshwater from the Colorado River to the numerous residential, commercial, and industrial users throughout the Imperial Valley, and then accepts the irrigation return

flow. Return flow exits the network in two primary ways: through the Alamo and New Rivers or directly at the terminal drainage endpoints around the Salton Sea. Historically these drainage endpoints reached the Sea, however many now discharge onto playa that has been exposed by the receding shoreline.

The delineation area is located on the developed northern berm of the S-Drain and undeveloped land that was previously inundated by the Salton Sea (FIGURE 3). Other notable features include the Imperial Wildlife Refuge – Wister Unit, of which the southern border is directly adjacent to the delineation area just east of Davis Rd. Elevations within the project area range from -219 feet below mean sea level (MSL) to -229 feet MSL. (FIGURE 4). The local topography has been heavily transformed by both the introduction of IID's irrigation network in the early 1900s as well as climatological and ensuing anthropogenic changes that have influenced the Salton Sea's surface water elevation for over a century.

1.2 Historical Landscape Change

The delineation area and surrounding region have historically experienced major changes in land cover in direct response to the fluctuating shoreline of the Salton Sea, which in turn is controlled largely by extreme climate events and chronic anthropogenic drivers. Sustained agricultural activity was nearly infeasible in the Imperial Valley prior to the introduction of irrigation, despite many attempts throughout the late-1800s (IVPM 2022). Prior to 1905, the Sea (then the "Sink") sat at approximately -273 feet MSL, an elevation approximately 35 ft lower than today (USGS 10254005). In 1905, human error resulted in a catastrophic breach of the Colorado River's embankment, resulting in the full hydrologic flow rerouting directly into the Salton Sink for two years until, in 1907, it was finally repaired. Much of the existing infrastructure was destroyed, and the present-day delineation area was fully underwater, as was much of the surrounding region. Expansive areas of previously exposed lakebed remained inundated as the floodwaters gradually receded through the 1910s, with surface water levels finally stabilizing in the early 1920s.

From the 1920s through the 1930s, the newly formed IID began constructing a vast irrigation delivery and drainage network, originating in Calexico and expanding in a south to north direction toward the Salton Sea shoreline. By the late 1930s, most of the shoreline north of the Alamo River that encompasses the delineation area was dominated by a network of irrigation return flow canals that discharged water collected from agricultural field to the east.

From the 1940s through the 1970s, the shoreline continued to expand inland as growing agricultural activity increased irrigation demand and in turn increased irrigation return flow to the Salton Sea.

Throughout the 1970s and 1980s, an above-average precipitation trend maintained high surface water levels around -227 feet MSL. These high-water elevation levels were maintained throughout the 1990s, as a result of steady inflow from the Alamo River.

In 2003, the Quantification Settlement Agreement (QSA), a water conservation and transfer program, transferred up to 300,000 acre-feet per year of Colorado River water from the IID's water service area in Imperial County, California to the San Diego County Water Authority, Coachella Valley Water District, and Metropolitan Water District (IID, MWD, Coachella Valley Water District 2003). The transfer of water from IID's service area to metropolitan areas resulted in declines in the water surface elevation of the Salton Sea.

As the Salton Sea shoreline began to recede during the early 2000s, vegetation colonized the newly exposed playa and filled in areas that were inundated only a few years prior as a result of the discharge of irrigation return flow water from IID's drain system. Drone imagery of the present-day configuration (as of September 2021) reveals an assemblage of various vegetation types. Southern cattail (*Typha domingensis*) stands, and similar emergent wetland types are consistently found adjacent to and surrounding drain outlets and often encircling open water areas. At the fringes of these emergent marsh areas are scrub-shrub species, such as iodinebush (*Allenrolfea occidentalis*) and invasive tamarisk (*Tamarix* spp.) that occupy areas primarily along the shoreline. However, pockets of both cattail marsh and open water areas are interspersed throughout small depressions in between ridges of marginally higher elevation that support tamarisk and iodinebush. The Q, R, and S-Drains were extended to the west and vegetation cleared within the delineation area in late January to mid-February 2022 that disturbed wetland vegetation and hydrology.

2.0 EXISTING RESOURCE CHARACTERIZATION

2.1 National Land Cover Database Classification

The Multi-Resolution Land Characteristics (MRLC) consortium, a group of federal agencies, has coordinated and generated land use and land cover classification raster data for the coterminous US, Hawaii, and Puerto Rico every three years since 2001. The most recent iteration was released in 2019 by the USGS and evaluated for this report. The region surrounding the delineation area is predominantly mapped as cultivated crops with scrub-shrub land cover along ephemeral drainage pathways at the fringes of the watershed and following seepage areas from the All-American Canal (AAC) and IID irrigation network (FIGURES 5 & 6). Areas classified as cultivated crops include both true agricultural land use as well as parcels currently used as wildlife refuge and managed freshwater marshes.

Playa is classified as barren land while roadways and infrastructure are classified as developed features ranging from low to high intensity. Since the native resolution is only 30 by 30 meters, the IID irrigation network is unmapped and unclassified. Open water is

classified as open water, regardless of salinity or source, and includes both the extent of the Salton Sea, Morton Bay (north of the Alamo River), and numerous smaller freshwater ponds located along the shoreline and further inland.

The delineation area is situated on the fringe of an emergent herbaceous wetlands that is in turn bordered by scrub-shrub, herbaceous grassland, and varying patches of barren land. The delineation area on the eastern fringe is classified as either emergent herbaceous wetland or scrub-shrub, a large patch of open water, and minor patches of barren land. The only mapped development in the immediate vicinity are the bordering roads.

2.2 Federal Emergency Management Agency Flood Rating

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) number 06025C0725C, revised September 26, 2008, designates the entire delineation area as located outside of the 100-year floodplain (FIGURE 7).

2.3 National Wetland Inventory Wetland & Water Resources

The delineation area contains 11.97 acres of mapped wetlands according to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (FIGURE 8). NWI maps are based on remote sensing and are predictive tools to help assess the likelihood that an area contains wetlands without a detailed assessment of sources of water or specific species of wetland plants.

The NWI wetland type that occurs within the delineation area is palustrine (11.97 acres, 99% of the total project area) (TABLE 2). The NWI maps describe these wetland types as a mixture of semi-permanently and seasonally flooded.

Table 2. Wetland and Water Resources within Delineation Area (NWI)

Cowardin Code	Cowardin Description	Water Regime (Flood Frequency)	Modifier	Wetland Acres	Percent of Total
PEM1C	Palustrine emergent persistent	Seasonally	NA	1.50	12.53%
PEM1Fh	Palustrine emergent persistent	Semipermanent	Diked/ Impounded	0.21	1.78%
PEM1Ch	Palustrine emergent persistent	Seasonally	Diked/ Impounded	1.28	10.70%
PEM1F	Palustrine emergent persistent	Semipermanent	NA	5.09	42.48%
PSS1C	Palustrine scrub-shrub persistent	Seasonally	NA	2.09	17.44%
PSS1F	Palustrine scrub-shrub persistent	Semipermanent	NA	1.66	13.85%
PSS1Ch	Palustrine scrub-shrub persistent	Seasonally	Diked/ Impounded	0.14	1.20%
			Total	**11.97**	**100%**
Source: US Fish & Wildlife Service National Wetland Inventory (2022)					

2.4 Natural Resource Conservation Service Soil Resources

The Natural Resource Conservation Service (NRCS) Web Soil Survey identified one soil type within the delineation area (TABLE 3). Soil data was not available for the majority of the project area (FIGURE 9). Based on the field assessment, soils were primarily loam clays with some silty clays and sandy clays throughout the top 12 to 18 inches.

Table 3. Soil Resources within Delineation Area (NRCS)

Symbol	Map Unit Name	Hydrologic Soil Group	Hydric Soil Rating	Depth to Water Table (in)	Acres	Percent of Total Area
NOTCOM	No Data	No Data	No Data	No Data	12.08	99.98%
114	Imperial silty clay, wet	C	No	No Data	0.0028	0.02%
				Total	**12.09**	**100%**
Source: Natural Resource Conservation Service (2022)						

2.5 Hydrology & Connectivity

2.5.1 Irrigation Drains

The largest hydrologic source within and around the delineation area is water that flows through the IID irrigation network. This expansive water delivery system redirects freshwater from the Colorado River to the numerous agricultural fields throughout the Imperial Valley. Water is then collected from the fields into a series of irrigation return flow drains that allows the flow of water across the region and eventually into the Salton Sea. When IID originally installed the drains, they effectively conveyed excess irrigation water to points well beyond the current shoreline of the Salton Sea. Over time and with neglect of maintenance, the Salton Sea's declining water levels and receding shoreline allowed the lower reaches of the drains to fill with silt, trapping debris and allowing the growth of wetland plants that blocked upstream flow. The result was discharge of irrigation return flow water into the delineation area from the drains. Based on a five-year average (2016 to 2020), the S-Drain historically discharged approximately 1,965 acre-feet of water per year into the delineation area (TABLE 4).

Table 4. IID Drain Flow Summary for 2016-2020

Drain Name	Mean Daily Flow Per Year (cfs)					Total Acre Feet Per Year				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
S-Drain	2.3	3.7	3.1	2.5	2.4	1,667	2,684	2,259	1,799	1,417

In February 2022, the S-Drain was extended to the west approximately 5,742 feet and discharges near the shore of the Salton Sea.

2.5.2 Groundwater

The delineation area is in the Imperial Valley Groundwater Basin (Basin Number 7-30), an area that encompasses over 1,800 square miles. Groundwater in the basin occurs in two main water-bearing zones (GEI Consultants 2012).

- A shallow (0 to 300 feet), unconfined aquifer bounded by a low permeability clay layer (referred to as an aquitard); and
- An intermediate (300 to 1,500 feet), semi-confined aquifer bounded above by the aquitard and below by marine and non-marine sediments

Groundwater flows across the Imperial Valley in a general south to north trajectory, with groundwater elevation rising as the underflow approaches the Salton Sea. Major groundwater recharge sources in the basin consist of irrigation return flow, including seepage from unlined canals (CH2MHill 2018). The USGS maintains a long-term groundwater monitoring well in Niland, approximately 13 miles east of the Salton Sea

shoreline (USGS 331144115231501). However, to-date there have been no groundwater surveys conducted within the immediate vicinity of the delineation area, and therefore inferences were made from regional studies and existing data.

Finally, local soil conditions (e.g., the presence or absence of semi-permeable clay layers) can affect groundwater elevation in areas surrounding the Salton Sea. Localized artesian conditions create a pressure gradient that forces groundwater closer to the surface in select areas where there are breaks in the less-permeable layers. This effect is most pronounced east of the Alamo River (GEI Consultants 2012).

2.5.3 Precipitation

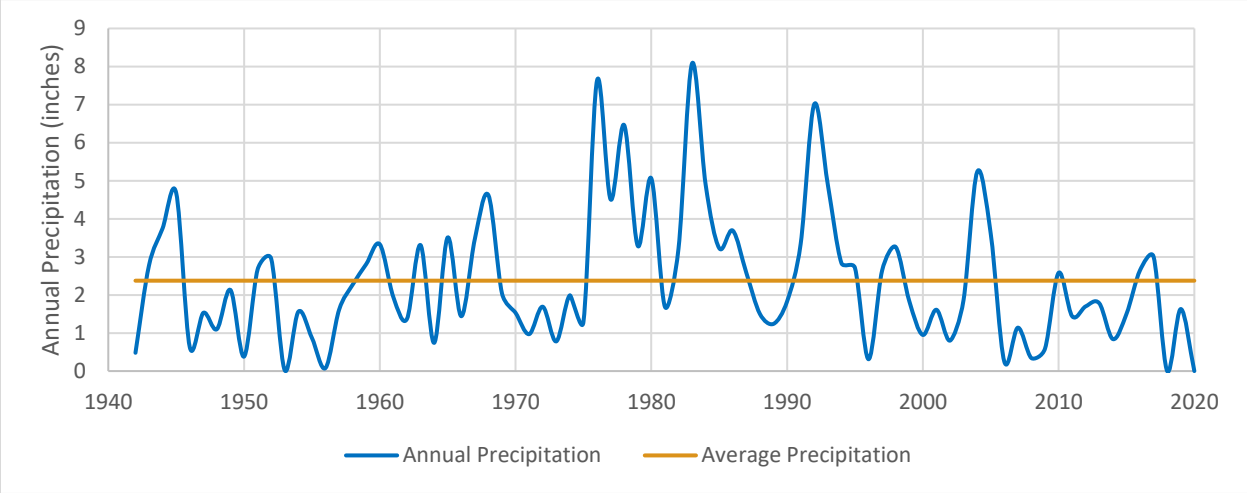
A minor hydrologic source within and around the delineation area is precipitation. Precipitation is very low over much of the basin, particularly in low-lying areas away from the mountains in the Coachella Valley. The Imperial Valley experiences approximately 2.50 inches of rainfall per year, on average, with fewer than six days per year, on average receiving >0.10 inches of rainfall (WETS Station, Niland CA, 1991 – 2021) (TABLE 3), well below the surface evaporation rate.

Table 5. Average Monthly Rainfall (1991-2021)

Month	Average Rainfall (in)
January	0.49
February	0.51
March	0.32
April	0.06
May	0.03
June	0.02
July	0.11
August	0.16
September	0.25
October	0.09
November	0.11
December	0.32
Total	**2.49**
Source: WETS 1991-2021 for Niland, CA	

Presently, the region is experiencing a long-term below-average precipitation trend characterized by a longer duration between above-average rainfall years and decades of precipitation that fall below the historical average. In comparing multi-decadal periods, the average precipitation for the region from 1980 to present is approximately 2.42 inches per year, whereas the average precipitation from 2000 to present is approximately 1.60 inches per year (CHART 1).

Chart 1. Annual Precipitation – 1942 – 2020 Trend (WETS, Niland Station)



2.5.4 Evapotranspiration

A major source of hydrologic loss is through evaporation and evapotranspiration. Evapotranspiration (ETo) rates obtained from California Irrigation Management Information System's (CIMIS) Westmorland North Station Number 181 (Imperial County/ Coachella Valley) show a 2020/2021 ETo rate of 61.12 inches. This rate is 10.48 inches less than the CIMIS's monthly average reference ETo rate for Zone 18 (Imperial County/ Coachella Valley) set forth in the CIMIS's ETo guidance document for California (California Department of Water Resources 2012). High evapotranspiration rates combined with very low hydraulic conductivity in surface soils severely limits the potential for subsurface water to sustain plants because rates of withdrawal exceed the potential rate of recharge.

3.0 WETLAND DELINEATION (2022)

3.1 Methods

The project area was surveyed on October 19, 2022 to delineate the limits of wetlands and waters that may be subject to Clean Water Act (CWA) Section 404 jurisdiction. Prior to visiting the delineation area, USFWS NWI maps, USGS topographical maps, aerial imagery, and past aquatic resource delineation reports were reviewed to identify potential wetlands or waters. Wetlands and waters were delineated using methods described in the *1987 U.S Army Corps of Engineers Wetland Delineation Manual* (USACE 1987), the Regional Supplement to the U.S. Army Corps of Engineers: Arid West Region (Version 2.0) (USACE 2008), and the *South Pacific Regulatory Program: Wetlands Determination and Delineation Procedures for Irrigated Lands* (USACE 2012). Great Ecology delineated ordinary high water mark using the methods described in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008).

Wetland boundaries were delineated using a three-parameter approach consisting of dominance of hydrophytic vegetation, hydric soils, and wetland hydrology. The indicator status for vegetation was determined by the most current National Wetland Plant List (USACE 2020, version 3.5) and using nomenclature offered in the US Department of Agriculture's (USDA) PLANTS Database (USDA 2021). The OHWM was identified by completing a preliminary delineation using aerial photography and vegetation maps. The preliminary delineation was verified in the field using the floodplain unit indicators and datasheet from *the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008).

Data points were recorded within the delineation area at eight locations to verify wetland/upland transition zones and one location to verify OHWM for the S-Drain. Great Ecology recorded data point locations and wetland boundaries using a sub-meter accuracy Global Positioning System (GPS) unit, which were post-processed before incorporating onto delineation area maps. Photographs and data forms collected during the wetland delineation appear in APPENDIX B and APPENDIX C, respectively.

Aerial ortho-imagery was captured within the delineation area using a drone in September 2021 and recorded at a resolution of four inches per pixel. The resulting ortho-imagery was used to classify landform types and vegetation for areas within the delineation area that were inaccessible.

3.2 Wetland Delineation Results

A total of 10 acres of aquatic resources were delineated within the study area (TABLES 6 -8, FIGURES 10-12). Representative delineation area photographs in APPENDIX B and wetland data sheets in APPENDIX C.

Table 6. Summary of Aquatic Resources within Delineation Area

	Cowardin Type	Dominant Community	Acres
Wetlands	**Palustrine Emergent (PEM)**	Cattail Marshes	0.56
		Alkaline Marsh	0.06
		PEM Subtotal	**0.62**
	Palustrine Scrub Shrub (PES)	Tamarisk Thickets	6.80
		Saltbush Scrub	1.97
		PSS Subtotal	**8.77**
		Wetlands Subtotal	**9.39**
Waters	**Riverine Lower Perennial (R2)**	NA	0.61
		Waters Subtotal	**0.61**
		Total Aquatic Resources	**10.00**

Table 7. Complete List of Delineated Aquatic Resources

ID	Resource	Cowardin Type	Description	Acres	Longitude	Latitude
PEM1	Wetland	Palustrine Emergent	Alkaline Marsh	0.06	-115.5931502	33.2345588
PEM2	Wetland	Palustrine Emergent	Cattail Marsh	0.31	-115.5876783	33.23453535
PEM3	Wetland	Palustrine Emergent	Cattail Marsh	0.25	-115.5930138	33.23101908
PSS1	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	2.17	-115.5934191	33.23095754
PSS2	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	0.06	-115.5876282	33.23460812
PSS3	Wetland	Palustrine Scrub Shrub	Tamarisk Thickets	4.57	-115.5933861	33.23196442
PSS4	Wetland	Palustrine Scrub Shrub	Saltbush Scrub	1.97	-115.5930768	33.23295247
IID-1	Water	Riverine Lower Perennial	Irrigation Drain	0.61	-115.5887952	33.23456697
Cowardin type based on Cowardin et al. 1979. Longitude and latitude represent approximate centroid of delineated feature						

3.2.1 Wetlands

3.2.1.1 Vegetation

Extremely low plant species diversity characterizes the delineation area with palustrine scrub-shrub (PSS) dominating the area with small patches of freshwater emergent wetlands. The vegetation within the delineation area has been disturbed as of February 2022 as the result of vegetation clearing in portions of the delineation area.

Tamarisk (facultative [FAC]) is the dominate plant species throughout the delineation area. The tamarisk within the undisturbed portions of the delineation area ranges from

approximately 8 to 12 feet tall and due to the density, does not allow for understory vegetation to establish. At the margins of undisturbed tamarisk stands, curly dock (*Rumex crispus*) (facultative [FAC]) codominates the understory along with the smaller individuals of tamarisk.

In the area where vegetation has been disturbed, tamarisk-dominated features containing saltbush (*Atriplex lentiformis*, facultative upland [FACU]) and curly dock were mapped as PSS. Tamarisk is relatively young and below three inches in diameter at breast height (DBH) due to the recent vegetation clearing and saltbush is present as an early successional species due to its capacity to perform exceedingly well in high sun conditions and seasonal dry periods inherent to the Salton Sea.

One area in the southeastern portion of the delineation area contained stands of southern cattail (facultative wetland [FACW]) in the senescent stage and were therefore mapped as PEM wetlands.

3.2.1.2 Soils

Soils within the delineation area showed distinct or prominent redoximorphic features, which varied depending on the vegetation community in the areas sampled. Soils within the cattail community typically contained clay loam soils ranging in color between 10YR 8/1 to 10YR 4/3, meeting the hydric soil indicator for redox depressions (F8). Soils within tamarisk-dominated communities were predominantly recorded as 10YR 6/2 and 10YR 4/2 with redox features present at concentrations of 30-50%, predominantly in the form of soft masses within the matrix, meeting the hydric soil indicator for redox depression (F8). Soils textures were predominately clay loam with some layers of sandy clay, silt clay loam, and loamy sand present.

3.2.1.3 Hydrology

Primary indicators of wetland hydrology observed were Surface Soil Cracks (B6), Salt Crust (B11), and Oxidized Rhizospheres along Living Roots (C3). Secondary hydrology indicators observed were confirmation of the FAC-Neutral Test (D5). Although there may be enough lateral percolation occurring from the drains to sustain wetlands within the delineation area, soil pits from the delineation did not reveal the presence of a water table or observations of soil saturation within an acceptable depth to be considered indicative of wetland hydrology.

Table 8. Summary of Wetland Indicators within Delineation Area

Survey ID	Survey Season	Wetland Status	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology
WPF-1	Fall 2022	Wetland	**X**	**X**	**X**
WPF-2	Fall 2022	Wetland	**X**	**X**	**X**
WPF-3	Fall 2022	Wetland	**X**	**X**	**X**
WPF-4	Fall 2022	Wetland	**X**	**X**	**X**
WPF-5	Fall 2022	Wetland	**X**	**X**	**X**
WPF-6	Fall 2022	Wetland	**X**	**X**	**X**
WPF-7	Fall 2022	Wetland	**X**	**X**	**X**
WPF-8	Fall 2022	Wetland	**X**	**X**	**X**
Presence of redoximorphic features may be limited by naturally problematic soil conditions (alkalinity). Hydrology was altered in February 2022 due to extension of the S-Drain.					

3.2.2 Waters

The S-Drain transects the northern boundary of the delineation area along the developed S-Berm Road. OHWM was delineated for the S-Drain based on transition in soil color, change in vegetation cover and change in vegetation species type. Great Ecology mapped approximately 2,176.34 linear feet of irrigation drain, classified as riverine, lower perennial, unconsolidated bottom, within the delineation area (TABLE 9). Photographs and data forms collected during the wetland delineation appear in APPENDIX B and APPENDIX C, respectively.

Table 9. Summary of Linear Aquatic Features within Delineation Area

Cowardin et al. Classification (1979)	Water Name	Latitude	Longitude	Acres	Linear Feet	Channel Width (ft)
Riverine, Lower Perennial, Unconsolidated Bottom	IID-1 (S-Drain)	33.23456697	-115.5887952	0.61	2,176.34	7.89

3.2.3 S-Berm Access Road

A portion of the delineation area is the existing road/berm that is developed along the S-Drain and does not meet wetland criteria.

4.0 SUMMARY OF RESOURCES WITHIN DELINEATION AREA

TABLE 10 provides a summary of all features within the Well Pad 4 and S-Berm Access Road delineation area. The delineation area contains 10 acres of potentially jurisdictional wetlands and waters of the US and 2.08 acres of non-aquatic resources that do not fulfill the definition of a jurisdiction resource.

Table 10. Summary of Resources within Delineation Area

Resource Name	Cowardin Type	Dominant Community	Acres
Aquatic Resources			
Wetlands	Palustrine Emergent (PEM)	Cattail Marshes	0.56
		Alkaline Marsh	0.06
	Palustrine Scrub Shrub (PSS)	Tamarisk Thickets	6.80
		Saltbush Scrub	1.97
Waters	Riverine Lower Perennial (R2)	NA	0.61
		Total Aquatic Resources	**10.00**
Non-Aquatic Resources			
S-Berm Access Road	NA	NA	2.08
		Total Non-Aquatic Resources	**2.08**
		Total Delineation Area	**12.08**

4.1 Verification of Wetland Delineation

For purposes of permitting, HKG has assumed that 10 acres of potentially jurisdictional wetlands and waters of the US in the delineation area are jurisdictional.

5.0 REFERENCES

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[USACE] U.S. Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5. U.S. Army Corps of Engineers Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH. http://wetland-plants.usace.army.mil/.

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2009, 2010, 2012, 2014, 2016, 2018, and 2020. Sourced from: Imperial Valley Irrigation District Archives, HistoricAerials.com, Environmental Systems Research Institute (ESRI).

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[USGS] United States Geological Survey. 2022. Salton Sea surface water elevation 1905-2022. Non-digitized data sourced from: University of California, Davis Environmental and Water Resources Modeling Group; Digitized data sourced from: Salton Sea Westmorland Station 10254005. Source links: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=8649, https://waterdata.usgs.gov/monitoring-location/10254005.

[WETS] Climate Analysis for Wetlands Tables. 2022. United States Department of Agriculture. Niland Station 1942-2020. Source link: http://agacis.rcc-acis.org/?fips=06025.

Appendix A:
Supporting Maps

Figure 1. Regional Site Vicinity

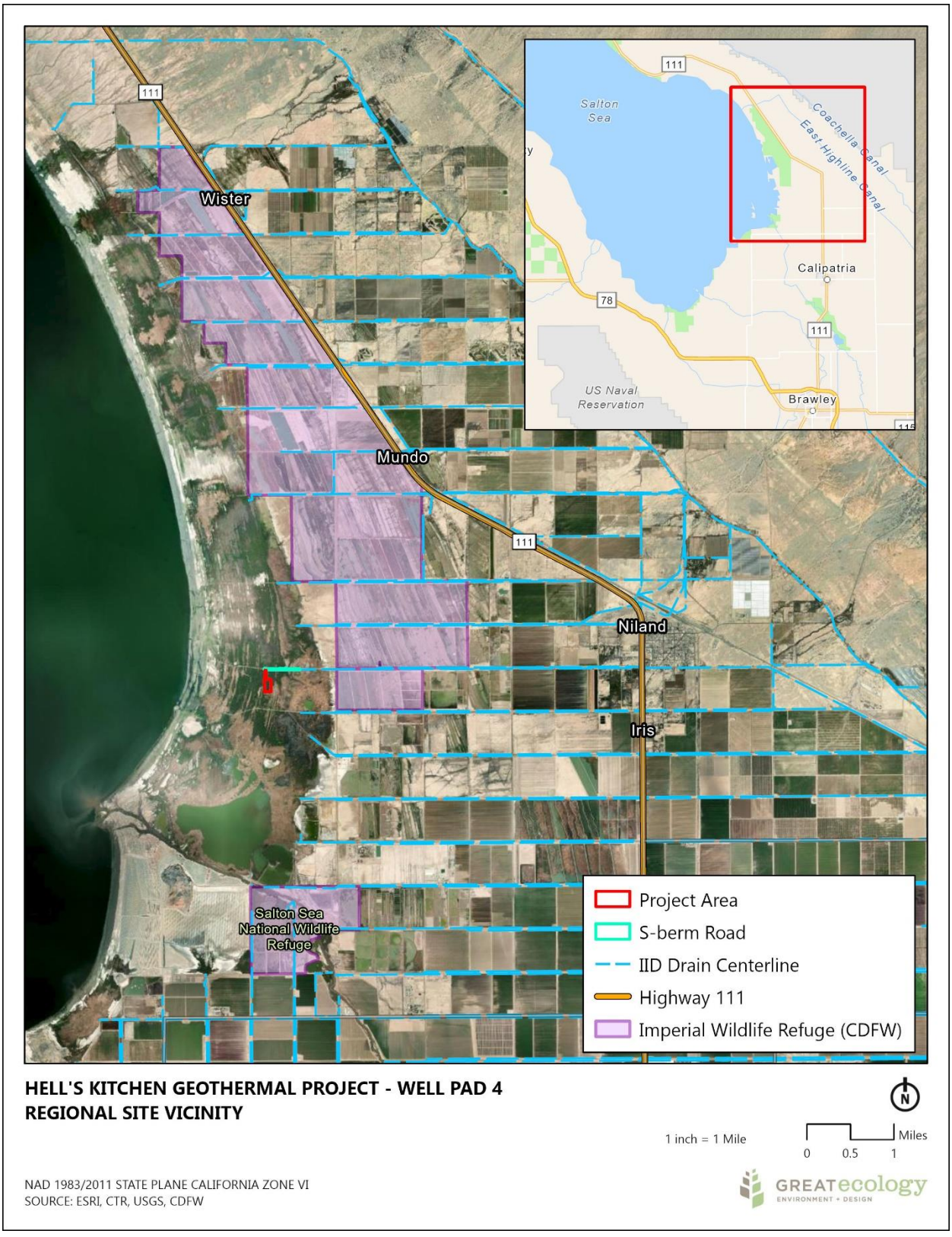


Figure 2. Regional Watershed and Subbasin

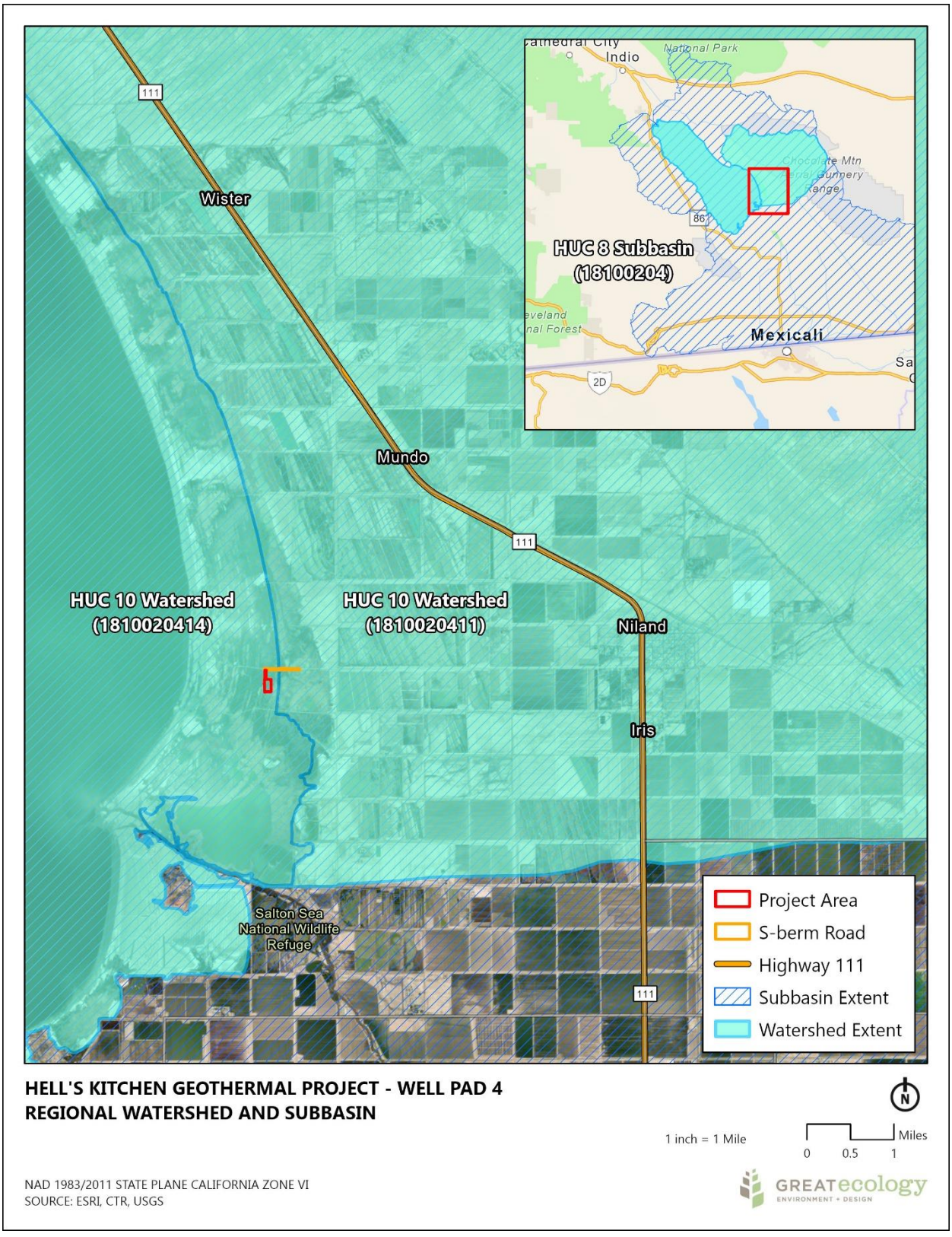


Figure 3. Local Site Vicinity

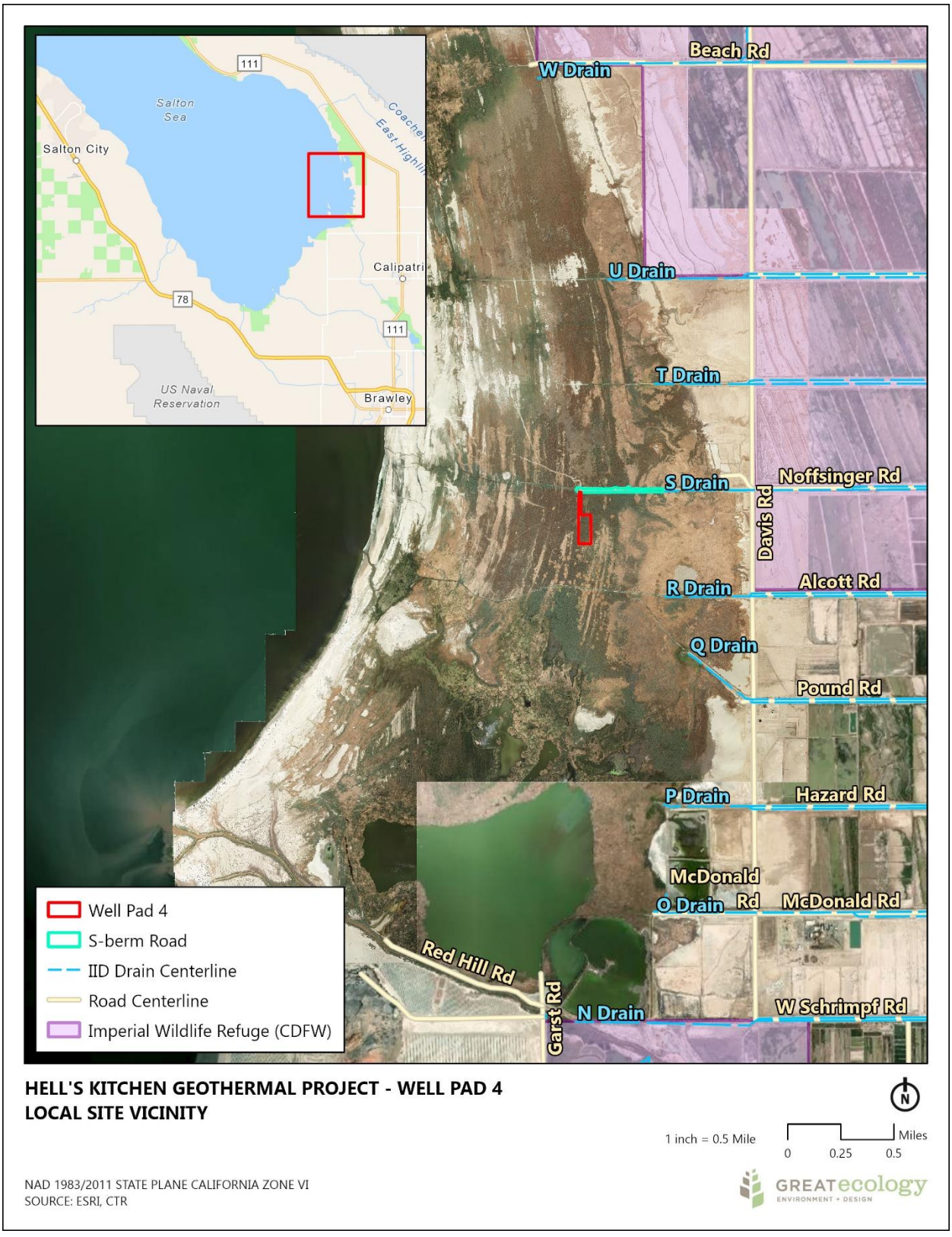


Figure 4. Topography within Delineation Area

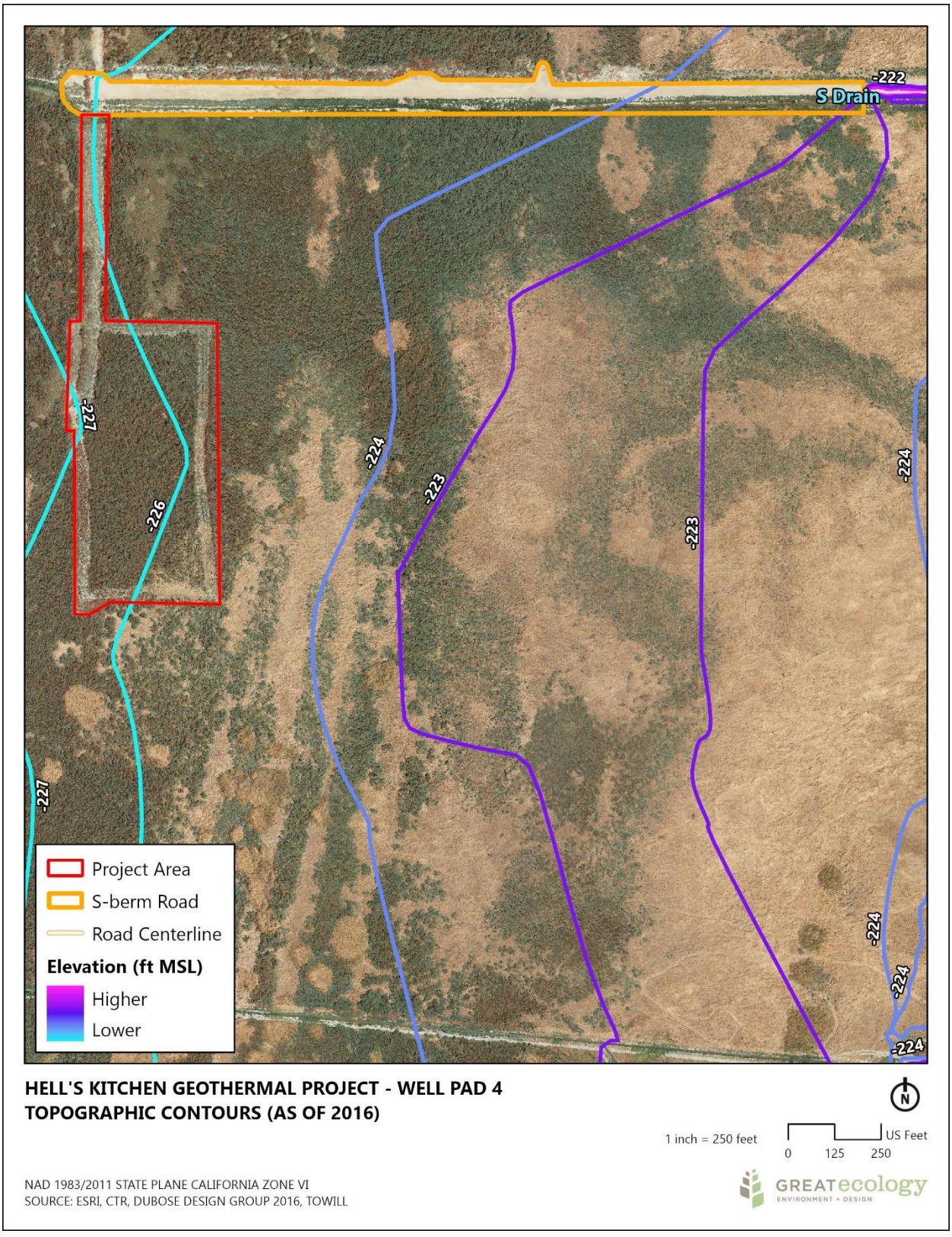


Figure 5. Regional Land Use

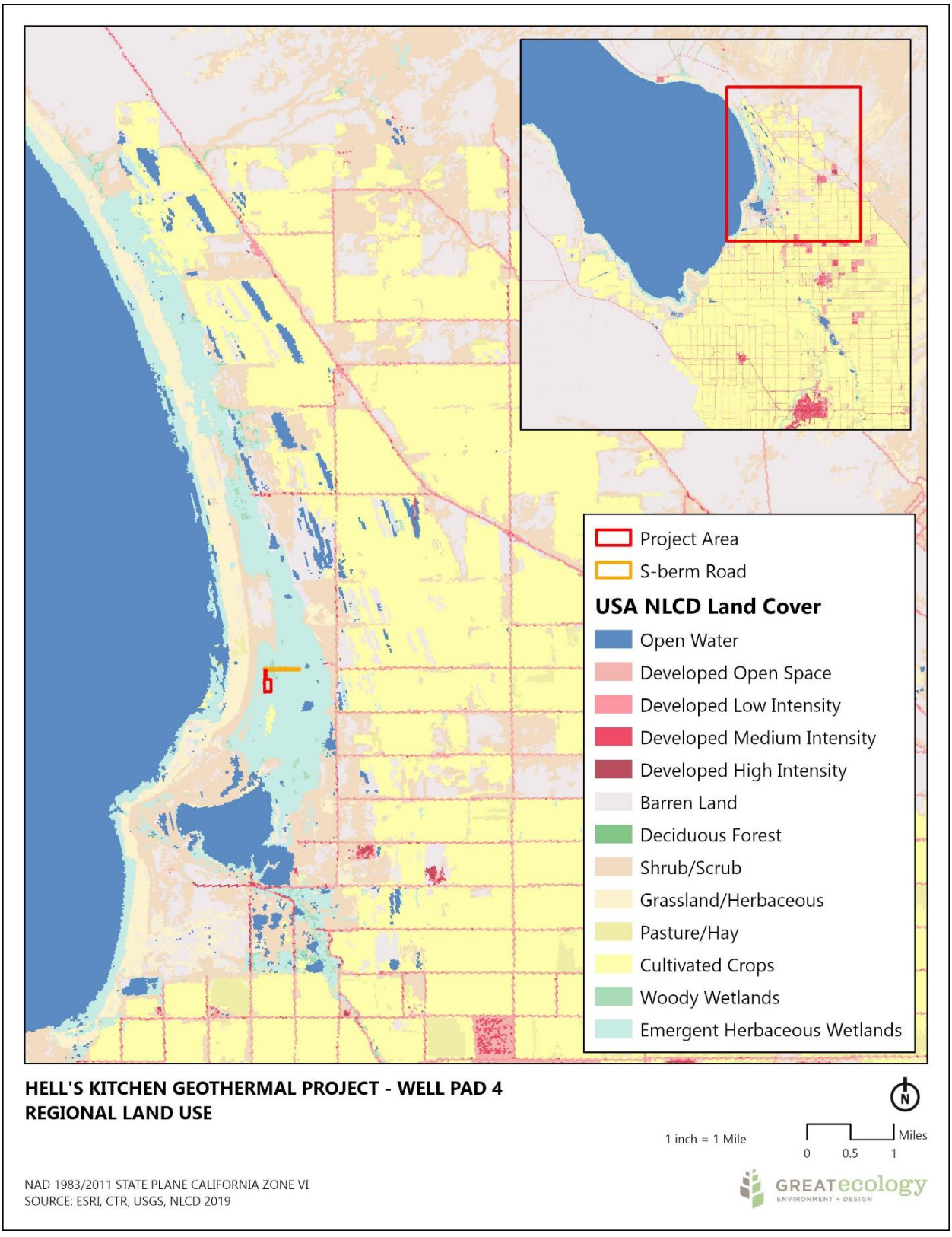


Figure 6. Surrounding Local Land Use

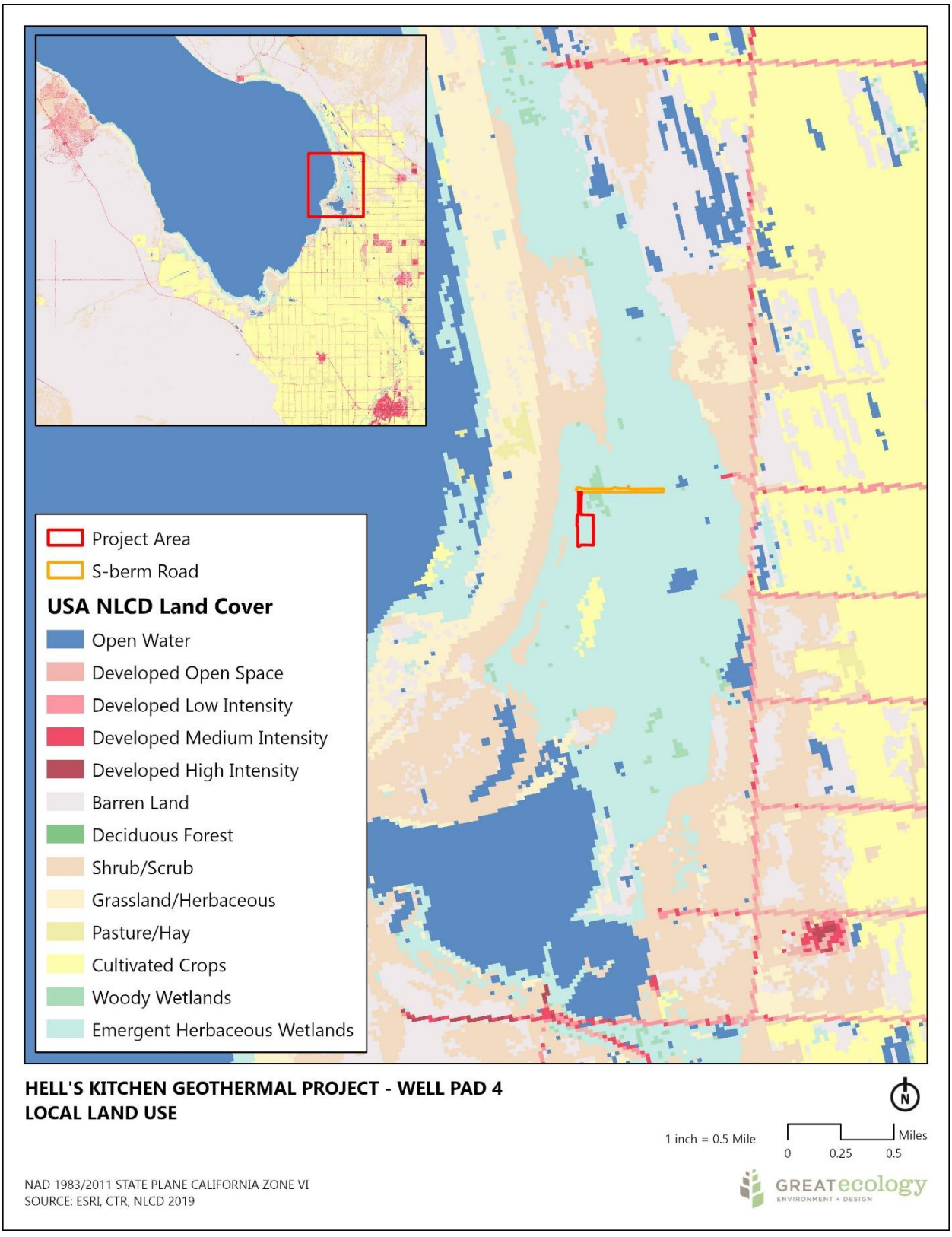


Figure 7. FEMA Flood Insurance Rate Map

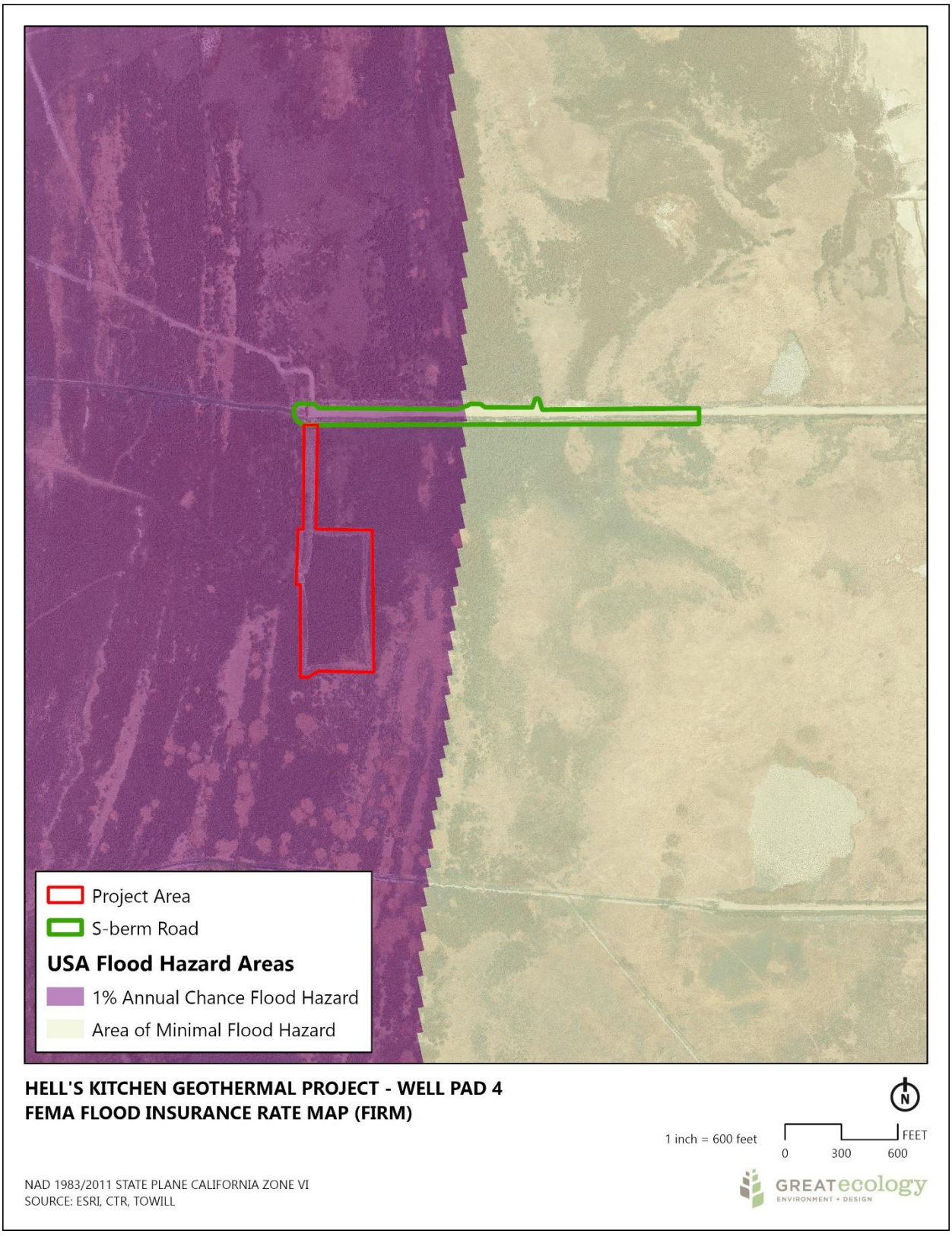


Figure 8. National Wetland Inventory Types

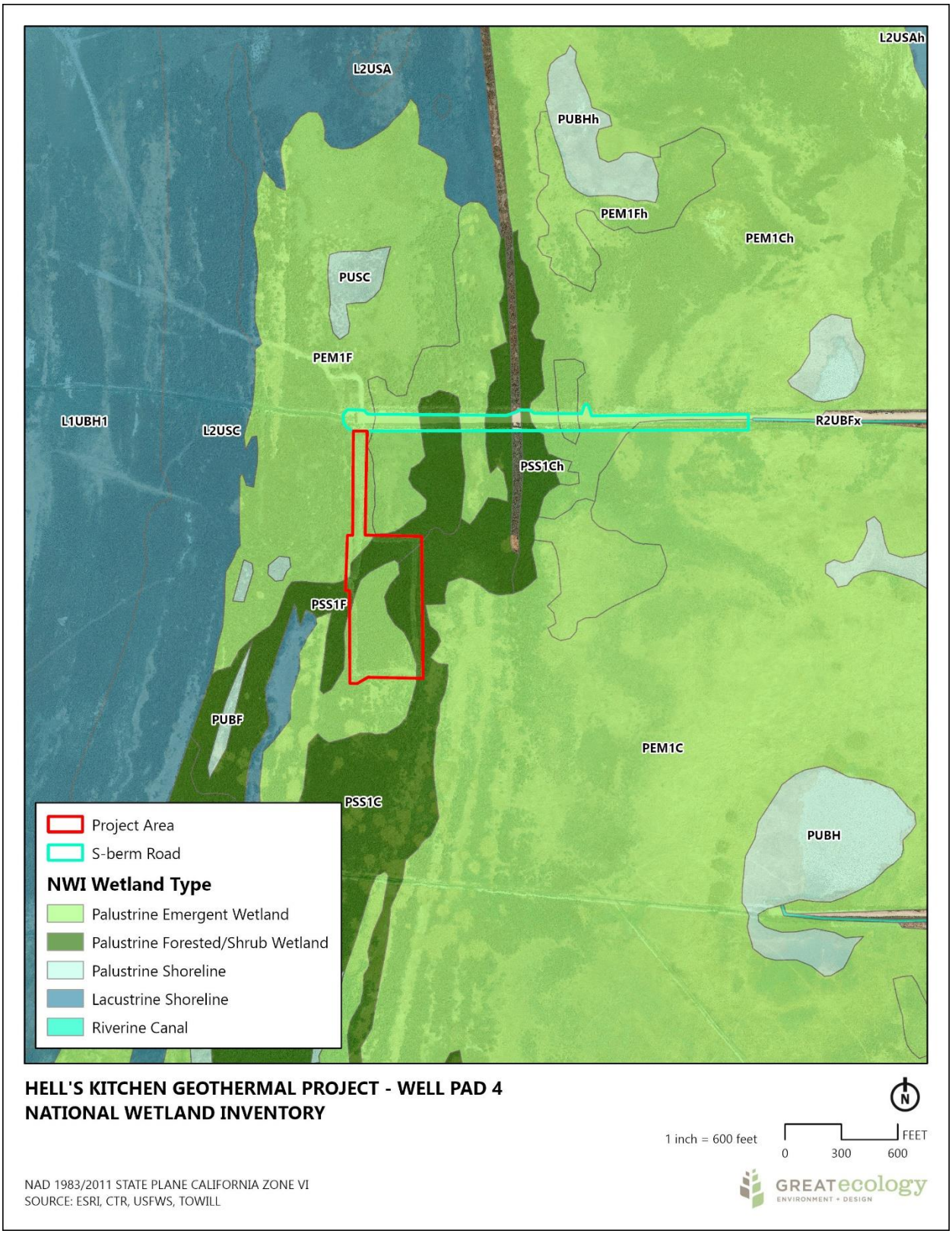


Figure 9. NRCS Soil Types

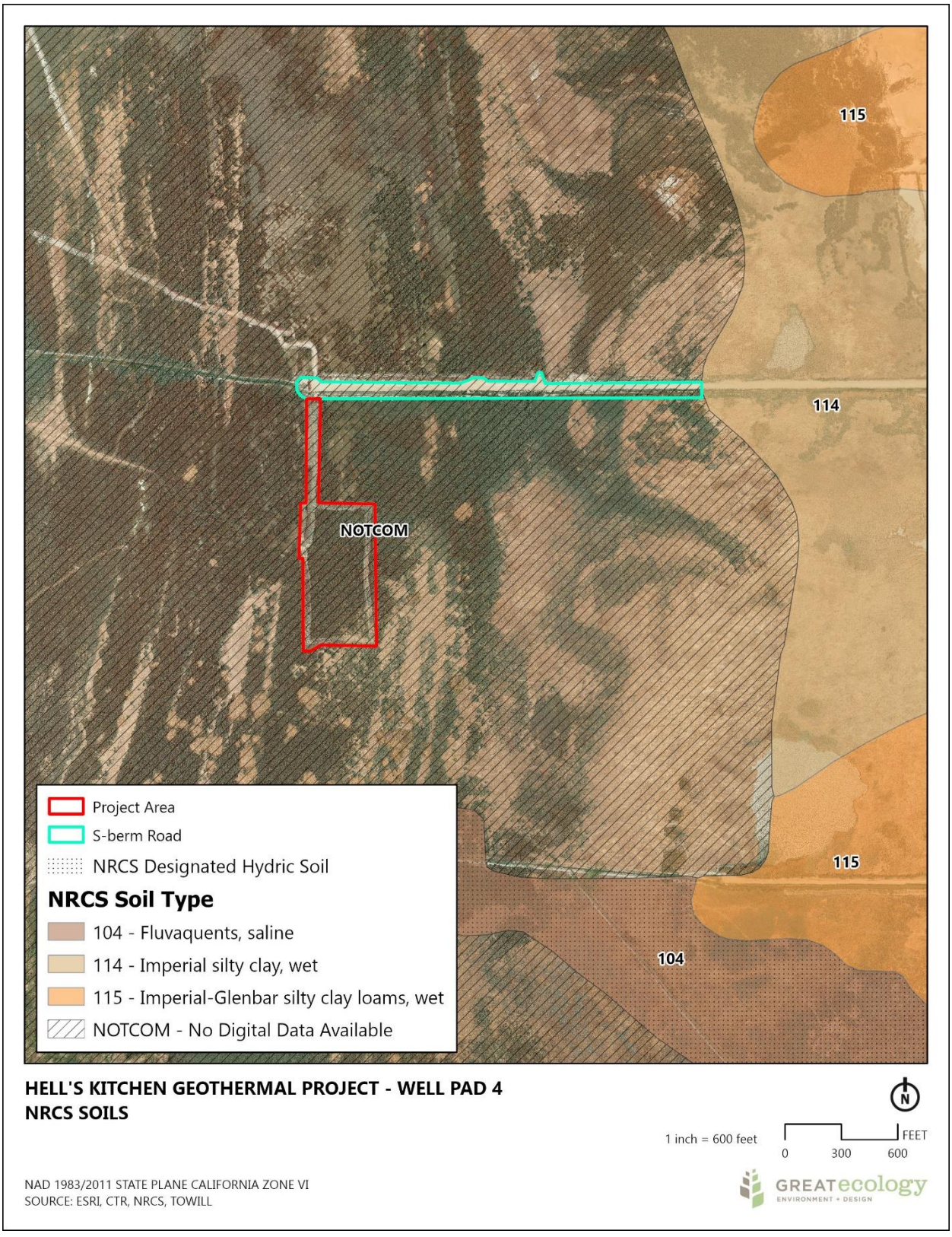


Figure 10. Aquatic Resources Delineation Survey Locations

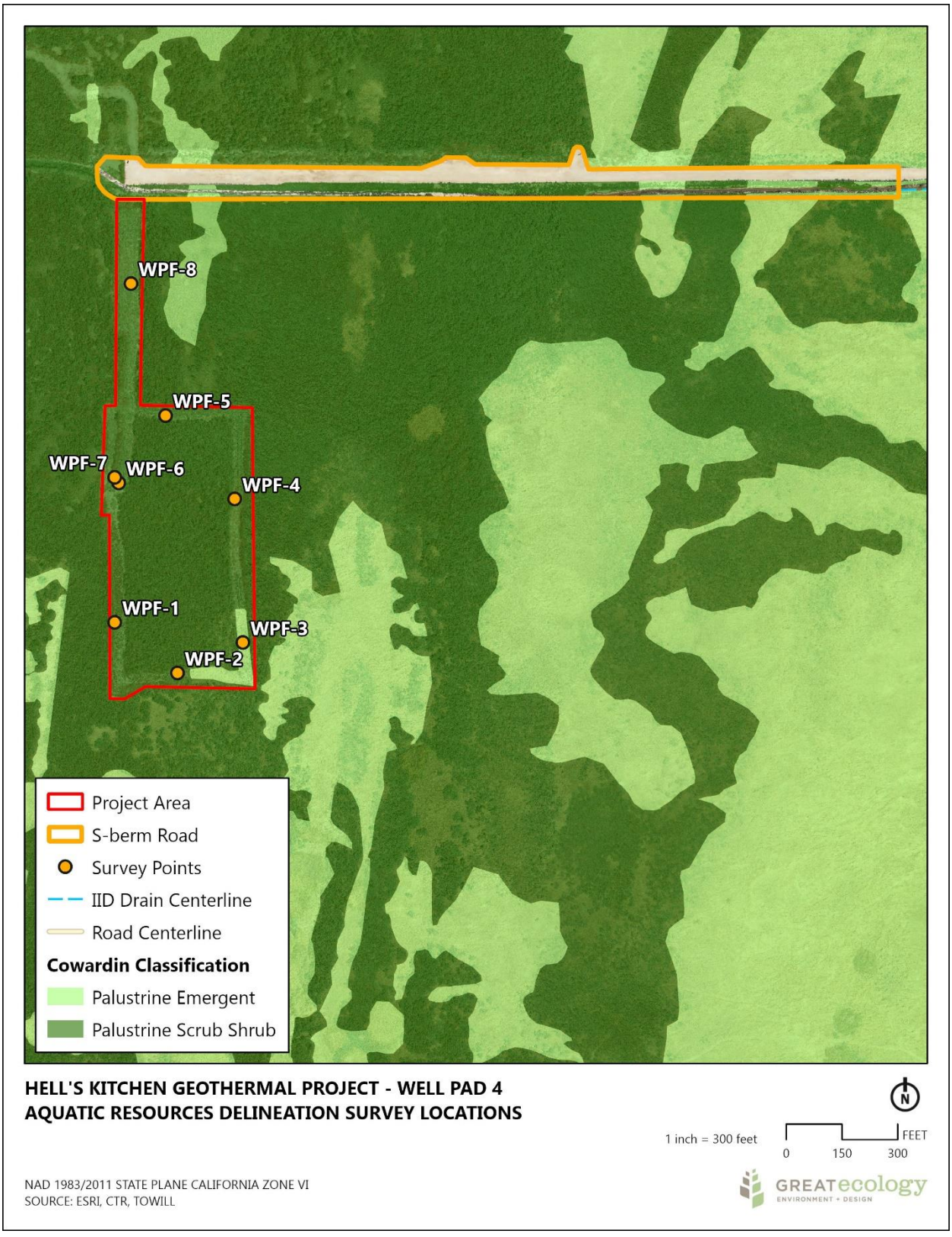
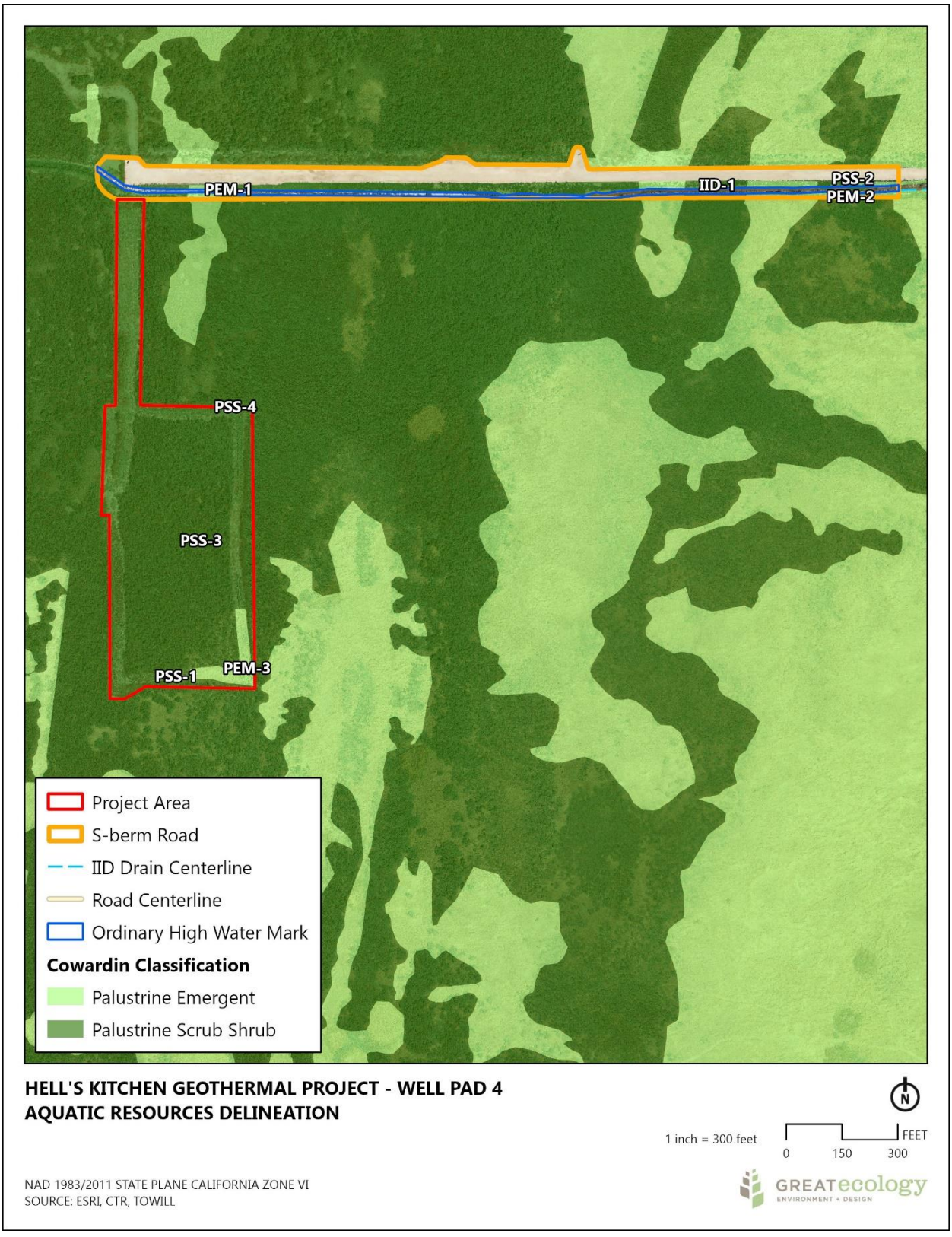


Figure 11. Aquatic Resources Delineation



Appendix B:
Onsite Photographs



Photo 1: View of PSS wetland vegetation community at WPF-1.



Photo 2: View of silty clay loam soils with redox depression (F8) at WPF-1.



Photo 3: View of hydrophytic vegetation adjacent to WPF-2.



Photo 4: View of redox features in clay loam soils at WPF-2.



Photo 5: View at WPF-3.



Photo 6: View of hydric clay loam soils with redox features in matrix and pore linings at WPF-3.



Photo 7: View of tamarisk dominated PSS vegetation adjacent to WPF-4.



Photo 8: View of clay loam soil with redox features in matrix at WPF-4.



Photo 9: View of PSS at WPF-5.



Photo 10: View of soil with redox depressions (F8) at WPF-5.



Photo 11: View of tamarisk dominated vegetation adjacent to WPF-6.



Photo 12: View of soils with redox depressions (F8) at WPF-6.



Photo 13: View of vegetation and surface soil cracks at WPF-7.



Photo 14: View of oxidized rhizospheres along living roots at WPF-7.



Photo 15: View of PSS vegetation adjacent to WPF-8.



Photo 16: View of soil with 5YR 4/6 redox features in matrix at WPF-8.



Photo 17: View of surface soil cracks at WPF-8.



Photo 18: S-Drain at Davis Road.



Photo 19: View of ordinary high-water mark indicated by soil color change vegetation.

Appendix C:
Wetland Delineation Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-1

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated former salt flat Local relief (concave, convex, none): none Slope (%): 0-1

Subregion (LRR): LRR D Lat: 33°13'53.08245"N Long: 115°35'38.23941"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation ✔, Soil ✔, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	20	Y	FAC
2.			
3.			
4.			
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Atriplex lentiformis	20	Y	FACU
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: R=5')			
1. Rumex crispus	45	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: R=30')			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 55 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Margin of tamarisk stand. Understory dominated by R. crispus. Atriplex lentiformis outcompetes FACW and FAC species because of capacity to perform exceedingly well in high sun conditions and seasonally dry periods inherent to the Salton Sea.

SOIL

Sampling Point: WPF-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 6/2	100					Loamy san	
3-16	10YR 6/2	92	10YR 5/8	8	C	M	Silty clay l(	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

High pH of soils in the Salton Sea basin can lead to the slowing of more prominent redox reactions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-2

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated former salt flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR D Lat: 33°13'51.71836"N Long: 115°35'36.26559"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	45	Y	FAC
2.			
3.			
4.			
	45 = Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Tamarisk sp.	60	Y	FACW
2. Atriplex lentiformis	30	N	FACU
3.			
4.			
5.			
	90 = Total Cover		
Herb Stratum (Plot size: R=5')			
1. Typha domingensis	70	Y	FACW
2. Rumex crispus	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: R=30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Atriplex lentiformis can out compete FACW and FAC species because of its capacity to perform exceedingly well in high sun conditions and seasonally dry periods inherent to the Salton Sea. Typha dom. in senescent stage

SOIL

Sampling Point: WPF-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 6/2	100	10YR 5/3				Clay loam	
2-7	10YR 6/2	60	10 YR 7/6	25	C	PL, M	Clay loam	
7-16	10YR 8/1	90	2.5YR 4/8	10	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-3

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated former salt flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR D Lat: 33°13'52.51908"N Long: 115°35'34.18217"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PSS1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	45	Y	FAC
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Tamarisk sp.	60	Y	
2. Atriplex lentiformis	30	N	
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: R=5')			
1. Typha domingensis	70	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: R=30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Understory dominated by R. crispus. Atriplex lentiformis can out compete FACW and FAC species because of capacity to perform exceedingly well in high sun conditions and seasonally dry periods inherent to the Salton Sea.

SOIL

Sampling Point: WPF-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	100					Clay loam	
3-16	2.5Y 4/3	40	5YR 5/8	60	C	PL, M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-4

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated former salt flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR D Lat: 33°13'56.33885"N Long: 115°35'34.41186"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	45	Y	FAC
2.			
3.			
4.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: R=15')			
1. Tamarisk sp.	60	Y	
2.			
3.			
4.			
5.			
	60	= Total Cover	
Herb Stratum (Plot size: R=5')			
1. Typha domingensis	30	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: R=30')			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Senescent T. domingensis

SOIL

Sampling Point: WPF-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	100					Clay loam	
3-16	2.5Y 7/1	70	5YR 4/6	30	C	M	Clay loam	Dead wood found 4" deep

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-5

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated former salt flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR D Lat: 33°13'58.57347"N Long: 115°35'36.59033"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PSS1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	50	Y	FAC
2.			
3.			
4.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Tamarisk sp.	45	Y	FAC
2. Atriplex lentiformis	15	N	FACU
3.			
4.			
5.			
	60 = Total Cover		
Herb Stratum (Plot size: R=5')			
1. Tamarisk sp.	30	Y	FAC
2. Rumex crispus	5	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: R=30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 65 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Atriplex lentiformis can out compete FACW and FAC species because of capacity to perform exceedingly well in high sun conditions and seasonally dry periods inherent to the Salton Sea.

SOIL

Sampling Point: WPF-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1	100					Clay loam	
3-8	10YR 6/1	70	5YR 7/1	30	C	PL, M	Clay loam	
8-16	10YR 8/1	50	2.5YR 7/8	50	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-6

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated depression Local relief (concave, convex, none): concave Slope (%): 3-5

Subregion (LRR): LRR D Lat: 33°13'56.79055"N Long: 115°35'38.08651"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	50	Y	FAC
2.			
3.			
4.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Tamarisk sp.	70	Y	FAC
2. Atriplex lentiformis	25	N	FACU
3.			
4.			
5.			
	95 = Total Cover		
Herb Stratum (Plot size: R=5')			
1. Tamarisk sp.	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: R=30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Atriplex lentiformis can out compete FACW and FAC species because of capacity to perform exceedingly well in high sun conditions and seasonally dry periods inherent to the Salton Sea.

SOIL

Sampling Point: WPF-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	70	10YR 5/8	30	C	M	Sandy cla+	
2-10	10YR 6/1	50	7.5YR 5/8	50	C	M	Sandy cla+	
10-16	10YR 6/2	50	10R 3/6	30	C	M	Sandy cla+	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-7

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated former salt flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR D Lat: 33°13'56.94158"N Long: 115°35'38.21327"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation ✓, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	40	Y	FAC
2.			
3.			
4.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Tamarisk sp.	50	Y	FAC
2. Atriplex lentiformis	10	N	FACU
3.			
4.			
5.			
	60 = Total Cover		
Herb Stratum (Plot size: R=5')			
1. Tamarisk sp.	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: R=30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Atriplex lentiformis can out compete FACW and FAC species because of capacity to perform exceedingly well in high sun conditions and seasonally dry periods inherent to the Salton Sea.

SOIL

Sampling Point: WPF-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 6/2	100					Clay loam	
2-16	10YR 7/1	30	10R 4/6	70	C	PL, M	Clay loam	Dead wood 4" deep

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Heavy redox reactions

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PowerCo 1 Project and LithiumCo 1 Project City/County: Imperial County Sampling Date: 10/19/22

Applicant/Owner: Controlled Thermal Resources State: CA Sampling Point: WPF-8

Investigator(s): Elias Potashov, Thea Lemberger Section, Township, Range: S11, T11S, R13E

Landform (hillslope, terrace, etc.): Vegetated former salt flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): LRR D Lat: 33°14'02.09282"N Long: 115°35'37.65596"W Datum: WGS 1984

Soil Map Unit Name: NOTCOM NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation ✔, Soil ✔, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Area was cleared of vegetation some time ago, new vegetation is largely dominated by FAC or FACW species.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarisk sp.	45	Y	FAC
2.			
3.			
4.			
	45 = Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Tamarisk sp.	60	Y	
2. Atriplex lentiformis	30	N	
3.			
4.			
5.			
	90 = Total Cover		
Herb Stratum (Plot size: R=5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: R=30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Atriplex lentiformis can out compete FACW and FAC species because of capacity to perform exceedingly well in high sun conditions and seasonally dry periods inherent to the Salton Sea.

SOIL

Sampling Point: WPF-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	100					Clay loam	
3-16	10YR 5/2	40	5YR 4/6	30	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✔ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site was recently inundated before drains were extended.

Cultural Resource Survey for the Hell's Kitchen PowerCo 1 and Hell's Kitchen LithiumCo 1 Projects Imperial County, California

Prepared for:

Hell's Kitchen
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October 22, 2021
Revised June 7, 2022

National Archaeological Data Base Information
Type of Study: Intensive Pedestrian Survey*Sites:* TES-HK-I-1, TES-HK-001H
USGS Quadrangle: Niland 7.5'
Area: Approximately 120 acres
Key Words: Imperial County, Historic, Positive Survey

TABLE OF CONTENTS

ABSTRACT iii

I. INTRODUCTION 1
- A. Project Description 1
- B. Project Personnel 6
- C. Structure of the Report 6

II. NATURAL AND CULTURAL SETTING 7
- A. Natural Setting 7
- B. Cultural Setting 8
- C. Prior Research 11

III. RESEARCH DESIGN, METHODS AND RESULTS 14
- A. Research Design 14
- B. Survey Methods 14

IV. SURVEY RESULTS 15

V. SUMMARY AND RECOMMENDATIONS 21
- A. Regulatory Framework 21
- B. Recommendations 22
- C. Unanticipated Discoveries 22

VI. REFERENCES 24

APPENDICES
- A. Resume of Principal Personnel
- B. Record Search (Confidential Appendix)
- C. Native American Contact Program
- D. DPR Site Forms (Confidential Appendix)

FIGURES

1 Regional Location Map 2
2 Project Location Map 3
3 Project Aerial 4

TABLES

1 Cultural Resources Studies Within a Half-Mile Radius of the Project Area 11
2 Cultural Resources Located Within a Half-Mile Radius of the Project Area 12

PHOTOGRAPHS

1 Overview of the Project area's northern boundary; facing west 16
2 Overview of the Project area; facing south from northern section 16
3 Overview of the Project area's northern boundary; facing north. 17
4 Overview of the Project area's southern boundary; facing north 17
5 TES-HK-001H: Example of multiple construction methods applied 19
6 TES-HK-001H: Example of multiple construction methods applied 19
7 TES-HK-001H: Example of multiple construction methods applied 20
8 TES-HK-001H: Example of multiple construction methods applied 20

ABSTRACT

Tierra Environmental Services (Tierra) conducted a Phase I archaeological investigation on approximately 120 acres of land proposed for development of the Hell's Kitchen PowerCo 1 (HKP1) and Hell's Kitchen LithiumCo 1 (HKL1) Projects, referred to herein as the Project area. The HKP1 and HKL1 Projects include development of up to 49.9-megawatt (MW) net of geothermal power and commercial production of lithium and other mineral products extracted from the geothermal brine. The HKP1 and HKL1 Projects are located approximately 3.5 miles west of the unincorporated community of Niland in Imperial County, California.

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA) and its respective implementing regulations and guidelines. The County of Imperial will assume the role of lead agency for the HKP1 and HKL1 Projects.

Archival data has been provided by Hell's Kitchen Geothermal, LLC, from the previous 2017 cultural studies of the Project area conducted by ASM Affiliates, Inc. The record search was conducted by the South Coastal Information Center (SCIC) at San Diego State University to identify any previously recorded cultural resources within the Project area and to determine the types of resources that might occur in the Project area. The records search resulted in 19 cultural studies indicating the entire Project area has been previously surveyed. Four previously recorded resources were identified in the search radius with only one of the resources, a historic-era isolated bottle base (HK-I-1), having been identified within the Project area.

A Native American Contact Program has been initiated to ascertain further prehistoric knowledge from the local Tribes and the Native American Heritage Commission. To date, no responses have been received, this document will be updated with any tribal responses as they are received prior to finalization.

In addition to the archival research, Tierra conducted an intensive pedestrian survey of the Project area by Hillary Murphy and Andres Berdeja on April 1, 2021 and October 11, 2021. Overall surface visibility within the walkable Project area ranged from good to excellent due to being comprised of long-dried flood plains. Wetland portions of the Project area were not transected due to being submerged.

Past Native American Contact Programs have resulted in the tribal request for Native American monitoring during the construction effort. No further archaeological work is recommended at this time.

In the event unanticipated, buried prehistoric archaeological resources (lithic material, faunal, pottery, etc.) or historical archaeological resources (ceramics, building materials, glassware, etc.) are unearthed during construction or any ground disturbing activities within

the Project area, additional resource treatments would become necessary. Once a potential resource has been identified, all work within 100 feet must be halted until the find can be assessed by a qualified archaeologist.

If human remains are encountered during the proposed work, no further excavation or disturbance may occur in the vicinity of the find until the County coroner has been contacted. California Health and Safety Code 7050.5 states (a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the Public Resources Code. (b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains area discovered has determined that the remains are not subject to the provisions of Section 27481. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or to his or her authorized representative, notifing the coroner of the discovery if recognition of human remains. (c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

I. INTRODUCTION

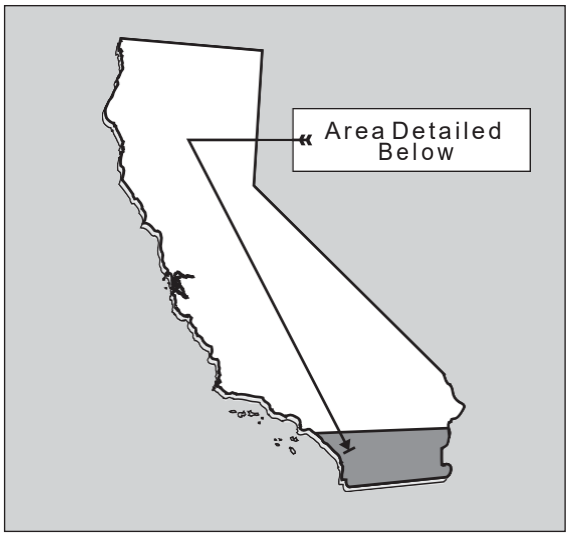
A. Project Description

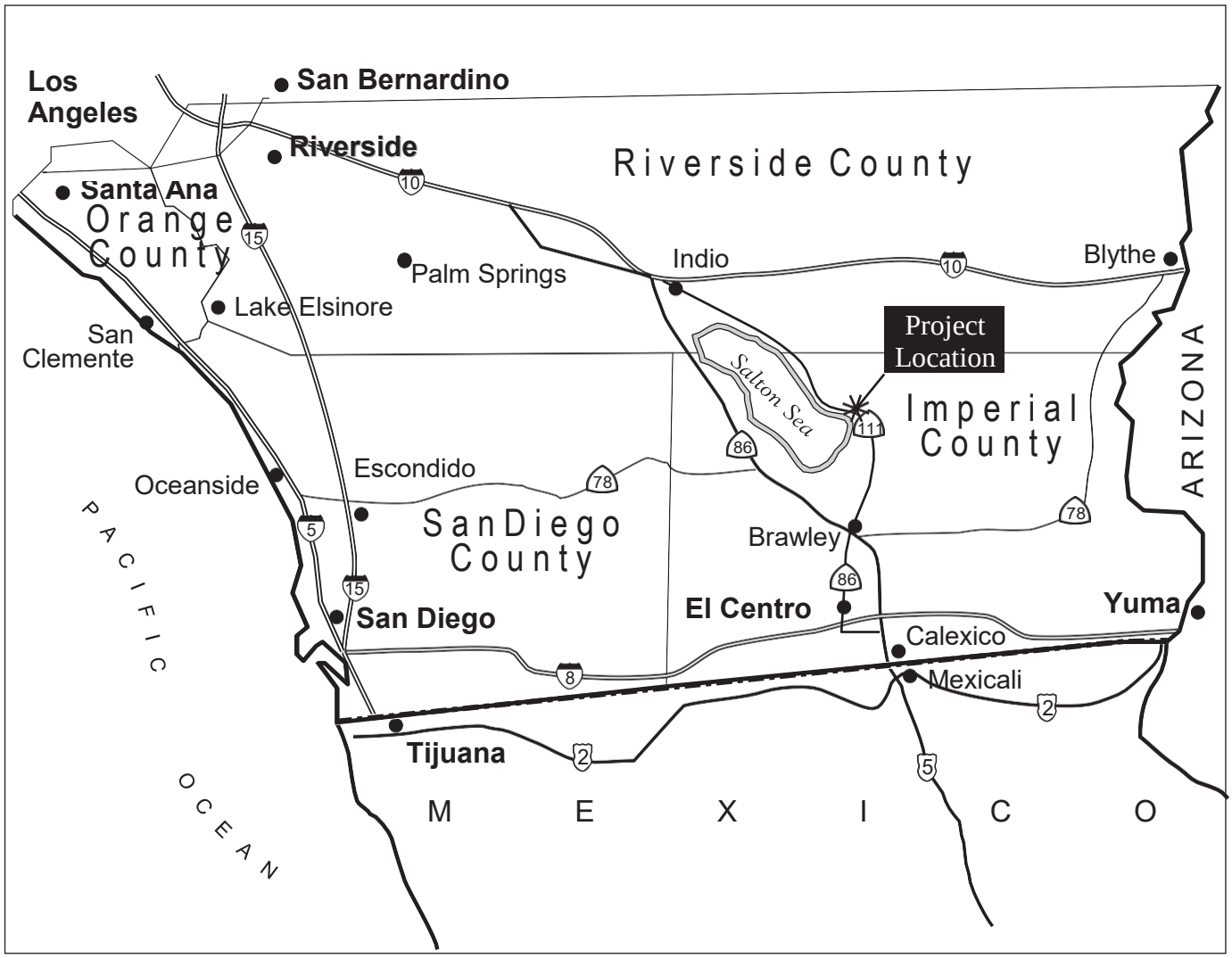
Hell's Kitchen PowerCo 1 LLC proposes to develop the Hell's Kitchen PowerCo 1 Project (HKP1 Project) and Hell's Kitchen LithiumCo 1 LLC proposes to construct and operate the Hell's Kitchen LithiumCo 1 Project (HKL1 Project) in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo LLC are subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). The projects will be constructed by different entities, have different project objectives, and will be operated by separate entities as separate projects; however, the projects are considered connected actions under the California Environmental Quality Act (CEQA). Imperial County is the CEQA Lead Agency with authority for issuing the Conditional Use Permits for the projects. Cultural resource work was conducted in accordance with the CEQA and its respective implementing regulations and guidelines.

HKP1 and HKL1 are located approximately 3.6 miles west of the community of Niland, adjacent to Davis Road, south of Noffsinger Road and north of Pound Road, near the eastern shore of the Salton Sea (Figure1). Both facilities are located within CTR's lease area from the Imperial Irrigation District (IID) and on lands owned by CTR. The gen-tie/power line will be located east of Davis Road and north of McDonald Road within IID's transmission line right-of-way and partially within new right-of-way. The Project area is located within Sections 11 and 12 of Township 11 South, Range 13 East, as shown on the Niland USGS 7.5' quadrangles, San Bernardino Base Meridian (Figure 2). Acreage of survey-able land is roughly 120 acres.

The HKP1 Project involves the generation of up to 49.9 MW of geothermal power and will deliver the power to IID via an approximately 2-mile-long, 230-kilovolt (kV) generation tie (gen-tie) line, which will interconnect with IID facilities at the existing Hudson Ranch Interconnect Station. The HKP1 project will include a total of seven wells for production. In addition to the wells and gen-tie alignment, the project will include geothermal fluid pipelines; power production and brine processing facilities; a brine pond; administration buildings, laboratories and control rooms, operations and maintenance buildings, and warehouses; and a water storage pond along Davis Road.

The HKL1 facility will utilize geothermal brine produced from the neighboring HKP1 project site for the commercial production of lithium hydroxide, silica, bulk sulfide, and polymetallic products. The HKL1 Project will also include a power line co-located on the same transmission poles as the HKP1 gen-tie line, to supply power to Project facilities. Other HKL1 facilities include a cooling tower and cooling and flocculation building, brine supply and return pipelines and processing facilities, ion exchange systems, product handling facilities, and offloading and storage tanks. The HKL1 administration building, laboratory, maintenance shop, and warehouses will be shared with the HKP1 Project and will be built as part of the HKP1 facility. The water storage pond will also be shared between the two facilities.



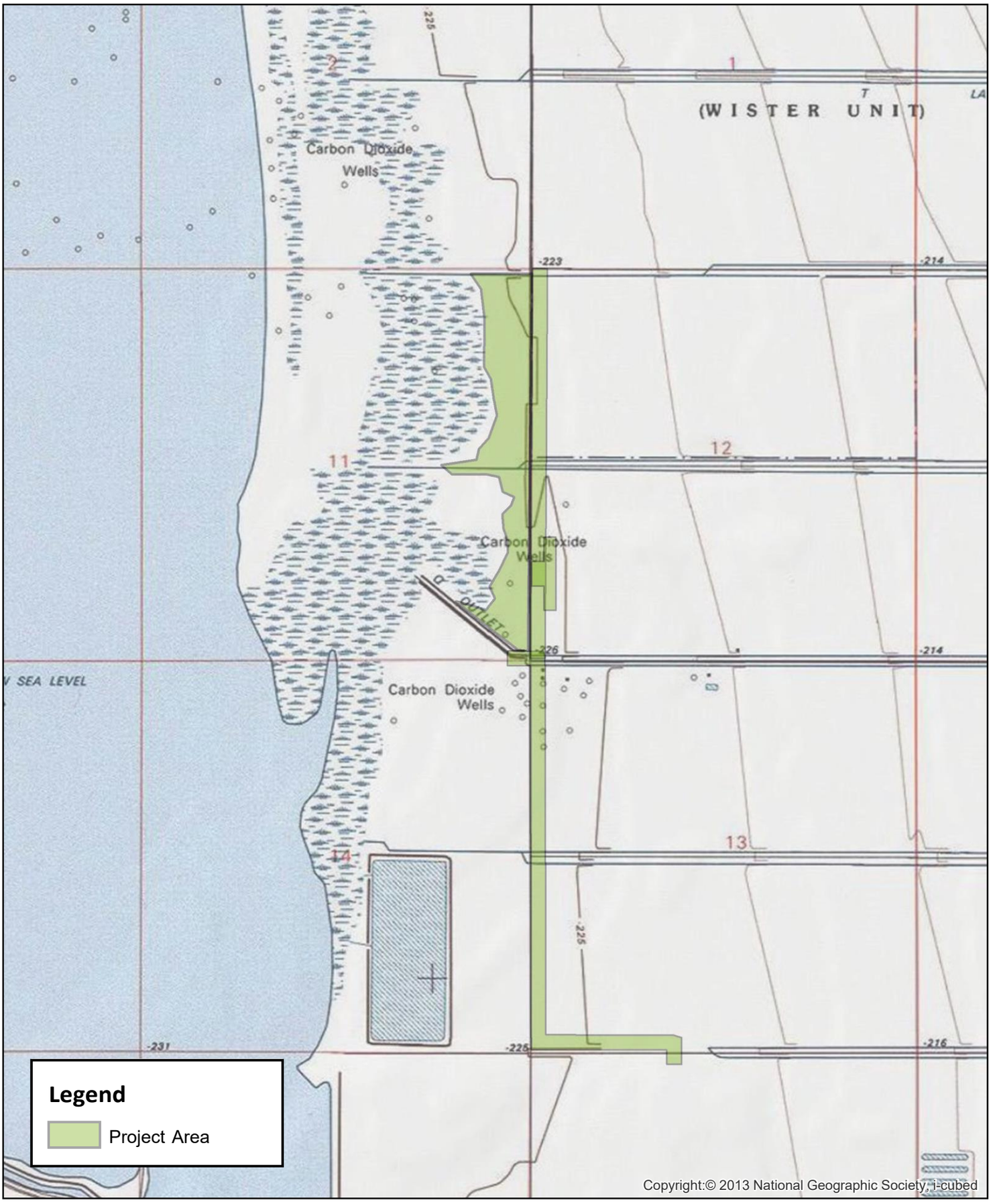


N

0 20 40
MILES

Figure 1. Regional Location Map

TIERRA
ENVIRONMENTAL SERVICES



USGS 7.5′ Quadrangle: Niland

N

0 1000 2000
FEET

Figure 2. Project Location Map

TIERRA
ENVIRONMENTAL SERVICES

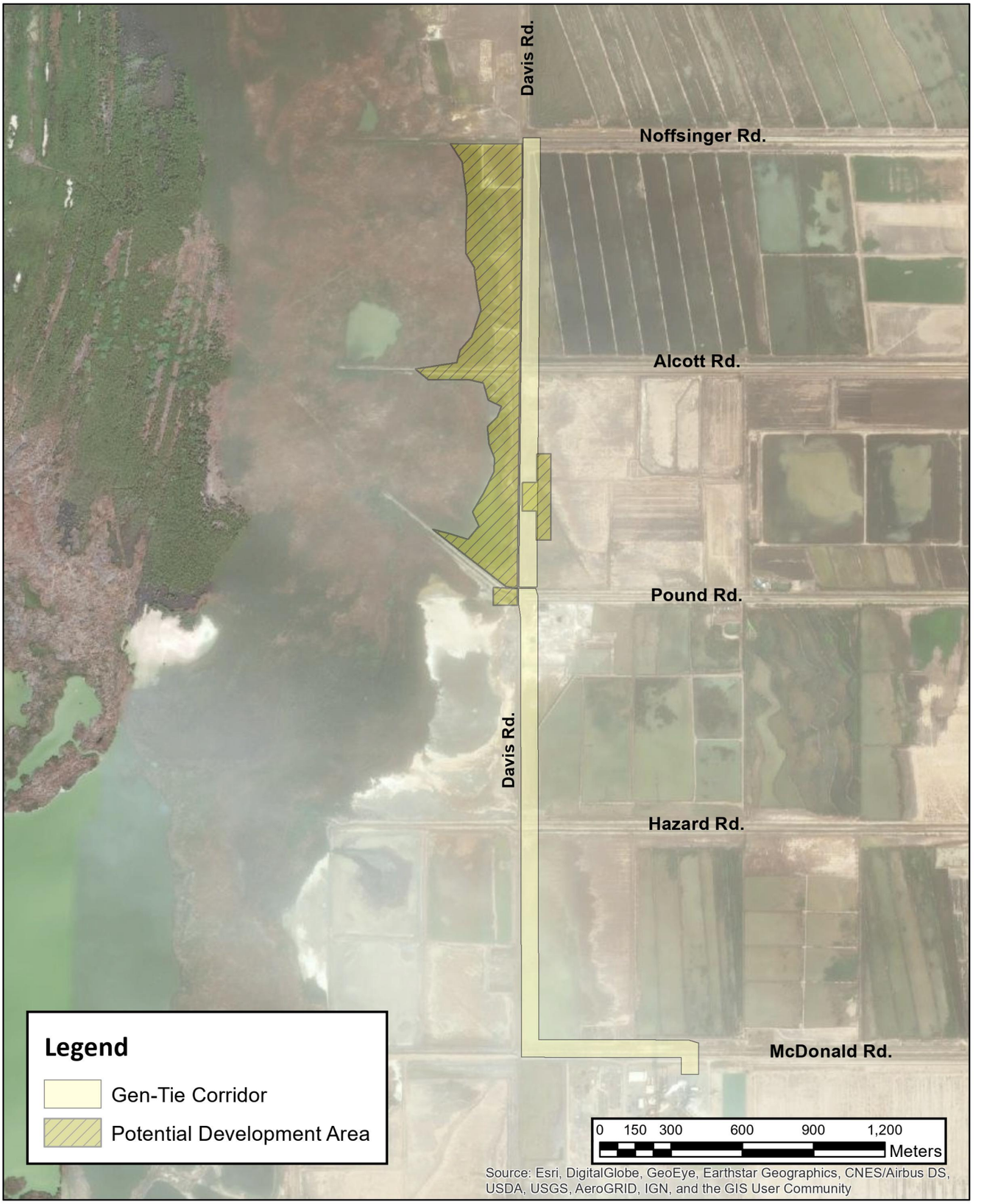


Figure 3. Area of Potential Effects

TIERRA
ENVIRONMENTAL SERVICES

B. Project Personnel

The cultural resource inventory was conducted by Tierra Environmental Services (Tierra), whose cultural resources staff meets federal, state, and local requirements. Dr. Michael G. Baksh served as Principal Investigator and provided overall Project management. Dr. Baksh has a Ph.D. in Anthropology from the University of California at Los Angeles and has more than 35 years conducting archaeological investigations southwestern United States in compliance with Section 106 of the NHPA. Dr. Baksh conducted the survey for the Project. Ms. Hillary Murphy served as primary report author. Ms. Murphy has a B.A. from California State University, Sacramento and more than thirteen years of experience in southern California archaeology. Mr. Berdeja has a B.A. from California State University, San Marcos and more than 8 years of experience in Southern California archaeology.

C. Structure of the Report

This report follows the State Historic Preservation Office's guidelines for Archaeological Resource Management Reports (ARMR). The report introduction provides a description of the Project and associated personnel. Section II provides background on the Project area. Section III describes the research design and survey methods and results, and Section IV provides a summary and recommendations.

II. NATURAL AND CULTURAL SETTING

A. Natural Setting

The Project area is relatively flat and is located in what was once the lakebed of the prehistoric Lake Cahuilla. During the late Cretaceous (>100 million years ago) a granitic and gabbroic batholith was being formed under and west of the Project area. This batholith was uplifted and now forms the granitic rocks and outcrops of the San Jacinto Mountains. At about the same time that these mountains were being uplifted, the Salton Trough was dropping, reaching points well below sea level. The Salton Trough to the north of the Project area began slowly filling with sediments from streams draining the adjacent mountains and from the Colorado River. The Colorado River occasionally shifted from its Gulf of California delta and flowed north into the Salton Trough, forming freshwater Lake Cahuilla.

At its highest level, this body of water covered more than 60 miles of the lowest portion of the basin. Lake Cahuilla was a resource that had profound effects on the prehistoric people who lived in the Project area and groups in the surrounding region. This lake probably last existed in the 1500s (Laylander 1994). It supplied the southern Coachella Valley and northern Imperial Valley with not only water but other lacustrine resources such as freshwater mussels, waterfowl, and fish. Even without the support of direct flow from the Colorado River, the Salton Basin, Borrego, and other dry lake basins would sometimes contain seasonal shallow ponds supplying additional water resources (Bean 1972).

The Project area consists of flat, undeveloped areas and wetland habitat ranging in elevation between -229 and -219 below mean sea level (MSL). There are three soils series (Fluvaquent, Imperial, and Imperial-Glenbar) within the Project area; all of which are found in basin floors between -230 and 200 feet MSL. The three soils are derived of mixed parent materials with depths in excess of 80 inches to a restrictive feature, indicating depositional conditions. (USDA 2019)

Vegetal communities throughout the Project area varies due to unmanaged wetland habitat created by the receding of the Salton Sea and discharge of fresh drain water, resulting in cattails (*Typus* sp.), iodine bush (*Allenrolfea occidentalis*), phragmites (*Phragmites australis*), and desert scrub (including tamarisk). According to Holland (1986), tamarisk scrub is a weedy, virtual monoculture of any of several tamarisk, including Saltcedar (*Tamarix* sp.) species, usually supplanting native vegetation following major disturbance.

A variety of waterfowl species were observed within the wetlands. Though no other faunal was observed on site, various fish, ground squirrels, jack rabbits, rodents and lizards may be present.

B. Cultural Setting

Paleoindian Period

The earliest well documented prehistoric sites in southern California are identified as belonging to the Paleoindian period, which has locally been termed the San Dieguito complex/tradition. The Paleoindian period is thought to have occurred between 9,000 years ago, or earlier, and 8,000 years ago in this region. Although varying from the well-defined fluted point complexes such as Clovis, the San Dieguito complex is still seen as a hunting focused economy with limited use of seed grinding technology. The economy is generally seen to focus on highly ranked resources such as large mammals and relatively high mobility which may be related to following large game. Archaeological evidence associated with this period has been found around inland dry lakes, on old terrace deposits of the California desert, and near the coast (Apple et al 1997; McGinnis and Murphy 2010).

Early Archaic Period

Native Americans during the Archaic period had a generalized economic focus on hunting and gathering. In many parts of North America, Native Americans chose to replace this economy with others based on horticulture and agriculture. Southern California economies remained largely based on wild resource use until European contact (Willey and Phillips 1958). Changes in hunting technology and other important elements of material culture have created two distinct subdivisions within the Archaic period in southern California.

The Early Archaic period is differentiated from the earlier Paleoindian period by a shift to a more generalized economy and an increased focus on use of grinding and seed processing technology. At sites dated between approximately 8,000 and 1,500 years before present (B.P.), the increased use of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, identify a range of adaptations to a more diversified set of plant and animal resources. Variations of the Pinto and Elko series Projectile points, large bifaces, manos and portable metates, core tools, and heavy use of marine invertebrates in coastal areas are characteristic of this period, but many coastal sites show limited use of diagnostic atlatl points. Major changes in technology within this relatively long chronological unit appear limited. Several scientists have considered changes in Projectile point styles and artifact frequencies within the Early Archaic period to be indicative of population movements or units of cultural change (Moratto 1984) but these units are poorly defined locally due to poor site preservation.

Late Prehistoric Period

Around 2,000 B.P., Takic-speaking people from the Great Basin region began migrating into southern California, representing what is called the Late Prehistoric period. The Late Prehistoric period in this portion of Imperial County is recognized archaeologically by smaller Projectile

points, the replacement of flexed inhumations with cremation, the introduction of ceramics, and an emphasis on inland plant food collection and processing, especially acorns and mesquite (Kroeber 1925). Inland semi-sedentary villages were established along major water courses and around springs, and montane areas were seasonally occupied to exploit mesquite, acorns, and piñon nuts. Mortars for mesquite and acorn processing increased in frequency relative to seed grinding basins.

The most numerous of the archaeological resources in the Imperial Valley date to the Late Prehistoric period. The majority of the sites studied were small processing sites, associated with the grinding of vegetal resources and dating to the Late Prehistoric period. Larger habitation sites were less common, but displayed a wider range of activities and longer periods of occupation (Jefferson 1974). Typical artifacts at these sites include Desert Side-notched and Cottonwood Triangular Projectile points and Lower Colorado Buff Ware and Tizon Brown Ware ceramics. Lithic artifacts are typically made from chert, volcanic, or quartz material.

The Kamia or Desert Kumeyaay occupied the Project area during this period. The Kamia are a subgroup of the Yuman family of the Hokan stock, and are therefore closely related linguistically to the Mohave, Quechan, Maricopa, Paipai, Cocopa and Kiliwa (Kendall 1983:5). The extreme diversity of Cahuilla territory nearly reflected the range of environmental habitats allowed in inland southern California. Topographically, their territory ranged from the New River and Alamo River sloughs to San Felipe Creek in the north and east to the Algodones Dunes. Ecological habitats included the full range of mountains, valleys, passes, foothills, and desert area (Shipek 1982).

Group size and the degree of social interaction therefore varied over the course of an annual cycle. The basic unit of production was the family, which was capable of great self-sufficiency, but Kamia/Kumeyaay families, like other hunter-gatherers, moved in and out of extended family camps or villages opportunistically as problems or opportunities arose (Lawton and Bean 1968). Thus, whereas single families occasionally exploited low-density, dispersed resources on their own, camps or villages of several families formed at other times, particularly when key resources (such as water) were highly localized.

Going beyond the basic social unit of the family, the Kamia/Kumeyaay were organized by some form of descent system. From the available ethnographic data it is not immediately obvious as to whether they were organized into lineages or clans. Indeed, their features of social organization appear to have shared some qualities of both systems, and it may be speculated that the society had begun evolving from a lineage system to a clan system prior to the time of Western contact. In any case, the Kamia/Kumeyaay traced their descent patrilineally (i.e., through one's father), were exogamous at the level of the descent group (i.e., one had to marry outside one's own lineage or clan), and practiced patrilocal residence (i.e., a married woman lived with her husband's father's relatives). Descent groups apparently "owned" land and certain other resources. According to Kroeber (1925:720), "It would appear that each "clan"

owned a tract and that each locality was inhabited by members of one clan, plus their introduced wives". Regarding other resources, Spier (1923:307) observed that some "gens" (i.e., clans) owned patches of certain trees and "Each gens owned one or more eyries from which eaglets were taken for use in the mourning ceremony". Apparently, however, resource ownership did not extend to the oak groves in the mountains (ibid), which probably reflects the extreme importance placed upon this resource for the adaptation and survival of the entire society. Gifford (1931: 50-51) reported that the Kamia had no clan chiefs and recognized a tribal chief like the Quechan, however this form of leadership may have been introduced after European contact.

Important plant foods exploited from the Kamia's diverse habitat included mesquite and screw beans, pinyon nuts, and various cacti. Important but less utilized plants included various seeds, wild fruits and berries, tubers, roots, and greens. Women were instrumental in the collection and preparation of vegetal foods (Gifford 1931).

The extent to which the Kamia/Kumeyaay practiced agriculture at the time of European contact has not been established. Gifford (1931) felt that agriculture, which had been well established among the Colorado River groups at the time of Western influence, had diffused into the Imperial Valley and was practiced by all of the Kamia lineages. Similarly, Lawton and Bean (1968) have suggested that certain Cahuilla groups cultivated corn, beans, squash and melons, like the neighboring Colorado River tribes.

Kamia culture and society remained stable during the period of missionization on the coast. It was not until the American period that Kamia were heavily displaced. The introduction of European diseases greatly reduced the native population of southern California and further disrupted the way of life of the native inhabitants (Lawton and Bean 1968).

Ethnohistoric Period

The Ethnohistoric period refers to a brief period when Native American culture was initially being affected by Euroamerican culture and historical records on Native American activities were limited. When the Spanish colonists began to settle California, the Kamia were on the margins of the mission system. They retained more of their culture due to their distance from mission influence. Although clans moved from place to place within their general territory, some locations were occupied for longer periods and by more people than others (Almstedt 1982:13). These settlements, which may be regarded as villages, "were places to which the people returned from their foraging, where they spent winter months, sometimes in association with other clans Some larger groups appear to have had sizable summer as well as winter villages" (Almstedt 1982:13). Within each village there was a dance floor, extensive milling stations, family living areas, and possibly a sweathouse and granary. If it was a winter camp, a house would have been set directly on the ground and a fireplace built on the ground by the door (Spier 1923:338).

European contact introduced disease that dramatically reduced the Native American population and helped to break down cultural institutions. The transition to a largely Euroamerican lifestyle occurred relatively rapidly in the nineteenth century.

C. Prior Research

Archival data has been provided by Hell's Kitchen Geothermal, LLC, from the previous 2017 cultural studies of the Project area conducted by ASM Affiliates, Inc. The record search was conducted by the South Coastal Information Center (SCIC) at San Diego State University to identify any previously recorded cultural resources within the Project area and to determine the types of resources that might occur in the Project area. In addition to the two studies conducted by ASM Affiliates, Inc., the records search indicated that 17 cultural resource investigations have taken place within a half-mile radius of the Project area (Table 1). The entire Project area has been previously surveyed.

Table 1. Cultural Resource Investigations Previously Conducted Within a Half-Mile Radius of the Project Area

Year	Title	Author(s)	NADB
1980	Appendix A - History of Local Development	Westec Services, Inc.	IM-00225
1981	Salton Sea Anomaly Cultural Resource Review Data-Support Package	Westec Services, Inc.	IM-00230
1981	Salton Sea Anomaly - Master Environmental Impact Report	Westec Services, Inc.	IM-00234
1981	Volume II - Salton Sea Anomaly Master Environmental Impact Report and Magma Power Plant #3 (49 Mw) Environmental Impact Report Appendices	Westec Services, Inc.	IM-00236
1981	Volume I - Salton Sea Anomaly Master Environmental Impact Report and Magma Power Plant #3 (49 Mw) Environmental Impact Report Draft	Westec Services, Inc.	IM-00237
1981	Final Salton Sea Anomaly Master Environmental Impact Report and Magma Power Plant #3 (49 Mw) Environmental Impact Report Comments and Responses	Westec Services, Inc.	IM-00254
1981	Final Salton Sea Anomaly Master Environmental Impact Report and Magma Power Plant #3 (49mw) Environmental Impact Report Volume I	Westec Services, Inc.	IM-00255
1983	Bear Creek Mining Company	Von Werlhof, Jay	IM-00293
1994	Conditional Use Permit and Environmental Information for the Hazard Area Exploration Wells	RTP Environmental Associates, Inc.	IM-00512
1994	Biological Technical Report in Support of an Environmental Assessment for the Hazard Area Geothermal Exploration Project	Ogden Environmental and Energy Services	IM-00513
2000	Draft Salton Sea Restoration Project Environmental Impact Statement/Environmental Impact Report	Tetra Tech, Inc.	IM-01181
2001	The Archaeological Survey Association of Southern California's Lake Le Conte Survey	McGown, Lucille Ronan, Gordon, A. Clopine, Doris Hoover Bowers, Jay Von	IM-01255

Table 1. Cultural Resource Investigations Previously Conducted Within a Half-Mile Radius of the Project Study Area

Year	Title	Author(s)	NADB
		Werlhof, Ruth Deette, Simpson, Ronald V. May, and Pat King	
2008	Cultural Resources Review for the Sonny Bono Salton Sea National Wildlife Refuge Complex, Imperial and Riverside Counties, California	Laylander, Don, Sarah Stringer-Bowsher, and Jerry Schaefer	IM-01385
2011	Draft Archaeological Survey Investigation for the San Diego County Water Authority Fish Pond Imperial County, California	Glenny, Wayne	IM-01498
2013	Imperial Wells Geothermal Exploration Project, Project Description	Imperial Wells Power LLC	IM-01520
2016	Phase I Environmental Site Assessment Hell's Kitchen Power Plant West of Wister Road, Between Noffsinger Road and Pound Road, Calipatria, California	No author listed	IM-01640
2016	Archaeological & Historic Architecture Records Review for the Union Pacific Railroad Review Subdivision Positive Train Control Mile Posts 659.95 Through 691.12	No author listed	IM-01654
2017	Cultural Resource Study for the Hell's Kitchen Exploratory Well Project, Imperial County, CA	Gunderman Castells, Shelby, Douglas Drake, Joel Lennen	Unknown
2017	Cultural Resources Survey Work Plan Hell's Kitchen Geothermal Project, Imperial County, CA	Harvey, Stephen	Unknown

The previous investigations resulted in four cultural resources having been recorded within a half-mile radius of the Project area (Table 2). Three of the previously recorded resources are natural occurring (mud volcano, pond and an obsidian outcrop). The mud volcano and pond were recorded in 1856 as part of the General Land Office (GLO) land surveys. The obsidian outcrop was prehistorically quarried. None of these three resources are located within the Project area. The 2017 effort conducted by ASM Affiliates, Inc. recorded two historic bottle bases as isolate HK-I-1 within the Project area.

Table 2. Cultural Resources Previously Recorded Within a One-Mile Radius of the Project Area

*shaded entries indicate intersection with the current Project area

Site Designation	Description	Recorder, Date	Date
CA-IMP-3256-H	Mud Volcano	Washburn, H.S.	1856
CA-IMP-3251	Pond of Water	Washburn, H.S.	1856
CA-IMP-8176	Prehistoric Obsidian Quarry	Pierson, Larry	1992
HK-I-1	Isolate- Historic Glass Bottle	Gunderman Castells, Shelby, Douglas Drake, Joel Lennen	2017

Native American Contact Program

A previous Native American contact program was conducted for the *Cultural Resource Study for the Hell's Kitchen Exploratory Well Project, Imperial County, CA* studies conducted by ASM Affiliates in 2017. In October 2016, ASM Affiliates, Inc. reached out to the Native American Heritage Commission (NAHC) and was provided contact information for 36 Native American individuals, who were also contacted. Two tribes responded at the time. The Agua Caliente Band of Cahuilla Indians responded the Project area is beyond their Traditional Use Area and opted to defer to Tribes more proximally located to the Project area. The Morongo Band of Mission Indians expressed concern for the Project and requested monitoring by a Cahuilla representative during construction activities.

An updated Native American Contact Program has been initiated by Tierra for the current effort. The NAHC was contacted via email on April 12, 2021. The NAHC responded in kind on April 27, 2021 with positive results for the Sacred Lands File search of the vicinity. It was recommended that all Tribal individuals supplied by the NAHC be contacted, especially the Torres-Martinez Desert Cahuilla who may provide further information of the positive search results. Letters were sent to all contacts supplied thereafter. To date, no responses have been received from the Tribal individuals contacted in April 2021. Any comments received will be documented in this report and supplied to the County. See Appendix C for details on the Native American Contact Program.

III. RESEARCH DESIGN, METHODS, AND RESULTS

A. Research Design

The goal of this study was to identify any potential cultural resources within the Project area that can be impacted by the proposed options. To accomplish this goal, background information was examined and assessed prior to conducting an intensive pedestrian survey to identify cultural remains within the Project area. Based on a review of the archival research including previous work, and a historic map check, it was determined that historic resources may exist within the Project vicinity. Research topics considered during the survey included acculturation, the history of reservation life, lithic material use, and settlement patterns.

B. Survey Methods

The pedestrian survey was conducted on April 1, 2021 and October 11, 2021 by Ms. Hillary Murphy and Mr. Andres Berdeja of Tierra. The pedestrian survey was conducted by intensive survey in 10-to-15-meter interval transects. Part of the Project area was located within wetlands. In these locations, transects running parallel to the waterline were conducted. A windshield survey was conducted for small portions of the southern segment right-of-way where the new right-of-way is being secured for the gen-tie line along the existing dirt/paved roads that were noticeably highly disturbed and near the road. The cultural survey was conducted to adequately identify cultural resources within the Project area.

Resources identified during the survey were assigned consecutive temporary numbers (*e.g.* TES-HK-001) in the field. Furthermore, temporary numbers may contain an "H" suffix, used to denote historic period resources (*e.g.* TES-HK-001H) or in the case of a resource representative of both historic and prehistoric periods, the suffix "/H" was added (*e.g.* TES-HK-001/H). Resources identified as isolates received an "i" to indicate isolated finds. As per industry standards, historic artifacts or features were recorded in feet and inches while prehistoric resources were recorded using the metric system. All resources assigned with a temporary number will be given permanent trinomials or primary numbers by the SCIC. No ground disturbing activities or artifact collections were undertaken during the course of this study.

IV. SURVEY RESULTS

The pedestrian survey was conducted on April 1, 2021 and October 11, 2021 by Hillary Murphy and Andres Berdeja of Tierra. The Project area is comprised of walkable, bare-ground and submerged, densely vegetated wetlands (Photograph 1). The walkable portions of the Project area consist of loamy soils with evidence of modern refuse dumping and flooding. Displaced debris is prevalent in the northern portion of the Project area (Photograph 2). Visibility of this portion of the Project area was good at roughly 75-percent, not including the wetland areas. Disturbances observed consisted of single-lane vehicular tracks and raised accessed lanes around Well Pad #3 in the north. Additionally, much modern refuse such as tires, plastic, metal fragments, glass fragments, clothing, etc. was observed in the northern portion of the Project area.

The gen-tie right-of-way portion of the Project area was primarily comprised of dry lake bed. Minimal vegetation was present and visibility was excellent. Signage posted within the northern portion of the alignment denoted occasional flooding. There are multiple cinderblock structures, a historic structure (TES-HK-001H), a field of telephone poles and a geothermal pit in the northern section of the gen-tie line. The cinderblock structures appear to be modern additions. The geothermal pit is present in historic aerials dating back to 1953 however, the structure currently associated with the pit is not present and appears to be a more modern addition (Historic Aerial 2021).



Photograph 1. Overview of the Project area's northern boundary; facing west.



Photograph 2. Overview of the Project area; facing south from northern section.



Photograph 3. Overview of the Project area's northern boundary; facing north.



Photograph 4. Overview of the Project area's southern boundary; facing north.

Previously Recorded Cultural Resources

HK-I-1

This resource is an isolate recorded as two historic bottle bases documented by ASM Affiliates Inc. in 2017. One of the bases contains an Owen's Automatic Bottle Machine suction scar that dates between 1905 and 1920s (Gunderman Castells, Drake, Lennen, 2017). Additionally, green glass fragments and a bottle base were observed among modern refuse. (Gunderman Castells, Drake, Lennen, 2017). This resource was not relocated by the current effort.

Newly Recorded Cultural Resources

TES-HK-001H

This resource consists of the remnants of a historic-era house. The structure is shown on historic aerials dating back to 1953 aerial imagery and 1945 topographic maps (Historic Aerial 2021). The structure islargely comprised of adobe brick though has been significantly altered over years as is evidenced by lathe and plaster and plywood construction additions. The structure no longercontains some walls, windows, doors and roof and shows evidence of fire damage. Graffiti and modern effects such as chairs, carpet and modern refuse indicate the structure has been utilized in recent years. Added concrete stairs and electrical outlets are present as well indicating use over time and necessary altercations made. The overall architectural is aconglomerate of methods with no one style being present. Reverse-tapering pilasters arepresent on multiple exterior facades. Casement arches are present for some windows anddoors are present while rectangular windows are also utilized. The southern portion of the structure is missing with only a few exterior walls remaining. There is not enough of the original structure remaining to understand the floorplan and actual appearance the structure once exhibited. See photographs 5 through 8 for imagery of the structure's current condition. Standard DPR site records have been completed for this resource and are awaiting permanent designation from the information center (Appendix D).



Photograph 5. TES-HK-001H: Street-side, western façade.



Photograph 6. TES-HK-001H: Internal view of disturbances and southern extent's remnants. Geothermal pit with associated cinderblock structure in background.





Photographs 7 and 8. TES-HK-001H: Example of multiple construction methods applied.

V. SUMMARY AND RECOMMENDATIONS

This cultural investigation was undertaken in response to the proposed HKP1 and HKL1 Projects, which included a pedestrian survey, desktop archival research and Native American Contact Program. The HKP1 Project seeks to generate 49.9 megawatts of geothermal power and the HKL1 Project seeks to produce lithium and other products from the geothermal brine for commercial sale. A pedestrian survey was conducted to ascertain if any cultural resources may be present within the Project area and subsequently impacted by the proposed Projects. The results of the pedestrian survey were positive with a new historic resource (TES-HK-001H) observed within the project area.

A records search resulted in nineteen cultural studies previously conducted within a one mile radius of the Project area, indicating the entire Project area has been previously surveyed. One previously recorded resource was identified within the proposed Project area (HK-I-1).

A Native American Contact Program has been enacted with local Tribes and the Native American Heritage Commission. While no Tribal responses have been received related to the current effort, the County will be notified with any tribal responses as they are received.

In addition to the archival research, Tierra conducted an intensive pedestrian survey of the Project area that failed to relocate the previously recorded isolate. One additional resource was identified and recorded (TES-HK-001H). Overall surface visibility within the walkable Project area ranged from good to excellent as the area encompassed dried flood plains. Wetland portions of the Project area were not transected due to being submerged.

A. Regulatory Framework

For the purposes of this report, cultural resources describe any expression of human activity on the landscape whether past or present. Within the cultural resources framework are resource types including but not limited to, prehistoric archaeological sites, historical archeological sites, districts, historical buildings and structures, ethnographic sites, Traditional Cultural Properties (TCPs), and isolated artifacts and features. Each of these resources may be evaluated for their potential significance, and if determined eligible to the California Register, are designated as “historic properties”.

This archaeological investigation was conducted in compliance with California Environmental Quality Act (CEQA) requirements pertaining to the determination of whether the proposed Project may have an affect on significant cultural resources (PRC 21083.2 and CCR 15064.5). According to CEQA, an impact is considered significant if it would disrupt or adversely affect a prehistoric or historic-era archaeological site or a property of historic or cultural significance to a community, ethnic or social group. The State CEQA Guidelines define a significant historical resource as a resource listed or eligible for listing on the California Register of Historic

Resources (CRHR) (PRC 5024.1). A historical resource may be eligible for inclusion in the CRHR if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or is likely to yield, information important in prehistory or history.

Significant cultural resources may be avoided by the proposed Project through a redesign of the Project or construction planning, or protected and preserved through various means. If avoidance or protection of a significant cultural resource is not possible, mitigation measures shall be required as set forth in Public Resources Code 21083.2 (c-1). A non-significant cultural resource need not be given any further consideration (PRC 21083.2 [h]).

B. Recommendations

TES-HK-001H is in extremely poor condition and is merely a shell of a once-used residence. Fire damage, missing major structural components, modern disturbances, and multiple additions made over the years have reduced any integrity the structure maintained to be extremely poor. Its severely dilapidated condition does not allow for the structure to meet the criteria needed for listing on the CRHR. Additionally, the structure is not known to be affiliated with anyone of significance, contribute to any broad pattern of local cultural heritage, nor yield additional information to local history further making it not eligible for listing on the CRHR.

Past Native American Contact Programs have resulted in the tribal request for Native American monitoring during the construction effort. No further archaeological work is recommended at this time.

C. Unanticipated Discoveries

In the event unanticipated, buried prehistoric archaeological resources (lithic material, faunal, pottery, etc.) or historical archaeological resources (ceramics, building materials, glassware, etc.) are unearthed during construction or any ground disturbing activities within the Project area, additional resource treatments would become necessary. Once a potential resource has been identified, all work within 100 feet must be halted until the find can be assessed by a qualified archaeologist.

If human remains are encountered during the proposed work, no further excavation or disturbance may occur in the vicinity of the find until the County coroner has been contacted. California Health and Safety Code 7050.5 states (a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the Public Resources Code. (b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains area discovered has determined that the remains are not subject to the provisions of Section 27481. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or to his or her authorized representative, notifing the coroner of the discovery if recognition of human remains. (c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

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APPENDICES

A. Resumes of Principal Personnel
B. Record Search (Confidential Appendix)
C. Native American Contact Program
D. DPR Site Forms (Confidential Appendix)

APPENDIX A
RESUMES OF PRINCIPAL PERSONNEL

MICHAEL G. BAKSH, PH.D.
Principal Anthropologist/Archaeologist
Tierra Environmental Services

Education

University of California, Los Angeles, Doctor of Philosophy, Anthropology, 1984
University of California, Los Angeles, Master of Arts, Anthropology, 1977
San Diego State University, Bachelor of Arts, Anthropology, 1975

Professional Experience

1993-Present	Principal Anthropologist/Archaeologist, Tierra Environmental Services, San Diego, California
1993-Present	Adjunct Professor, Department of Anthropology, San Diego State University
1990-1993	Senior Anthropologist/Archaeologist, Brian F. Mooney Associates, San Diego, California
1985-1990	Research Anthropologist, University of California, Los Angeles
1980-1985	Consulting Anthropologist, Brian F. Mooney Associates, San Diego, California
1976-1983	Research Assistant, Department of Anthropology, University of California, Los Angeles
1973-1975	Supervisory Archaeologist, San Diego State University, San Diego, California
1970-1973	Assistant Archaeologist, San Diego State University, San Diego, California

Professional Affiliations

Fellow, American Anthropological Association
Member, American Ethnological Society
Member, Association of Environmental Professionals
Member, Society for California Archaeology
Advisory Council Member, San Diego Archaeological Center
Permitted by Bureau of Land Management for Cultural Resource Surveys in California
Principal Investigator, City of San Diego
Member, City of San Diego Historic Resources Board

Qualifications

Dr. Michael Baksh received his Ph.D. in Anthropology from the University of California at Los Angeles in 1984. He has been Principal Anthropologist/Archaeologist at Tierra Environmental Services for 22 years. Dr. Baksh's area of specialty is cultural resource management, and he has conducted numerous archaeological surveys, testing projects, and data recovery programs throughout southern California. He has also conducted numerous Native American consultation and ethnohistoric projects throughout the southwestern United States in compliance with Section 106 of the National Historic Preservation Act. He has established an excellent rapport with Native Americans on a wide range of cultural resource management, land use, and planning projects.

Relevant Projects

Ocotillo Express Wind Archaeological Construction Monitoring *(Pattern Energy).*
Dr. Baksh managed the archaeological construction monitoring for the Ocotillo Express Wind Project in Ocotillo, California. The Ocotillo Express Wind Project involved a year-long construction of 112 wind turbines, more than 30 miles of new roads, and numerous associated facilities on desert lands managed by the U.S. Bureau of Land Management. Tierra employed approximately 20 full-time archaeologists and 10 Native Americans for the project.

As-Needed City of San Diego Cultural Resources *(Helix Environmental).*
Dr. Baksh is managing a multi-year As-Needed Cultural Resources contract for the City of San Diego (through Helix Environmental). Commencing in 2011, numerous task orders have been issued for archaeological studies including surveys, testing programs, monitoring projects, historic evaluations, and records searches throughout the City. In addition to providing archaeological staff Tierra is also responsible for coordinating and retaining Native American monitors. Tierra also coordinates with the San Diego Archaeological Center to ensure that all collections resulting from the As-Needed project are properly curated.

Sunrise Powerlink *(San Diego Gas & Electric).*
Dr. Baksh managed the Native American monitoring of the 2010-2012 construction of the Sunrise Powerlink project. The project included the construction of a 118-mile-long 230-kV/500kV transmission line between SDG&E's Imperial Valley Substation near El Centro, Imperial County, to its Sycamore Canyon Substation near Interstate 15 in San Diego, California, and a new substation in Alpine, California. Native Americans monitored whenever ground-disturbing activities occurred within 50 feet of known cultural resource sites. The U.S. Bureau of Land Management served as lead federal agency under NEPA and the National Historic Preservation Act, and the California Public Utilities Commission served as lead state agency under CEQA from October 2010 to June 2012. Tierra retained 43 Native Americans from six Tribes who worked on a daily basis and logged 24,913 hours.

Caltrans As-Needed Cultural Resource Services *(California Department of Transportation).*
Dr. Baksh served as Principal Anthropologist on the Caltrans District 11 (San Diego and Imperial County) As-Needed Cultural Resources contracts from 1992 through 2010. He managed several archaeological surveys and testing programs and was responsible for coordinating Native American involvement and input on specific task orders. One task order included the development of a comprehensive list of Native Americans capable of providing archaeological monitoring and/or ethnographic consultation services on future Caltrans cultural resource management projects. In consultation with over 20 reservations including Kumeyaay, Luiseño, and Quechan Indians, Dr. Baksh prepared a list for Caltrans to draw upon during future projects and thereby help ensure compliance Section 106 of the National Historic Preservation Act and other regulations. Development of the list also involved consultation with the Native American Heritage Commission and local cultural resource management firms.

Model Marsh Archaeological Studies *(California State Coastal Conservancy).*
Dr. Baksh managed several archaeological studies associated with the construction of the 20-acre Model Marsh located in the Tijuana Estuary. These resulted in the identification of a historic resource that was found to be associated with the Naval Electronic Laboratory on Point Loma. Tierra subsequently conducted monitoring and during construction of the Model Marsh and discovered a buried prehistoric site. Tierra tested the site, found it to be significant, and implemented a data recovery program. A total of 41 one-square-meter units were excavated in a timely manner to allow completion of project construction. The investigations were conducted in compliance with all federal, state, and local cultural resource laws and in close coordination with State Parks and the U.S. Army Corps of Engineers.

IID Niland to Blythe Powerline Replacement *(Greystone).*
Dr. Baksh managed the archaeological survey of an approximately 60-mile transmission line corridor along an existing transmission line between substations near Blythe and Niland. Archaeological and historical research included a review of records and literature searches and an archaeological field inventory of the transmission line corridor. The BLM and Department of Defense served as Federal lead agencies for NEPA and NHPA compliance, and the Imperial Irrigation District served as the lead agency for CEQA compliance. The survey of the 60-mile-long 500-foot-wise corridor identified 20 previously located sites and 170 new sites including prehistoric flaking stations, lithic scatters, trails, rock rings, pottery scatters, and rock shelters, and historic trash dumps, military encampments, building foundations, cairns, and survey markers. Dr. Baksh also managed the project's Native American consultation.

Sabre Springs *(Parsons Brinckerhoff).*
Tierra conducted a cultural resource study for the proposed Sabre Springs Project adjacent to Interstate 15 and Ted Williams Parkway in the community of Sabre Springs. The project includes the construction of a Transit Center and access road on a 6.2-acre property. The environmental review was conducted in accordance with the California Environmental Quality Act (CEQA) and the City of San Diego Land Development Code. The Metropolitan Transit Development Board (MTDB) will serve as lead agency for CEQA compliance, and Caltrans served as agent for the Federal Highway Administration (FHA) and federal review.

Carroll Canyon *(Parsons Brinckerhoff).*
Tierra conducted several cultural resource studies for the proposed Carroll Canyon Road Extension Project in the area of Interstate 805. These studies have included general cultural surveys, archaeological testing and historic evaluations, and Native American consultation. The City of San Diego has served as the lead agency for CEQA review and Caltrans has served as the lead agency for NEPA review and compliance with the National Historic Preservation Act.

Black Mountain Pipeline *(City of San Diego).*
Dr. Baksh managed the archaeological studies associated with the construction of the Black Mountain Pipeline in the Mira Mesa and Penasquitos communities of San Diego. The project included several miles of pipeline constructed in Black Mountain Road and several adjacent streets. Tierra conducted construction monitoring of the project for a nearly two-year period.

Penaquitos Sewer *(BRG).*
Dr. Baksh conducted the archaeological studies associated with the Penasquitos trunk sewer for the City of San Diego. The project site consisted of a pipeline route of approximately two miles adjacent to Penasquitos Canyon. The study included a records search, Native American consultation, an archaeological survey, and an archaeological testing program.

City Trunk Sewers *(EarthTech).*
Dr. Baksh managed the archaeological studies for trunk sewers and access routes located in 18 canyons the City of San Diego. The goal of the project was to identify any cultural resources that could be impacted by routine maintenance and emergency repairs to aging sewer lines throughout the City. Records searches and archaeological surveys were conducted for all 18 canyons.

City Sewers As-Needed *(BRG).*
Dr. Baksh managed the archaeological studies for the City of San Diego on an As-Needed contract in 2004-2005. Most of the effort involved construction monitoring during the replacement of sewer lines in City streets.

City Water Group Jobs *(Arrieta, BRG, RBF).*
Dr. Baksh managed the archaeological studies for numerous City Water Group Jobs including 689, 744, 903, 904, and 905. Most of the effort associated with these projects involved construction monitoring during the replacement of water pipelines in existing City streets.

San Diego Water Repurification *(Montgomery Watson).*
Dr. Baksh prepared an archaeological feasibility study for the San Diego Water Repurification Project proposed by the City of San Diego Water Utilities Department. This project included analyses of records searches and existing archaeological studies, as well as field reconnaissance studies, for several alternative pipeline conveyance corridors and Advanced Water Treatment Facilities located between the North City Water Reclamation Plant and San Vicente Reservoir.

Mt. Israel Reservoir and Pipelines *(Olivenhain Municipal Water District and Bureau of Land Management).*
Dr. Baksh served as Senior Archaeologist for preparation of the cultural resources study for this proposed reservoir, flood control channel, and pipeline project in San Diego County. The cultural resource study also included record search analyses and intensive surveys of four alternative access roads. Located in an area traditionally utilized by the Luiseño Indians, this project included ethnohistoric research in addition to the archaeological survey.

SDCWA As-Needed Cultural Resources *(San Diego County Water Authority).*
Dr. Baksh served as the Project Ethnographer on the SDCWA As-Needed Cultural Resource Services contract. Task orders focused on Native American consultation and ethnographic research related to an archaeological test excavation and subsequent data recovery program at the Harris Site in association with Pipeline 5.

As Needed Archaeological Services For The MTDB Light Rail Project *(Metropolitan Transit Development Board).*
Dr. Baksh managed the As-Needed archaeological services for the San Diego Metropolitan Transit Development Board for construction of the Mission Valley Light Rail Project between Old Town and Fashion Valley. As-needed services included on-going construction monitoring, site testing, and data recovery activities. During monitoring, a buried prehistoric archaeological site was found at a location scheduled for immediate construction. In consultation with the Army Corps of Engineers and the City of San Diego, a testing project was implemented within days and the site was determined to be significant. Dr. Baksh managed the preparation of an evaluation and treatment plan (for the Heron site) and coordination with the ACOE and City. The plan was approved and Dr. Baksh managed the data recovery fieldwork, which was completed in less than one month after initial discovery of the site and just prior to crucial construction deadlines. He subsequently managed all phases of data analysis and preparation of the draft and final reports.

Clean Water Program/Native American Memorandum Of Understanding *(City of San Diego Metropolitan Waste Water Department).*
Dr. Baksh prepared a Memorandum of Understanding (MOU) between the Metropolitan Waste Water Department and Native American groups in San Diego County. The MOU specifies Native American involvement in archaeological investigations and the treatment of archaeological and human remains associated with construction of CWP facilities in San Diego County.

HILLARY MURPHY

Archaeologist
Tierra Environmental Services

Education

M.A., Leadership and Cultural Management, Colorado State University, Fort Collins – pending 2021
Certificate in Archaeology, San Diego City College
B.A., Interior Design with an Art History Minor, California State University, Sacramento

NEPA Section 106 Workshop, Advisory Council on Historic Preservation
CEQA Workshop, Association of Environmental Professionals

Professional Experience

July 2007- Current	Project Archaeologist, Tierra Environmental Services, Inc.
March 2008- 2010	On-call Associate Archaeologist, ICF International
June 2007-July 2007	Archaeological field and lab crew, Programme for Belize, Belize
January 2007-June 2007	Archaeology Field School, Rancho Peñasquitos site, CA-SDI-8125 San Diego City College

Professional Affiliations

Association of Environmental Professionals

Qualifications

Ms. Murphy has a variety of experience in cultural resources management in southern California and Central America. Ms. Murphy is currently a project archaeologist with Tierra and has served as Project Manager, Field Director, and/or Crew Chief for various projects including fieldwork regarding survey, testing, data recovery, monitoring, site recording, site and artifact illustration, and lab analysis for a variety of projects. Ms. Murphy has conducted cultural resources investigations for local, State and Federal projects ensuring the projects' remain in compliance with appropriate CEQA, NHPA, and NEPA regulating guidelines. Ms. Murphy has conducted these investigations in support of infrastructure, renewable resources, water and sewer conveyance systems, residential and commercial development, among others. Ms. Murphy has cultivated positive relationships between local Native American tribes and local agencies. Additionally, she has authored and co-authored many technical reports. Ms. Murphy has been certified by the City of San Diego as a professional archaeologist.

Relevant Projects

City of San Diego Engineering and Capital Projects Department As-Needed Cultural Resources
Ms. Murphy has served as project coordinator and monitor for multiple task orders overseeing construction monitoring and archaeological investigations throughout the City of San Diego. These As-Needed tasks, dating from 2011 to present, have been largely related to the City of San Diego's utility undergrounding effort.

Cabazon Indian Reservation Constraints and Opportunities Assessment
Ms. Murphy served as report co-author and field director for a cultural study conducted for the Cabazon Band of Mission Indians' 1,400-acre reservation. The study was a constraints and opportunities

assessment of the Tribal land in support of an Environmental Assessment (EA) and Integrated Resource Management Plan (IRMP). The survey results were positive for a variety of cultural resources within the reservation including both prehistoric and historic resources.

Ocotillo Express Wind Energy Project – Geotechnical Construction Monitoring Effort
Following the completion of the archaeological survey effort, Ms. Murphy oversaw the monitoring effort and authorized the geotechnical report for the preliminary testing of the proposed turbine locations. Additionally, Ms. Murphy participated in the coordination and preparation of the construction monitoring effort. Per the request of the BLM, Ms. Murphy authored a Tribal Participation Plan to convey details of the proposed monitoring efforts by the participating Native American Tribes, Kumeyaay and Colorado River Tribes. Ms. Murphy also assisted with the authoring of the Archaeological Management Plan for the same effort. This phase of the project is expected to commence May of 2012 at which point Ms. Murphy will assist with the coordination of the monitoring crews and assist with the monitoring reports.

Ocotillo Express Wind Energy Project - Archaeological Survey
Ms. Murphy served as co-project archaeologist for the Ocotillo Wind Express Project. The project consisted of a Class II and Class III survey totaling 12,436 acres for the proposed installation of 112 wind turbines in Imperial County, CA. Ms. Murphy coordinated field crews, both field technicians and Native American monitors, and served as liaison between the office and the field. When needed, Ms. Murphy accompanied Native Americans during site visits. Ms. Murphy assisted with the post-survey analysis of the data and the authorization of the technical report.

Sunrise Powerlink Final Environmentally Superior Southern Route
Ms. Murphy served as Native American Coordinator for the construction monitoring effort for the Sunrise Powerlink; an 118-mile transmission line from San Diego Gas & Electric (SDG&E) Imperial Valley Substation near El Centro, Imperial Valley, to SDG&E's Sycamore Canyon Substation in coastal San Diego, California. Ms. Murphy coordinated and scheduled monitors from the Kumeyaay Indian Tribes and the Cocopah Indian Tribe. Ms. Murphy discussed with and matched cultural monitors with construction activities in potentially culturally sensitive locations based on proximity and/or Tribal interest. Ms. Murphy authored technical Native American monitoring report upon completion of the project.

Palm Avenue Bridge
Ms. Murphy served as project archaeologist for the survey of the proposed the improvements of the Palm Avenue Bridge at the Interstate-805 interchange. Ms. Murphy also authored the report under Caltrans guidelines.

SR-76 Monitoring
Ms. Murphy served as monitor and authored the report for the widening and realignment efforts extending approximately 5 miles along State Route 76 in northern San Diego County. The monitoring effort extended intermittently over a period of 14 months.

La Posta Pipeline
Ms. Murphy served as crew chief for the La Posta Pipeline Project for the La Posta Band of Mission Indians. The survey resulted in one prehistoric bedrock milling site adjacent to the proposed pipeline. Ms. Murphy authored the Department of Parks and Recreation site forms for the resource, as well as co-authored the technical report.

Campo Homes
Ms. Murphy served as crew chief for a survey of six one-acre parcels of land for prospective new homes of residents in the Campo Indian Reservation. The survey resulted in two sites containing bedrock milling

features and lithic scatters. The larger of the two sites contained a massive abundance of both lithic and ceramic scatter, including chalcedony and obsidian. Ms. Murphy authored the site forms and assisted in the preparation of the report.

Salton Sea City Landfill
Ms. Murphy served as monitor, field crew, and report co-author for cultural resources studies related to 320 acres allotted for the development of the Salton City Landfill. The survey resulted in approximately 25 resources ranging from historic refuse deposits to prehistoric fish traps, habitation sites, and lithic and ceramic scatters. A data-test and recovery program was implemented to fully mitigate the resources prior to demolition and Ms. Murphy served as crew, lab analysis and report co-author for this as well. Additionally, as the Landfill's progression continues in the future with various ground disturbing activities, Ms. Murphy will serve as monitor.

Boulevard Apartments
Ms. Murphy served as cultural resources monitor for the ground disturbing activity associated with the implementation of a new low income apartment building within the city of San Diego. The project was located in an urban setting between existing structures and streets. The entire project last over a year and resulted in negative findings.

Campo Homes
Ms. Murphy served as survey crew for six one-acre parcels of land for the prospective new homes of residents in the Campo Indian Reservation. The survey resulted in two sites containing bedrock milling features and lithic scatters. The larger of the two sites contained a massive abundance of both lithic and ceramic scatters including chalcedony and obsidian. Ms. Murphy authored the site forms and assisted in the preparation of the report.

Santa Ysabel Homes
Ms. Murphy served as survey crew for seven parcels of land proposed for the development of single family houses on the Santa Ysabel Indian Reservation. Each parcel surveyed consisted of a one-acre allotment for the housing. One of which resulted in the location of a historic house once used at the Camp Kearny Training Base during World War I, circa 1917-1920. Ms. Murphy assisted in the completion of the report and site forms.

Augustine Land Transfer
Ms. Murphy served as survey crew for the 120-acre land transfer of three parcels on the Augustine Indian Reservation in Coachella, California, which resulted in the location of seven cultural resources including lithic scatters and a potential burial. Historic artifact scatters and deposits were located, as well. Ms. Murphy co-authored the report and site forms.

Jacumba Water System Rehabilitation Project
Ms. Murphy assisted in the survey and monitoring of over 8,500 linear feet for the project. The survey resulted in the recording of seventeen historic and prehistoric archaeological sites including a turn-of the-century stone house, 1920s hotel, and prehistoric habitation sites. Information from the survey was used to direct the planning effort in order to avoid sensitive cultural resources. Ms. Murphy participated in the laboratory analysis of the artifact collection recovered during monitoring for the project. She was responsible for identification and cataloguing of the artifact assemblage.

Niland Waste Water
Ms. Murphy assisted as crew for surveying two linear miles in preparation of new waste water lines and treatment facility to be implemented. She then assisted in the preparation and completion of the report.

Santiago Sedimentation Basin Project
Served as crew for the survey of 21 acres for a housing development upon which two isolated flakes were observed. Ms. Murphy completed the site forms and assisted in the preparation of the report.

Bishop Water System Upgrade
Ms. Murphy authored site forms and participated in the completion of the report for the survey of a new well and water line project that resulted in the location of seven cultural resources.

Ocotillo RV Project
Ms. Murphy assisted in the survey and monitoring of 5-acres proposed for development as an RV storage center. The survey resulted in the recording of two in-situ lithic scatters. Information from the survey was used to direct the planning effort in order to avoid sensitive cultural resources. Ms. Murphy participated in the laboratory analysis of the artifact collection recovered during monitoring for the project. She was responsible for identification and cataloguing of the artifact assemblage.

Programme for Belize, Blue Creek, Belize
Participated in field excavation and laboratory analysis of the University of Texas, Austen's excavation of the third largest Mayan site in Belize, La Milpa, under the supervision of Dr. Fred Valdez Jr. Attempts have been made to understand the chronology of the sites in the northwest region over a period of 15 years.

Rancho Peñasquitos, **CA-SDI-8125**
Participated in the field excavation under the supervision of Dr. Steve Bouscaren to unveil an eighteenth century Spanish zanja in hopes of better understanding the early water works, both agricultural and natural elements, at this historic and prehistoric site.

APPENDIX B
RECORD SEARCH
Confidential Appendix, Not for Public Review

South Coastal Information Center
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-5320
Office: (619) 594-5682
www.scic.org
nick@scic.org

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH

Company: ASM Affiliates

Company Representative: Shelby Castells

Date Processed: 11/15/2016

Project Identification: Hell's Kitchen Geothermal #27210

Search Radius: 1/2 mile

Historical Resources: YES

Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Previous Survey Report Boundaries: YES

Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Addresses: YES

A map and database of historic properties (formerly Geofinder) has been included.

Historic Maps: YES

The historic maps on file at the South Coastal Information Center have been reviewed, and copies have been included.

Summary of SHRC Approved CHRIS IC Records Search Elements	
RSID:	9999
RUSH:	no
Hours:	1
Spatial Features:	3
Address-Mapped Shapes:	no
Digital Database Records:	0
Quads:	1
Aerial Photos:	0
PDFs:	Yes
PDF Pages:	19

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CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH

Company: ASM Affiliates

Company Representative: Shelby Castells

Date Processed: 1/31/2017

Project Identification: Hell's Kitchen #27210

Search Radius: 1/2 mile

Historical Resources: YES

Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Previous Survey Report Boundaries: YES

Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Addresses: YES

A map and database of historic properties (formerly Geofinder) has been included.

Historic Maps: YES

The historic maps on file at the South Coastal Information Center have been reviewed, and copies have been included.

Summary of SHRC Approved CHRIS IC Records Search Elements	
RSID:	9999
RUSH:	no
Hours:	1
Spatial Features:	17
Address-Mapped Shapes:	no
Digital Database Records:	0
Quads:	1
Aerial Photos:	0
PDFs:	Yes
PDF Pages:	10

This is not an invoice. Please pay from the monthly billing statement

APPENDIX C
NATIVE AMERICAN CONTACT PROGRAM

TIERRA
ENVIRONMENTAL SERVICES

April 12, 2021

Imperial County Representative
Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
(916) 373-3710

Re: Hell's Kitchen Lithium + Power Project (#1872), Imperial County, CA

Dear Imperial County Representative,

Tierra Environmental Services has been retained to conduct a Cultural Resources Study for a prospective geothermic power plant project east of the unincorporated community of Niland, in southwest San Bernardino County, CA (Figure 1). The project is located in Section 11, Township 11 South, Range 13 East on the Niland 7.5' USGS Quadrangle (Figure 2). The project seeks to develop approximately 50 acres of undeveloped land.

Archaeological site record and literature reviews have been supplied from the South Coastal Information Center at San Diego State University (SDSU).

In addition to informing you about this project, a major purpose of this letter is to request a search of the sacred lands files in possession of the NAHC. Any information you may have about cultural resources on the property would greatly benefit our study.

If I can provide any additional information, please contact me immediately at (858) 578-9064. Thank you for your assistance.

Sincerely,

HMurphy

Hillary Murphy Project
Archaeologist

Enclosures

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Hell's Kitchen Lithium + Power

County: Imperial

USGS Quadrangle Name: Niland

Township: 11S **Range:** R13E **Section(s):** 11

Company/Firm/Agency: Tierra Environmental Services, Inc.

Street Address: 10650 Scripps Ranch Blvd., Ste. 105

City: San Diego **Zip:** 92131

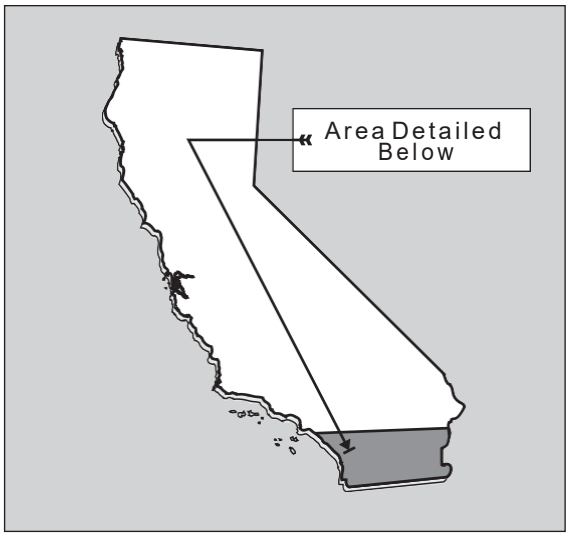
Phone: 858.578.9064

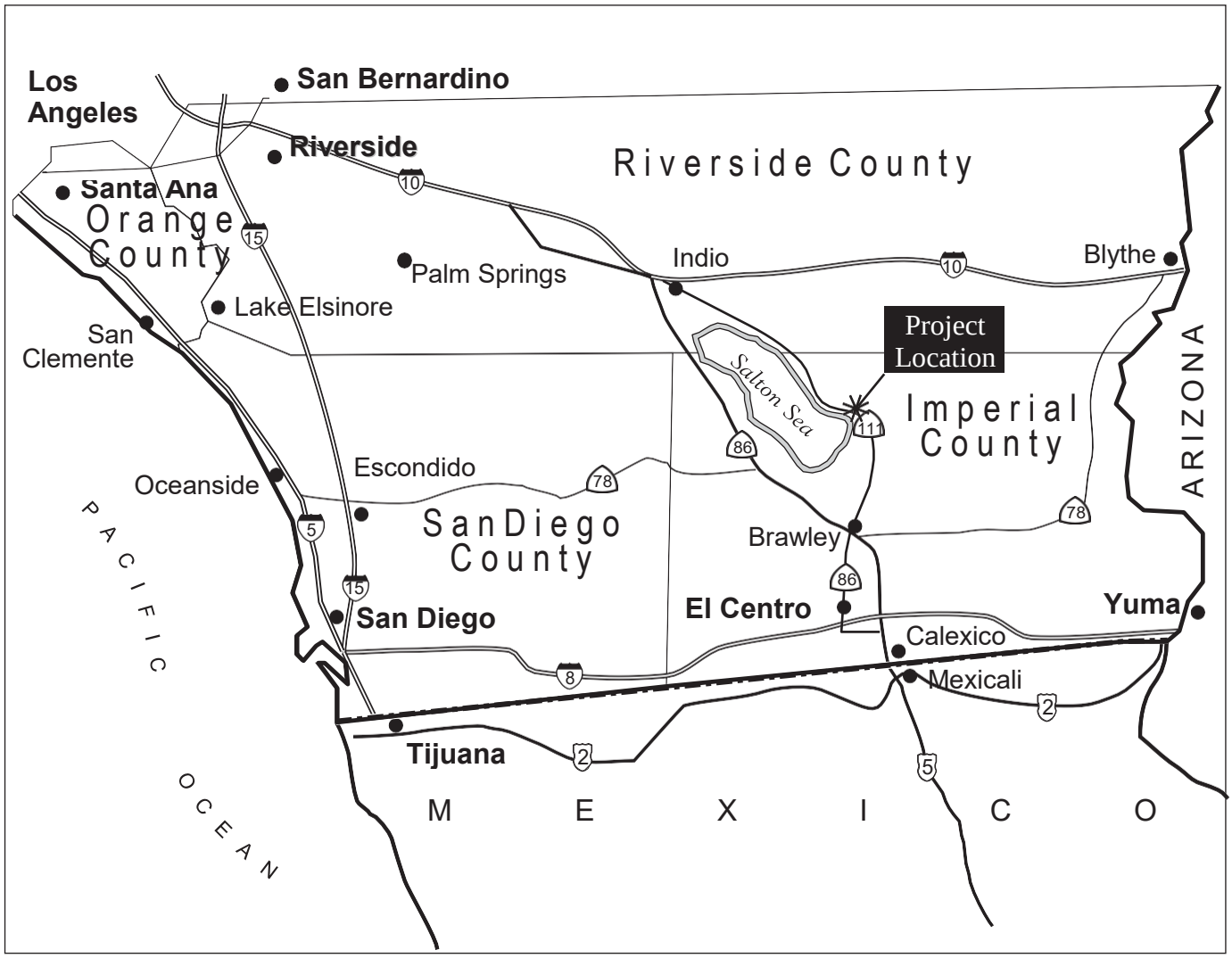
Fax: n/a

Email: tierraenv@aol.com

Project Description:

The proposed project seeks the development of a geothermal power plant and associated gen-tie line.



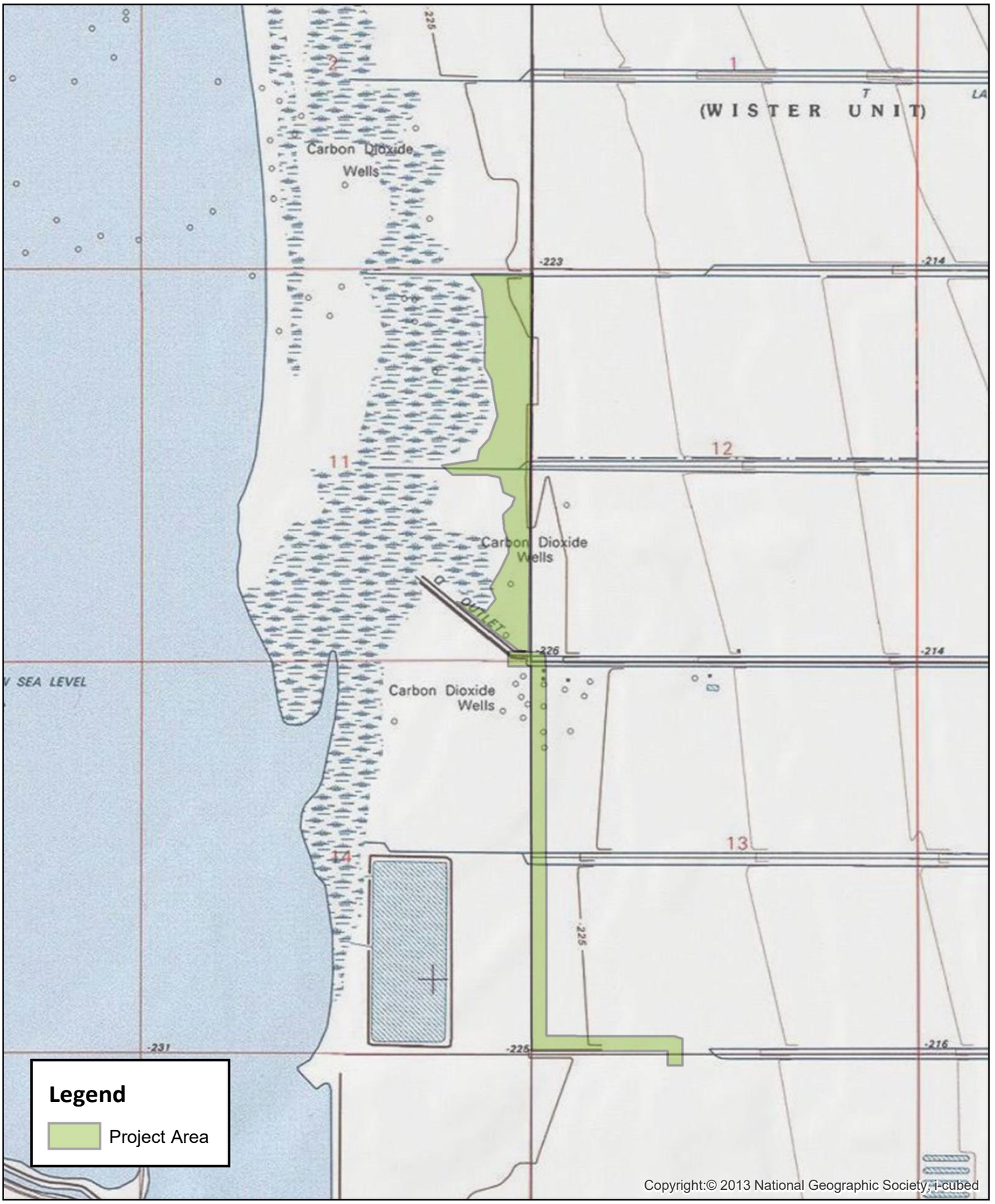


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Figure 1. Regional Location Map

TIERRA
ENVIRONMENTAL SERVICES



USGS 7.5' Quadrangle: Niland

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FEET

Figure 2. Project Location Map

TIERRA
ENVIRONMENTAL SERVICES

NATIVE AMERICAN HERITAGE COMMISSION

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COMMISSIONER
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Christina Snider
Pomo

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

April 27, 2021

Hillary Murphy
Tierra Environmental Services, Inc.

Via Email to: tierraenv@aol.com

Re: Hell's Kitchen Lithium + Power Project, Imperial County

Dear Ms. Murphy:

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

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

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

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

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

TIERRA
ENVIRONMENTAL SERVICES

April 30, 2021

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive
Palm Springs, CA 92264

Dear Chairperson Grubbe and Director Garcia-Plotkin,

Tierra Environmental Services has been obtained to conduct a cultural resources study of land proposed for a geothermal well and associated gen-tie line near the community of Niland, Imperial County (Figure 1). The Project area is located within the northeast quarter of Section 11 of Township 11 South, Range 13 East, as shown on the Niland USGS 7.5' quadrangles, San Bernardino Base Meridian (Figure 2).

A records search was conducted at the South Coastal Information Center at the San Diego State University for the project area plus a one-mile radius buffer.

In addition to informing you about this project's status, a major purpose of this letter is to request any information that you and other tribal elders may have regarding cultural resources located in the vicinity of the project site. Any information you may have about cultural resources on the property would greatly benefit our study. If you or other tribal members have any knowledge about cultural resources located on the project site, please contact me.

If I can provide any additional information, please contact me immediately at (858) 578-9064. Thank you for your assistance.

Sincerely,

HMurphy

Hillary Murphy
Archaeologist

Enclosures: Project related contact list and Figures 1 & 2

NAHC's Native American Contact List, Imperial County
April 2021

CAHUILLA

Agua Caliente Band of Cahuilla Indians
- Patricia Garcia-Plotkin, Director
- Jeff Grubbe, Chairperson

Augustine Band of Mission Indians
- Amanda Vance, Chairperson

Cabazon Band of Mission Indians
- Doug Welmas, Chairperson

Cahuilla Band of Indians
- Daniel Salgado, Chairperson

Los Coyotes Band of Cahuilla and Cupeño Indians
- Ray Chapparosa, Chairperson

Ramona Band of Cahuilla
- Joseph Hamilton, Chairperson
- John Gomez, Environmental Coordinator

Santa Rosa Band of Cahuilla Indians
- Lovina Redner, Tribal Chair

Torres-Martinez Desert Cahuilla Indians
- Michael Mirelez, Cultural Resource Coordinator

CAHUILLA LUISENO

Soboba Band of Luiseno Indians
- Isaiah Vivanco, Chairperson
- Joseph Ontiveros, Cultural Resource Department

CAHUILLA SERRANO

Morongo Band of Mission Indians
- Robert Martin, Chairperson
- Ann Brierty, THPO

DIEGUENO

Barona Group of the Capitan Grande
- Edwin Romero, Chairperson

Campo Band of Diegueno Mission Indians
- Ralph Gott, Chairperson

Ewiiaapaayp Band of Kumeyaay Indians
- Robert Pinto, Chairperson
- Michael Garcia, Vice Chairperson

Iipay Nation of Santa Ysabel
- Virgil Perez, Chairperson
- Clint Linton, Director of Cultural Resources

Inaja-Cosmit Band of Indians
- Rebecca Osuna, Chairperson

NAHC's Native American Contact List, Imperial County
April 2021

DIEGUENO (Continued)

Jamul Indian Village
- Lisa Cumper, Tribal Historic Preservation Officer

Jamul Indian Village
- Erica Pinto, Chairperson

Kwaaymii Laguna Band of Mission Indians
- Carmen Lucas

La Posta Band of Diegueno Mission Indians
- Javaughn Miller, Tribal Administrator

La Posta Band of Diegueno Mission Indians
- Gwendolyn Parada, Chairperson

Manzanita Band of Kumeyaay Nation
- Angela Elliott Santos, Chairperson

Mesa Grande Band of Diegueno Mission Indians
- Michael Linton, Chairperson

San Pasqual Band of Diegueno Mission Indians
- Allen Lawson, Chairperson
- John Flores, Environmental Coordinator

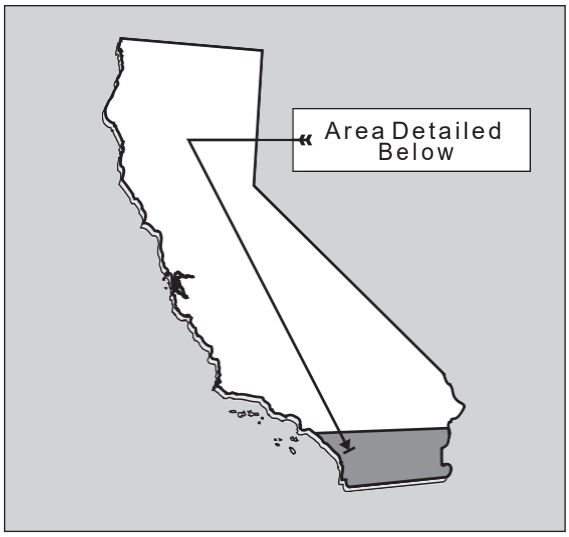
Viejas Band of Kumeyaay Indians
- John Christman, Chairperson
- Ernest Pingleton, Tribal Historic Officer, Resource Management

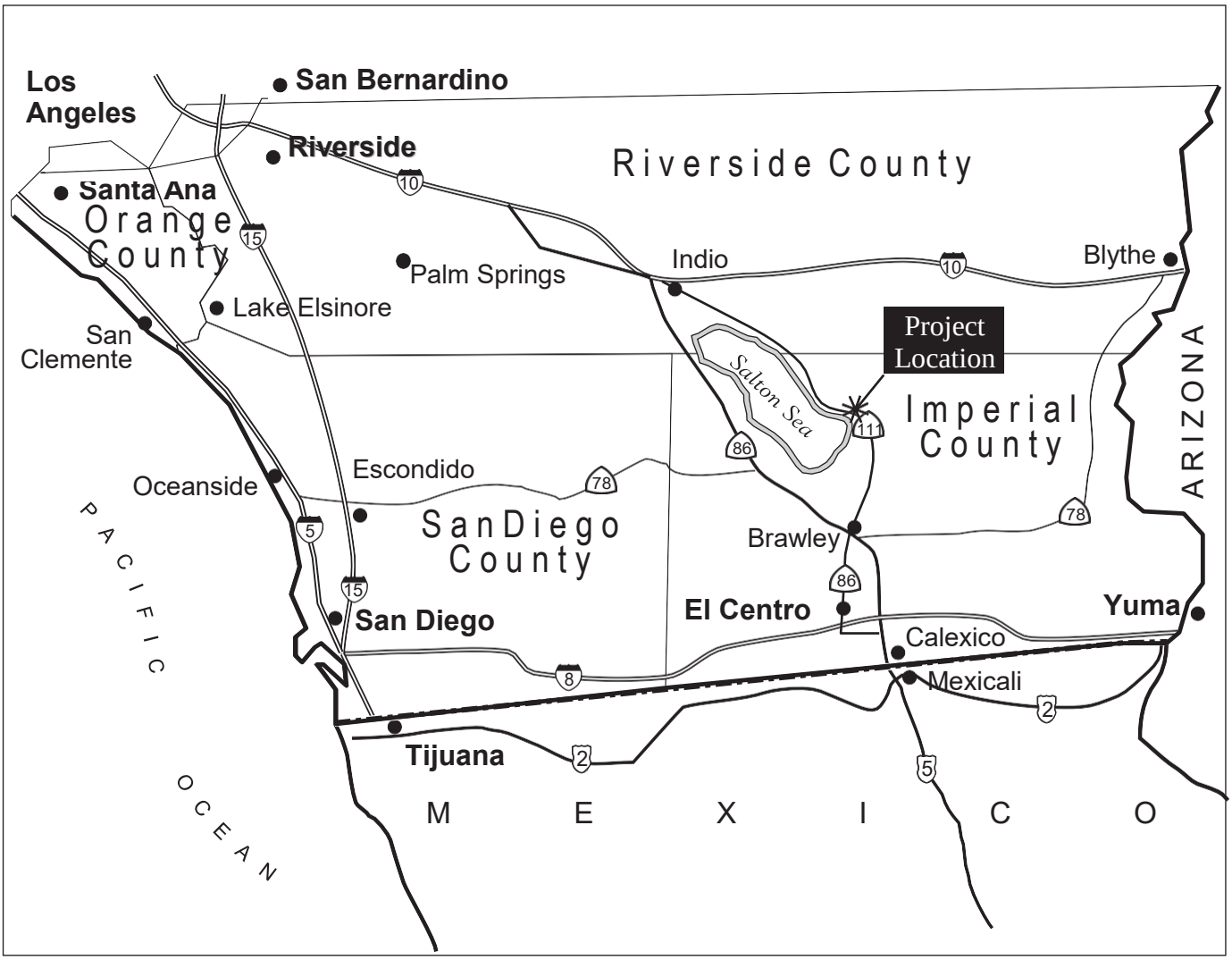
KUMEYAAY

Sycuan Band of the Kumeyaay Nation
- Cody Martinez, Chairperson
- Kristie Orosco, Kumeyaay Resource Specialist

QUECHAN

Quechan Tribe of the Fort Yuma Reservation
- Manfred Scott, Acting Chairman Kw'ts'an Cultural Committee
- Jill McCormick, Historic Preservation Officer





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Figure 1. Regional Location Map

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USGS 7.5' Quadrangle: Niland

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Figure 2. Project Location Map

TIERRA
ENVIRONMENTAL SERVICES

APPENDIX D
DPR SITE FORMS
Confidential Appendix, Not for Public Review

State of California ♉ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date

Page 1 **of** 5 ***Resource Name or #** (Assigned by recorder): TES-HK-001H
P1. Other Identifier:

*P2. **Location:** ■ **Not for Publication** □ **Unrestricted**
***a. County** Riverside **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Niland **Date** 1983 **T** 11S; **R** 13E; NW corner of the Western 1/2 **of Sec** 13; **SBBM**
c. Address City Zip
d. UTM: Zone 11S, 632359.40mE/ 3676536.89mN (NW corner); 11S, 632360.05mE/ 3676487.94mN (SW corner); 11S, 632402.04mE/ 3676536.47mN (NE corner); 11S, 632402.69mE/ 3676488.52mN (SE corner)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This historical resource is remnants of a historic-era house. The structure is largely comprised of adobe brick though has been significantly altered over years as evidenced by lathe and plaster and plywood construction addition. The structure no longer contains some walls, windows, doors and roof and shows evidence of fire damage. Graffiti and modern effects such as chairs, carpet and modern refuse indicate the structure has been utilized in recent years. Added concrete stairs and electrical outlets are present as well indicating use over time and necessary altercations made. The southern portion of the structure is missing with only a few exterior walls remaining.

***P3b. Resource Attributes:** (List attributes and codes) HP6 (1 story commercial building); HP44 (Adobe buildings/structure)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.



***P4. Resources Present:**
x Building x Structure ___ Object
___ Site ___ District
___ Element of District
___ Other (Isolates, etc.)

P5b. Description of Photo (view, date, accession #): Street-side, western façade, facing East.

***P6. Date Constructed/Age and Source:**
x Historic ___ Prehistoric ___ Both

***P7. Owner and Address:**
N/A

P8. Recorded by (Name, affiliation, and address): H. Murphy, A. Berdeja
Tierra Environmental Services, Inc.
10650 Scripps Ranch Blvd., Ste. 105,
San Diego, CA 92131

***P9. Date Recorded:**
04/01/2021

***P10. Survey Type:** (Describe)
Intensive Pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

Cultural Resource Survey for the Hell's Kitchen PowerCo 1 and Hell's Kitchen LithiumCo 1 Projects Imperial County, California by Tierra Environmental Services, authors Michael Baksh, Hillary Murphy, and Andres Berdeja.

***Attachments:**
___ None
___ Archaeological Record
___ District Record
___ Rock Art
___ Artifact Record
x Continuation Sheet
___ Linear Feature
___ Photo Record
x Building, Structure, Object
___ Milling Station
x Sketch

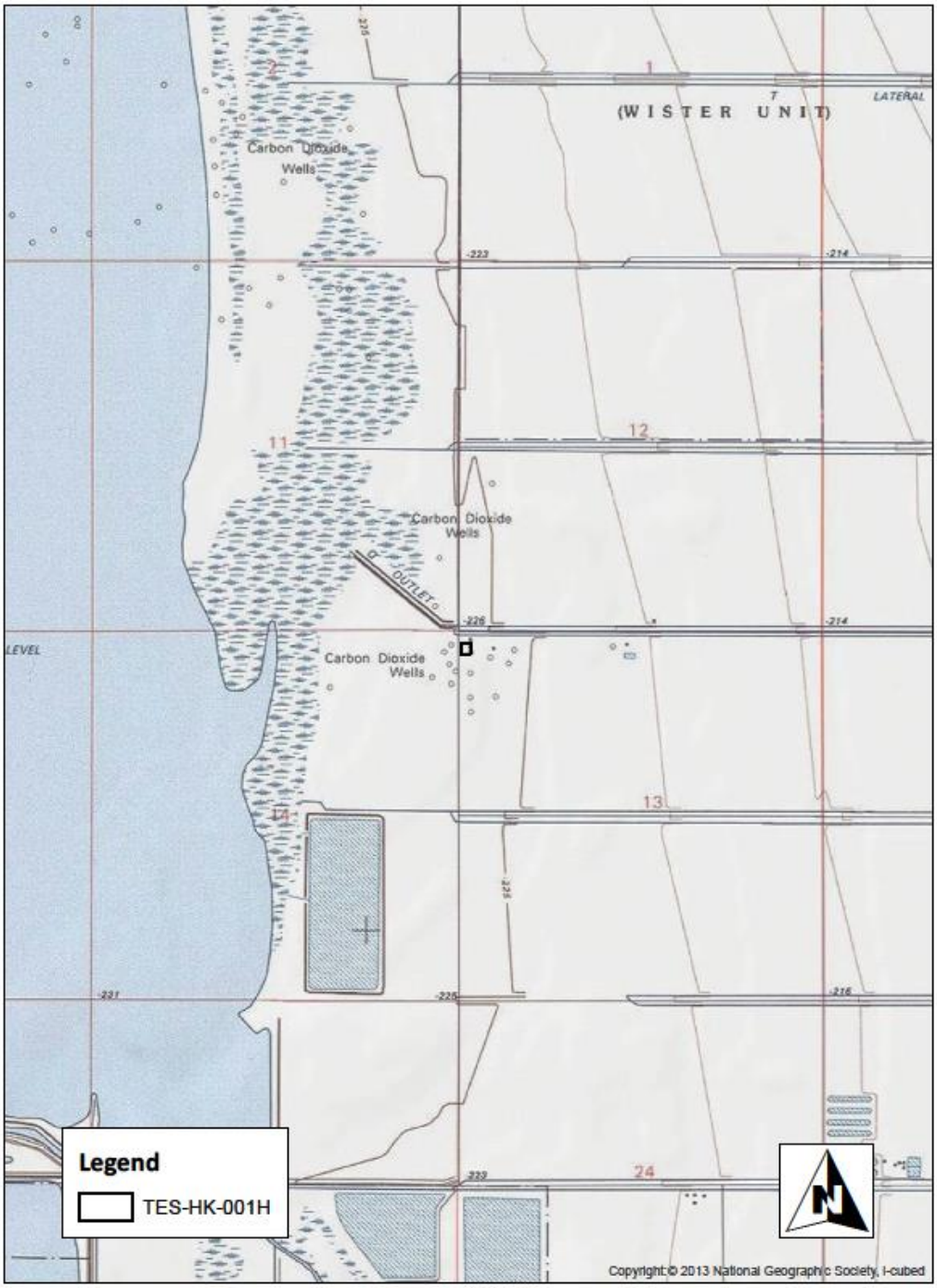
State of California - The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI#

LOCATION MAP

Trinomial

***Resource Name or #** (Assigned by recorder) TES-HK-001H

***Map Name:** Location Map ***Scale:** 1:24.000 ***Date of map:** 04/11/2021



State of California ⍰ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary # _____
HRI# _____

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) TES-HK-001H ***NRHP Status Code** 7

Page 4 **of** 5

B1. Historic Name: Unknown

B2. Common Name: Unknown

B3. Original Use: Unknown B4. Present Use: None

***B5. Architectural Style:** Conglomerate of methods, no one style being present.

***B6. Construction History:** (Construction date, alterations, and date of alterations)

The structure is shown on historic aerials dating back to 1953 aerial imagery and 1945 topographic maps. The structure no longer contains some walls, windows, doors and roof and shows evidence of fire damage. Graffiti and modern effects such as chairs, carpet and modern refuse indicate the structure has been utilized in recent years. Added concrete stairs and electrical outlets are present as well indicating use over time and necessary altercations made. There is not enough original structure remaining to understand the floorplan and actual appearance the structure once exhibited.

***B7. Moved?** ☐No ☐Yes ■Unknown **Date:** _____ **Original Location:** _____

***B8. Related Features:**

. Reverse-tapering pilasters are present on multiple exterior facades. Casement arches are present for some windows and doors are present while rectangular windows are also utilized. The southern portion of the structure is missing with only a few exterior walls remaining.

B9a. Architect: Unknown b. Builder: Unknown

***B10. Significance: Theme** Commercial Building **Area** Niland, CA

Period of Significance Unknown **Property Type** Commercial Building **Applicable Criteria** Unknown

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The structure is largely comprised of adobe brick though has been significantly altered over years as is evidenced by lathe and plaster and plywood construction additions. Reverse-tapering pilasters are present on multiple exterior facades. Casement arches are present for some windows and doors are present while rectangular windows are also utilized.

B11. Additional Resource Attributes: (List attributes and codes) HP6 (1 story commercial building); HP44 (Adobe buildings/structure)

***B12. References:**

Hailey, Charlie, 2008 *Campsite: Architectures of Duration and Place*, pages 181-183. Louisiana State University Press, Louisiana.

B13. Remarks:

***B14. Evaluator:** H. Murphy

***Date of Evaluation:** 04/01/2021

(This space reserved for official comments.)




Pound Rd.
David Rd.
Legend
TES-HK-001H
0 50 100 200 300 400
Feet
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Photograph 1 – Internal view of disturbances and southern extent's remnants. Geothermal pit with associated cinderblock structure in background.



Photograph 2 – Example of multiple construction methods applied to preexisting structure.

Converse Consultants
Geotechnical Engineering
Environmental & Groundwater Science
Inspection & Testing Services

REVISED GEOHAZARD EVALUATION REPORT

HELL'S KITCHEN POWERCO & LITHIUM POWERCO, LLC'S PROJECTS

Section 10, 11, and 12; Township 11 North; Range 13 East
Imperial County, California

CONVERSE PROJECT NO. 22-81-100-01



Prepared For:

CHAMBERS GROUP, INC.
5 Hutton Centre Dr., Suite 750
Santa Ana, California 92707

Presented By:

CONVERSE CONSULTANTS
2021 Rancho Drive, Suite 1
Redlands, CA 92373
909-796-0544

July 26, 2022
Revised August 17, 2022

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

July 26, 2022
Revised August 17, 2022

Ms. Victoria Boyd
Project Manager/Environmental Planner
Chambers Group, Inc.
5 Hutton Centre Dr., Suite 750
Santa Ana, CA 92707

Subject: **REVISED GEOHAZARD EVALUATION REPORT**
Hell's Kitchen PowerCo & LithiumCo LLC's Projects
Section 10, 11, and 12; Township 11 North; Range 13 East
Imperial County, California
Converse Project No. 22-81-100-01

Dear Ms. Boyd:

Converse Consultants (Converse) is pleased to submit this Geohazard Evaluation Report to assist with the site assessment for the Hell's Kitchen PowerCo & LithiumCo LLC's Projects (Project), located in Section 10, 11, and 12; Township 11 North, Range 13 East, Imperial County, California. This report was prepared in accordance with our proposal dated January 4, 2022, and your Subcontract Agreement Addendum #1 dated April 22, 2022.

We are revised our report dated July 26, 2022 to incorporated 2 comments we received from you via email on August 11, 2022.

We appreciate the opportunity to be of service to Chambers Group, Inc. Should you have any questions, please do not hesitate to contact us at 909-796-0544.

CONVERSE CONSULTANTS



Hashmi S. E. Quazi, PhD, GE, PE
Principal Engineer

Dist: 1/Addressee (email)
HSQ/CN/kvg

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Site Description 1
1.2 Project Description 1
1.3 Purpose and Scope 2

2.0 GEOLOGY, FAULTING, AND SEISMICITY 2

2.1 Regional Geology 2
2.2 Subsurface Soil and Groundwater Conditions 2
2.3 Faulting 3
2.4 CBC Seismic Design Parameters 4

3.0 ASSESSMENT OF POTENTIAL GEOHAZARDS 4

3.1 Surface Fault Rupture 4
3.2 Dynamic Settlement (Liquefaction and Dry Seismic Settlement 5
3.3 Landslides 5
3.4 Lateral Spreading 5
3.5 Tsunamis 6
3.6 Seiches 6
3.7 Earthquake-Induced Flooding 6

4.0 EARTHWORK CONSIDERATIONS 6

4.1 Remedial Grading/Overexcavation 6
4.2 Excavatability 6
4.3 Fill Material 7

5.0 DESIGN CONSIDERATIONS 7

5.1 Expansion Potential 7
5.2 Collapse Potential 8
5.3 Corrosivity 9
5.4 Existing Utilities 9

6.0 RECOMMENDATIONS 9

7.0 CLOSURE 10

8.0 REFERENCES 11

FIGURES

Following Page No.

Figure No. 1, Approximate Project Location Map 1
Figure No. 2, Geological Reference Map 3
Figure No. 3, Groundwater Overview Map 3
Figure No. 4, Fault Zone Map 4

TABLES

Page No.

Table No. 1, Summary of Regional Faults 3
Table No. 2, CBC Seismic Design Parameters 4
Table No. 3, Collapse Potential Values 8
Table No. 4, Correlation Between Resistivity and Corrosion 9

APPENDICES

Appendix A ..... Photographs

1.0 INTRODUCTION

1.1 Site Description

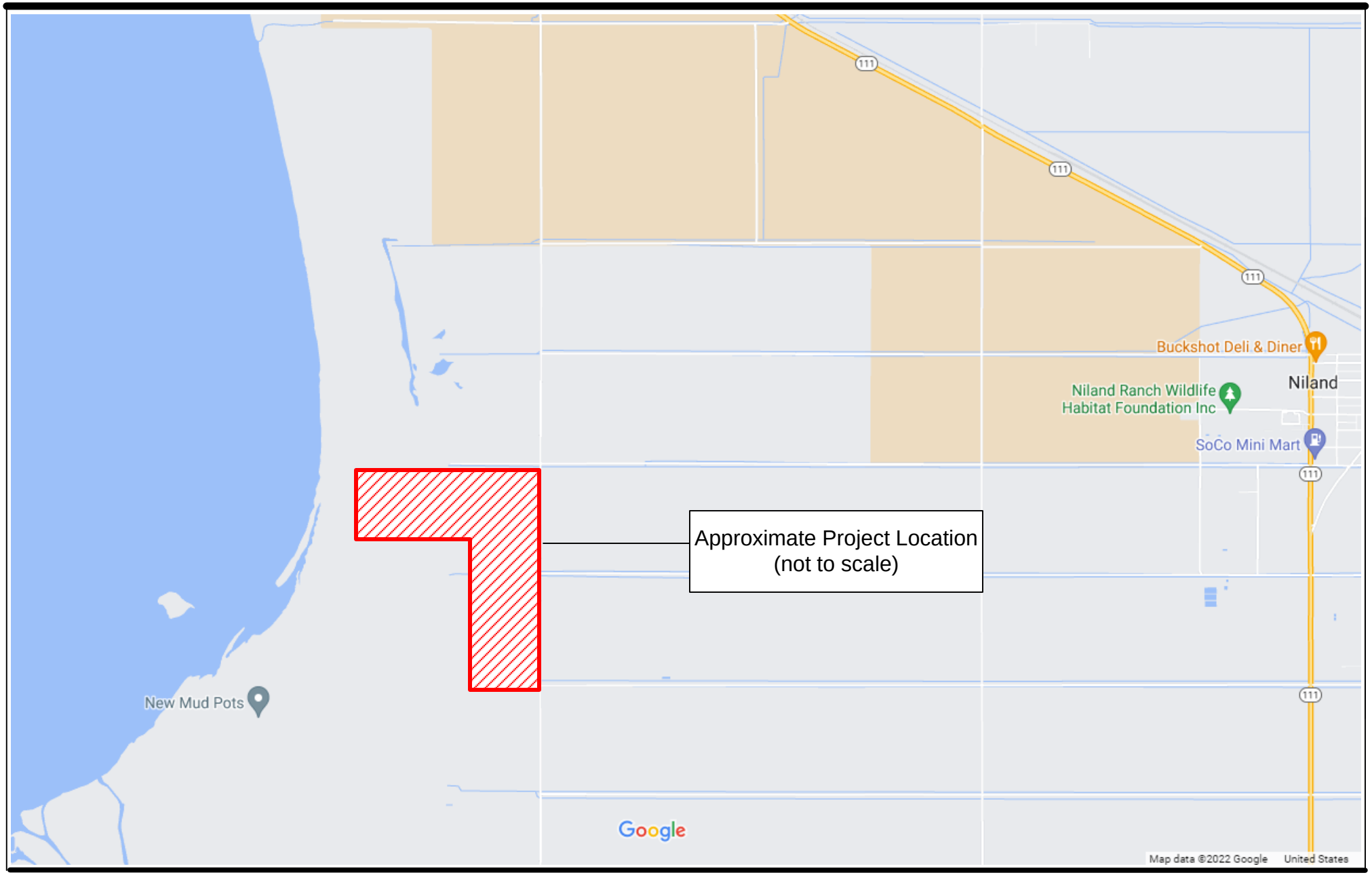
The Project area is located in Section 10, 11 and 12; Township 11 North; Range 13 East, in Imperial County near the eastern shore of the Salton Sea; approximately 3.6 miles west of the town of Niland, California. The proposed geothermal power facilities will be immediately west of Davis Road and south of Noffsinger Road in Imperial County, California. The Project location is shown in Figure No. 1, *Approximate Project Location Map*.

The potential project area is located on generally undeveloped land with a light to dense growth of weeds and shrubs covering the surface of the majority of the terrain. Topography is relatively flat with elevations ranging from -228 to -220 throughout all project areas. The centralized coordinate used to search databases and records is Latitude: 33.277136°N and Longitude: 115.584529°W.

1.2 Project Description

The Project will generate 49.9 megawatts (MW) net of geothermal power and deliver it to the Imperial Irrigation District's (IID) system via an approximately 2-mile-long generation tie (gen-tie) line to the existing interconnect station at Hudson Ranch. It is our understanding the gen-tie line will be located east of Davis Road and north of McDonald Road, within the IID transmission right-of-way and a new right-of-way. The Project will consist of various additional components, listed below.

- The design and construction of mineral extraction and processing facilities capable of producing commercial quantities of lithium hydroxide, silica, bulk sulfide, and polymetallic products.
- The design and construction of brine supply and return pipelines to process geothermal brine from the neighboring Hell's Kitchen PowerCo 1 Project (HI<PI).
- The design and construction of an interconnecting power line, which will be on the transmission power poles with the HKPI generation tie line, to supply power to project facilities.
- The design and construction of a geothermal power plant will include the following features.
- Production and injection wells and well pads.
- Geotechnical fluid production and injection pipelines.
- A brine processing facility and brine pond.
- A 49.9 MW net geothermal turbine generator facility, with a heat rejection system.
- Material and equipment storage.
- A control building.



Project: Hell's Kitchen PowerCo & LithiumCo, LLC's Projects

Location: Section 10, 11, and 12; Township 11 North, Range 13 East
Imperial County, California

For: Chambers Group

Approximate Project Location Map

Project No.
22-81-100-01

Converse Consultants

Figure No.
1

- Administrative and warehouse buildings.
- A water storage pond and water storage tank.
- An on-site substation.
- A 230-kV gen-tie line to the IID interconnect station at Hudson Ranch.

1.3 Purpose and Scope

The purpose of this study was to utilize existing geologic maps, reports, and databases to characterize the Project area current surface conditions, subsurface conditions, and identify any geologic hazards that may impact the Project development. This report was prepared for the Project described herein and is intended for use solely by Chamber's Group and its authorized agents.

Our scope of services for the Project included the following tasks.

- Field reconnaissance of the proposed project area.
- Review of geologic and seismic hazard maps.
- Review of aerial photographs.
- Review of groundwater data resources.
- Review of faulting, seismicity, and other sources of readily available published and unpublished geologic and geotechnical documents pertinent to the Project area.
- Compiled relevant geological and geotechnical data to present findings and conclusions in final preliminary report.

2.0 GEOLOGY, FAULTING, AND SEISMICITY

2.1 Regional Geology

The Project area is located within the northern portion of the Salton Trough in the central portion of the Colorado Desert Geomorphic Province of Southern California. The Colorado Desert is bounded on the north by the Transverse Ranges, on the west by the Peninsular Ranges, on the south by the Sonoran Desert, and on the east by the Mojave Desert. This province is a seismically active region characterized by alluviated basins, elevated erosional surfaces, and northwest-trending mountain ranges bounded by northwest-trending strike-slip faults. The Salton Trough is a sunken desert basin, with surface elevations lower than 275 feet below sea level. It is situated between active branches of the San Jacinto and San Andreas Fault Zones. Sediment deposited in the basin from marine, non-marine, and lacustrine sources exceeds 15,000 feet in depth.

2.2 Subsurface Soil and Groundwater Conditions

Based on our review of geologic maps and data, the proposed Project area is underlain by Holocene and late Pleistocene age lake deposits consisting of unconsolidated sand, silt, and clay (CGS, 1967; 2010). During our site reconnaissance, few stockpiles and

berms were observed, which may indicate the presence of undocumented fill. The overview of geologic conditions is presented in Figure 2, *Geological Reference Map.*

The GeoTracker database (SWRCB, 2022), The National Water Information System (USGSa, 2022), and The California Department of Water Resources database (DWR, 2022) were reviewed to evaluate the current and historical groundwater levels within an approximately 1.0-mile radius of the proposed project area. No site with groundwater data was identified within a 1.0-mile radius of the project area.

Current and historical high groundwater levels within the Project area are not known with certainty but are anticipated at depths ranging from 6 feet to 12 feet bgs. The overview of groundwater is presented in Figure 3, *Groundwater Overview Map*.

We understand during the wetland delineation, several test pits were excavated (by others) where groundwater was recorded within a foot of the surface. The shallow groundwater was attributed to agriculture runoff. So, groundwater depth within the site may vary between 1 foot to 12 feet.

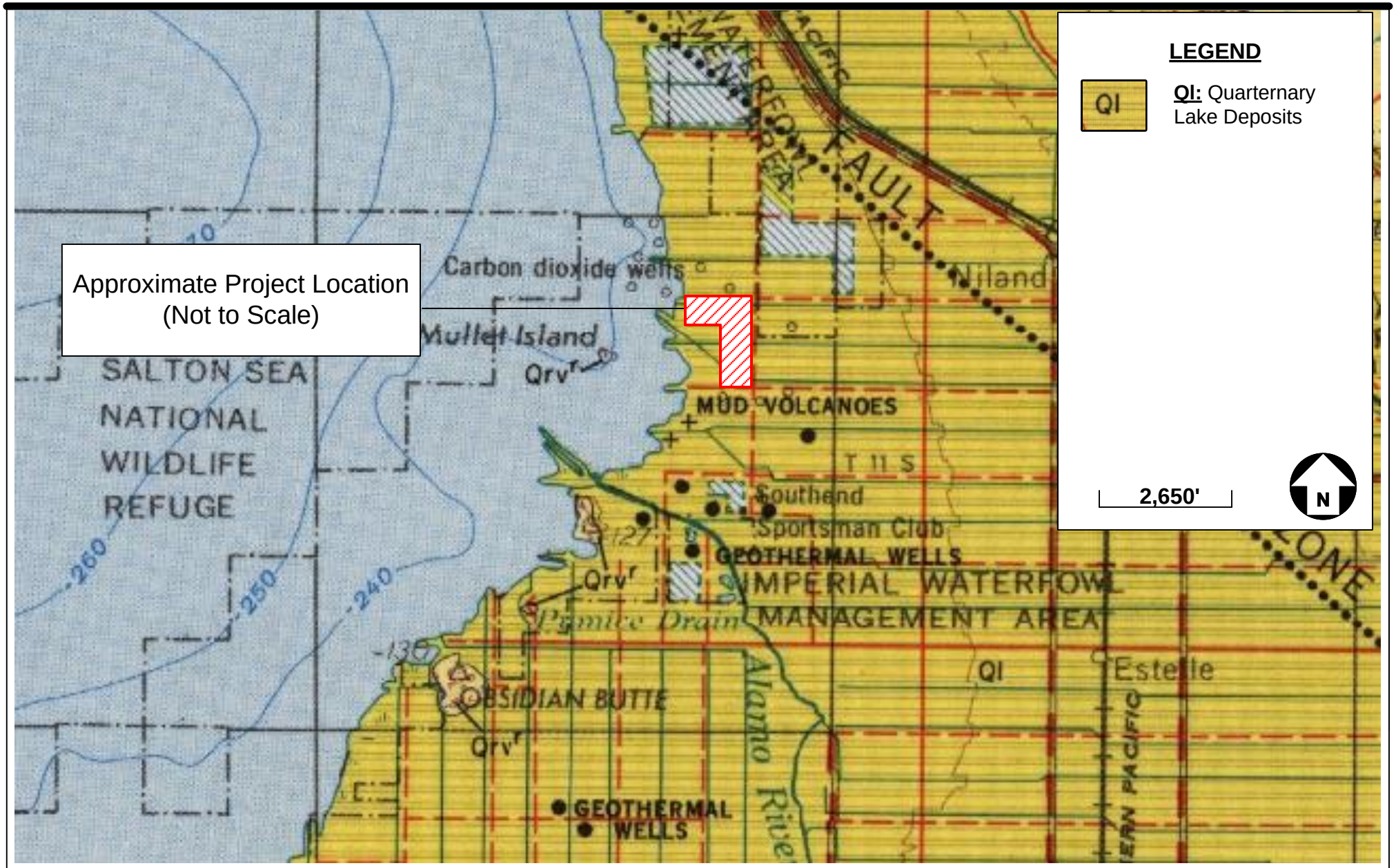
It should be noted that the groundwater levels could vary depending upon the seasonal precipitation and possible groundwater pumping activity in the project area vicinity. Shallow perched groundwater may be present locally, particularly following precipitation.

2.3 Faulting

No portion of the Project area is located in a currently designated State of California Fault Zone (CGS, 2007). The nearest active fault zones are the San Jacinto Fault Zone approximately 11.7 miles northwest, and the San Andres Fault Zone 14.5 miles west. Table No. 1, *Summary of Regional Faults,* summarizes selected data of known faults capable of seismic activity within 100 kilometers of the project area. The data presented below was calculated using the National Seismic Hazard Maps Database (USGSb, 2008) and other published geologic data using the centralized coordinate listed in Section 1.1, Site Description.

Table No. 1, Summary of Regional Faults

Fault Name and Section	Closest Distance (km)	Slip Sense	Length (km)	Slip Rate (mm/year)	Maximum Magnitude
Elmore Ranch	6.73	strike slip	29	1	6.70
S. San Andreas	18.13	strike slip	548	n/a	8.18
Superstition Hills	31.7	strike slip	36	4	6.80
Imperial	33.58	strike slip	46	20	7.00
San Jacinto	38.19	strike slip	241	n/a	7.88
Laguna Salada	62.11	strike slip	99	3.5	7.30
Elsinore	63.45	strike slip	241	n/a	7.85



Map Credit: Jennings, C.W., 1967, Geologic map of California; Salton Sea Sheet, California Division of Mines and Geology, 1:250,000

Project: Hell's Kitchen PowerCo & Lithium PowerCo, LLC's Projects

Location: Section 10, 11, and 12; Township 11 North, Range 13 East
Imperial County, California

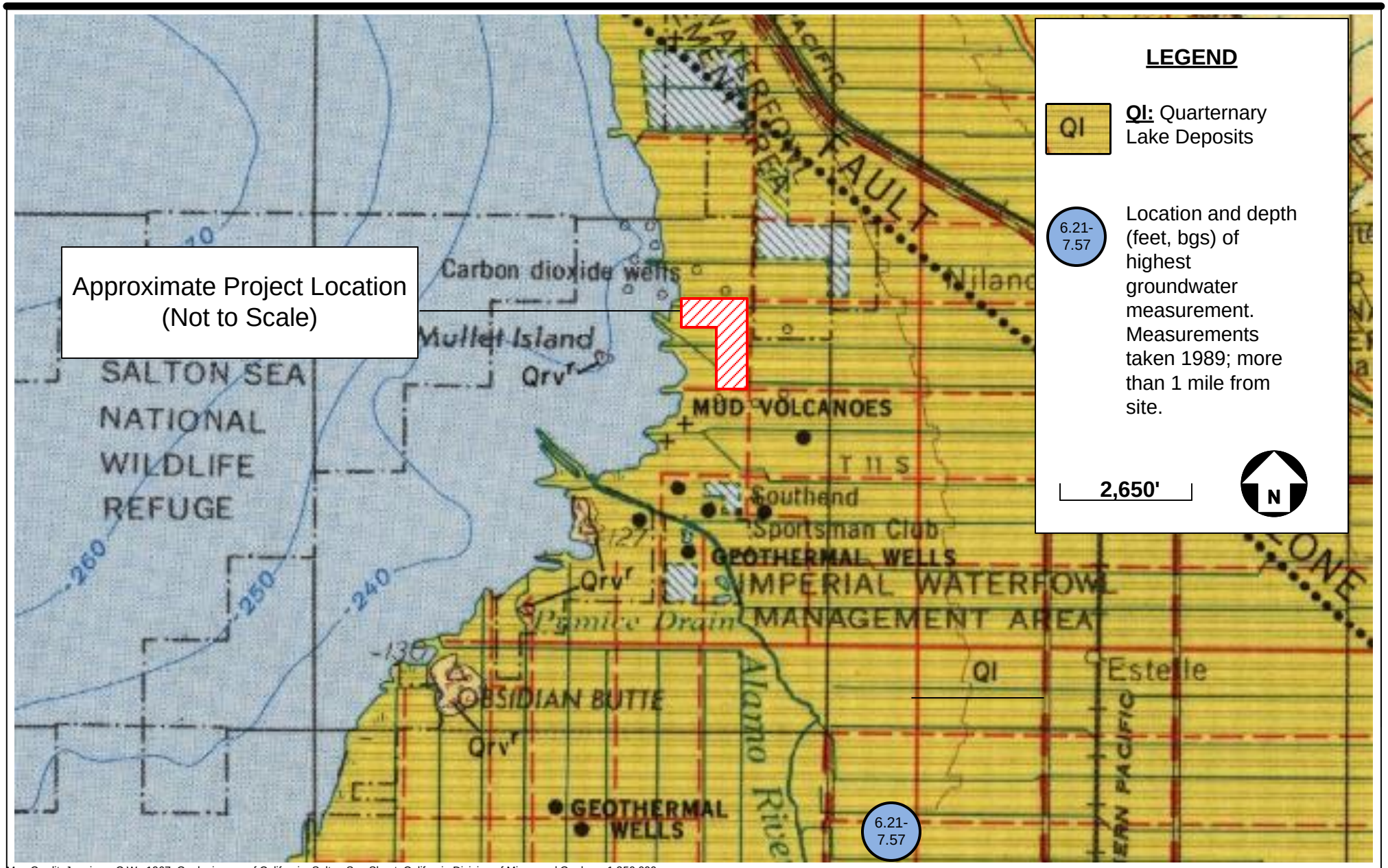
For: Chambers Group

Geological Reference Map

Project No.
22-81-100-01

Converse Consultants

Figure No.
2



Map Credit: Jennings, C.W., 1967, Geologic map of California; Salton Sea Sheet, California Division of Mines and Geology, 1:250,000

Project: Hell's Kitchen PowerCo & Lithium PowerCo, LLC's Projects

Location: Section 10, 11, and 12; Township 11 North, Range 13 East
Imperial County, California

For: Chambers Group

Groundwater Overview Map

Project No.
22-81-100-01

Converse Consultants

Figure No.
3

Fault Name and Section	Closest Distance (km)	Slip Sense	Length (km)	Slip Rate (mm/year)	Maximum Magnitude
Earthquake Valley	79.2	strike slip	20	2	6.80

(Source: https://earthquake.usgs.gov/cfusion/hazfaults_2008_search/)

The project area location relative to nearby fault zones is shown on Figure No. 4, *Fault Zone Map* on the following page.

2.4 CBC Seismic Design Parameters

Seismic parameters based on the 2019 California Building Code (CBSC, 2019) and ASCE 7-16 are provided in the following table. These parameters were determined using the centralized coordinate and the Seismic Design Maps ATC online tool (OSHPD, 2019).

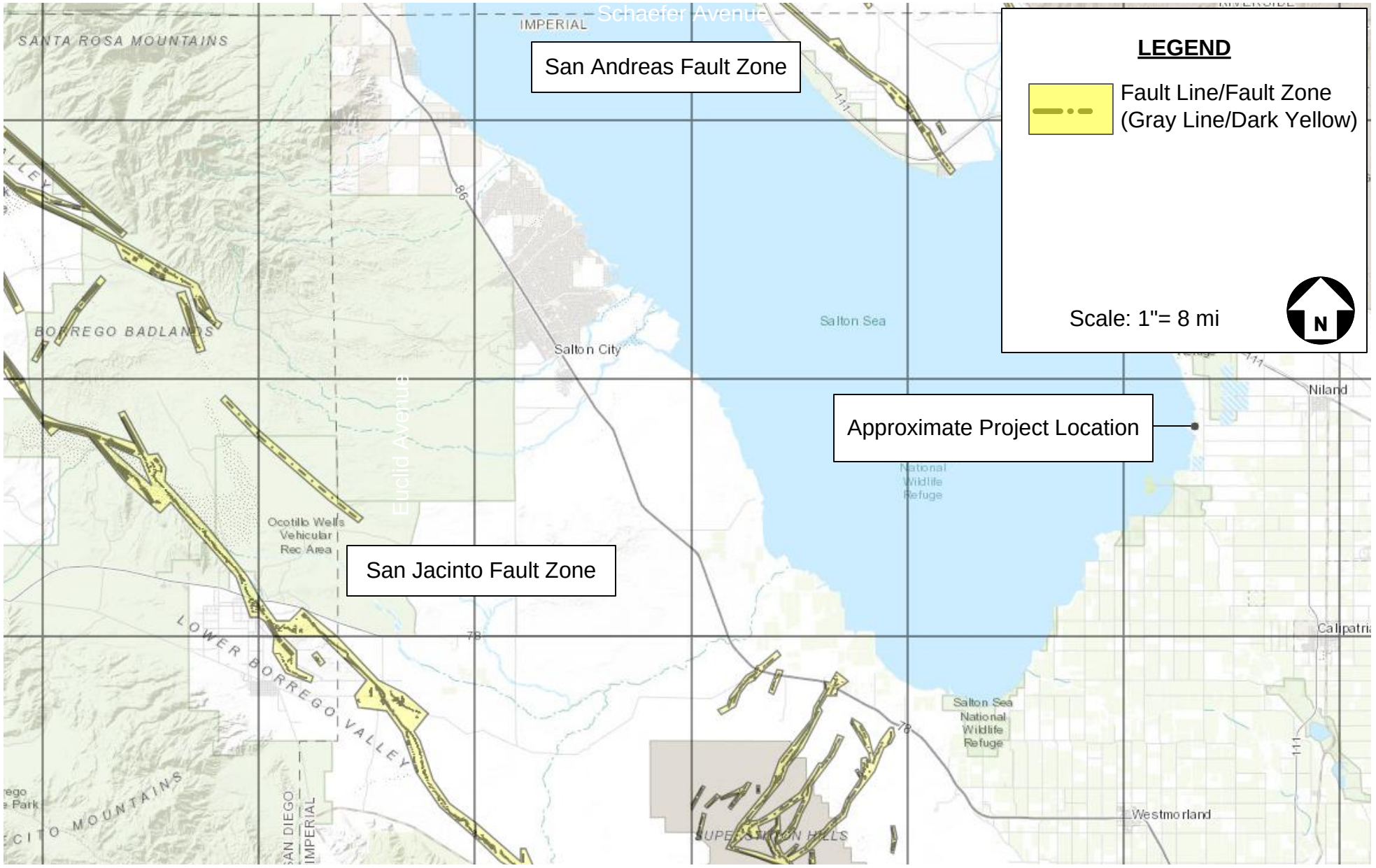
Table No. 2, CBC Seismic Design Parameters

Seismic Parameters	
Site Coordinates	33.227136N, 115.584529W
Risk Category	III
Site Class	D
Mapped Short period (0.2-sec) Spectral Response Acceleration, S_S	1.500g
Mapped 1-second Spectral Response Acceleration, S_1	0.600g
Site Coefficient (from Table 11.4-1), F_a	1.0
Site Coefficient (from Table 11.4-2), F_v	1.7
MCE 0.2-sec period Spectral Response Acceleration, S_{MS}	1.500g
MCE 1-second period Spectral Response Acceleration, S_{M1}	1.020g
Design Spectral Response Acceleration for short period S_{DS}	1.000g
Design Spectral Response Acceleration for 1-second period, S_{D1}	0.679g
Site Modified Maximum Peak Ground Acceleration, PGA_M	0.613g

3.0 ASSESSMENT OF POTENTIAL GEOHAZARDS

3.1 Surface Fault Rupture

No portion of the Project area is located within a currently designated State of California Fault Zone (CGS, 2007). However, the Project area is located in a highly seismic region that has regularly experienced severe episodes of surface rupture. The potential for surface rupture resulting from the movement of nearby or distant faults is considered high.



Project: Hell's Kitchen PowerCo & LithiumCo, LLC's Projects

Location: Section 10, 11, and 12; Township 11 North, Range 13 East
Imperial County, California

For: Chambers Group

Fault Zone Map

Project No.
22-81-100-01

Converse Consultants

Figure No.
4

3.2 Dynamic Settlement (Liquefaction and Dry Seismic Settlement

Liquefaction is defined as the phenomenon in which a soil mass within about the upper 50 feet of the ground surface suffers a substantial reduction in its shear strength, due the development of excess pore pressures. During earthquakes, excess pore pressures in saturated soil deposits may develop as a result of induced cyclic shear stresses, resulting in liquefaction.

Soil liquefaction occurs during or after strong ground shaking. There are several requirements for liquefaction to occur. They are as follows.

- Soils must be submerged
- Soils must be loose to medium-dense
- Ground motion must be intense
- Duration of shaking must be sufficient for the soils to lose shear resistance

This project area is located within an area that is currently unevaluated by the State of California for liquefaction (CGS; 2007). Based on the expected presence of shallow groundwater and the nature of subsurface soils, the potential for liquefaction in the Project area is considered high. Site-specific liquefaction and dynamic settlement should be evaluated with data from the soil borings during the geotechnical investigation phase.

3.3 Landslides

Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. The site is not located in a State of California (CGS, 2007) designated Landslide Zone. Due to the relatively flat nature of the of the project site, the risk of landsliding is considered remote.

3.4 Lateral Spreading

Seismically induced lateral spreading involves primarily lateral movement of earth materials over underlying materials which are liquefied due to ground shaking. It differs from the slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. Due to the high potential of liquefaction, the potential of lateral spreading is considered high. Site-specific potential for lateral spreading should be evaluated with data from the soil borings during the geotechnical investigation phase.

3.5 Tsunamis

Tsunamis are large waves generated in open bodies of water by fault displacement or major ground movement. Due to the inland location and elevation of the site, tsunamis are not considered to be a risk.

3.6 Seiches

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. Due to the close proximity to the Salton Sea, the Project area has a potential for seiching. Site-specific potential for seismically induced seiching should be evaluated during the geotechnical investigation phase.

3.7 Earthquake-Induced Flooding

Dams or other water-retaining structures may fail as a result of large earthquakes. The project site is not located within a designated dam inundation area (DSOD, 2022).

4.0 EARTHWORK CONSIDERATIONS

General earthwork considerations pertaining to the Project area are presented below.

4.1 Remedial Grading/Overexcavation

Based on the review of geologic maps, soil types in the upper 2 to 5 feet of near surface soils are expected to be relatively loose and potentially collapsible if subjected to additional loads and/or become saturated. These materials will likely require removal and re-compaction prior to fill placement and for foundation construction. Localized deeper removals and re-compaction may be required. The exact removal and re-compaction depth should be determined during the geotechnical investigation phase.

4.2 Excavatability

Based on anticipated soil types from review of geologic maps, the subsurface materials at the Project area are expected to be excavatable with conventional heavy-duty earth moving equipment. Difficult excavation will occur where any concentration of gravel, cobbles or boulders are encountered. Based on our review of geologic conditions and soil types, the potential for such conditions is not expected to be encountered.

The phrase "conventional heavy-duty excavation equipment" is intended to include commonly used equipment such as excavators, scrapers, and trenching machines. It does not include hydraulic hammers ("breakers"), jackhammers, blasting, or other specialized equipment and techniques used to excavate hard earth materials. Selection

of appropriate excavation equipment models should be done by an experienced earthwork contractor.

4.3 Fill Material

The native soils that are anticipated to be encountered within the Project area are generally expected to be suitable for re-use as compacted fill. Excavated soils should be processed, including removal of roots and debris, removal of oversized particles, mixing, and moisture conditioning, before placing as compacted fill. On-sites soils used as fill should meet the following criteria.

- No particles larger than 3 inches in largest dimension.
- Rocks larger than 1 inch should not be placed within the upper 12 inches of subgrade soils.
- Free of all organic matter, debris, or other deleterious material.
- Expansion index of 20 or less.
- Sand Equivalent greater than 15 (greater than 30 for pipe bedding).
- Contain less than 30 percent by weight retained in 3/4-inch sieve.
- Contain less than 40 percent fines (passing #200 sieve).

The final geotechnical report, following subsurface exploration and laboratory testing, should have a section on fill materials consistent with the governing agencies standards.

Imported materials, if required, should meet the above criteria and the governing agencies standards prior to being used as compacted fill. Any imported fills should be tested and approved by the geotechnical representative prior to delivery to the sites.

5.0 DESIGN CONSIDERATIONS

General design consideration pertaining to the project area is presented below.

5.1 Expansion Potential

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Depending on the extent and location below finish subgrade, expansive soils can have a detrimental effect on structures.

Coarse-grained soils (sandy soils) are generally anticipated to be non-expansive or have a very low expansion potential. Fine-grained soils (silts and clays) may be

susceptible to low to high expansion potential. Based on the anticipated soil types at the Project area, expansive soils may be present. Soil expansion potential should be evaluated during geotechnical investigation phase of the project. If the expansion potential is very low (expansion index <20), no mitigation is necessary. If low, medium or high expansion potential is observed when testing the native on-site soils, mitigation should be utilized to reduce the potential for uplift and distress due to soil expansion.

5.2 Collapse Potential

Soil deposits subjected to collapse/hydro-consolidation generally exist in regions of moisture deficiency. Collapsible soils are generally defined as soils that have potential to suddenly decrease in volume upon increase in moisture content even without an increase in external loads. Moreover, some soils may have a different degree of collapse/hydro-consolidation based on the amount of proposed fill or structure loads. Soils susceptible to collapse/ hydro-consolidation include wind-blown silt, weakly cemented sand, and silt where the cementing agent is soluble (e.g., soluble gypsum, halite), alluvial or colluvial deposits within semi-arid to arid climate, and certain weathered bedrock above the groundwater table.

Granular soils may have a potential to collapse upon wetting in arid climate regions. Collapse/hydro-consolidation may occur when the soluble cements (carbonates) in the soil matrix dissolve, causing the soil to densify from its loose/low density configuration from deposition.

The degree of collapse of a soil can be defined by the collapse potential value, which is expressed as a percent of collapse of the total sample using the Collapse Potential Test (ASTM D4546). According to the ASTM guideline, the severity of collapse potential is commonly evaluated by the following table.

Table No. 3, Collapse Potential Values

Collapse Potential Value (%)	Severity of Problem
0	None
0.1 to 2	Slight
2.1 to 6.0	Moderate
6.0 to 10.0	Moderately Severe
>10	Severe

Based on the anticipated soil types at the Project area, collapsible soils may be present. The degree of soil collapse potential should be evaluated during the geotechnical investigation phase of the project.

Collapse potential distress is typically considered a concern when collapse potential is over 2% (LA County, 2013). Collapsible soils, if present within the Project area, will require overexcavation and/or special foundation design.

5.3 Corrosivity

Typically, coarse materials are less susceptible to corrosion. The pH, sulfate contents and chloride contents will be evaluated during geotechnical investigation using the American Concrete Institute (ACI) guidelines (ACI 318-14).

According to Romanoff, 1957, the following table provides general guideline of soil corrosion based on electrical resistivity.

Table No. 4, Correlation Between Resistivity and Corrosion

Soil Resistivity (ohm-cm) per Caltrans CT 643	Corrosivity Category
Over 10,000	Mildly corrosive
2,000 – 10,000	Moderately corrosive
1,000 – 2,000	Corrosive
Less than 1,000	Severe corrosive

Based on the anticipated soil types, the young alluvial valley deposits soils are expected to be moderately to severely corrosive to ferrous metals in contact. Any buried ferrous metal or concrete elements should be designed with the known results in consideration. We recommend that a corrosion engineer be consulted to recommend appropriate protective measures.

5.4 Existing Utilities

We understand the site in undeveloped and there are likely no existing underground utilities. If there is a possibility that underground utilities may exist within the site, then prior to the start of construction, all existing underground utilities within the vicinity of the project area should be located. Such utilities should either be protected in-place or removed and replaced during construction as required by the project specifications.

6.0 RECOMMENDATIONS

Based on our site reconnaissance, review of available data, and the preliminary site plans provided to us by you, we did not reveal conditions that would preclude development of the proposed Project provided a site-specific geotechnical investigation is conducted prior to the site development. The proposed project is considered feasible from a geotechnical standpoint.

7.0 CLOSURE

This report was prepared for the project described herein and is intended for use solely by Chambers Group, Inc., and its authorized agents, to assist site assessment for the Hell's Kitchen PowerCo and LithiumCo. Projects. Our findings and opinions were based on generally accepted professional principles practiced in geotechnical engineering. We make no other warranty, either expressed or implied.

8.0 REFERENCES

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Appendix A

Photographs



Photo #1: Intersection of Noffsinger Rd. and Davis Rd., facing south.



Photo #2: Intersection of Noffsinger Rd. and Davis Rd., facing west.



Photo #3: Intersection of Alcott Rd. and Davis Rd., facing south.



Photo #4: Intersection of Alcott Rd. and Davis Rd., facing north.

Conceptual Hydrology Study:

Hell's Kitchen PowerCo 1 and LithiumCo 1 Project

County of Imperial, California

June 7, 2022

Conditional Permit Use CUP #21-0020 and CUP #21-0021



Prepared for:

County of Imperial
Planning & Development Services Department
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Prepared by:

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Table of Contents

1 Introduction 1-1
1.1 Project Overview 1-1
1.2 Hydrologic Setting 1-1
1.3 Goals and Objectives 1-1
2 Hydrology 2-1
2.1 Methodology 2-1
2.2 Mitigation Options 2-1
3 Floodplain Study 3-1
3.1 Flood Insurance Rate Map Panel #06025C0725C 3-1
4 CEQA Thresholds Of Significance 4-1
4.1 Environmental Impacts 4-1
5 References 5-1

Figures

Figure 1 - Vicinity Map 1-1

Tables

Table 1 – Proposed vs. Existing 100-Year Discharges 2-1

Technical Appendix

A. Conceptual Hydrology Map – Existing Condition
B. Conceptual Hydrology Map – Proposed Condition
C. Drainage Standards from County of Imperial
D. NOAA Atlas 14 Precipitation Intensity-Duration
E. Time of Concentration Calculations
F. NRCS Soil Resource Report for Hell's Kitchen Projects
G. FEMA DFIRM Panel #06025C0725C

1 INTRODUCTION

1.1 Project Overview

Hell's Kitchen PowerCo 1 LLC is proposing the Hell's Kitchen PowerCo 1 (HKP1), and Hell's Kitchen LithiumCo 1 LLC is proposing the Hell's Kitchen LithiumCo 1 (HKL1) (proposed Project) in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale.

The Project would be located within Imperial County, California, approximately 3.6 miles west from the town of Niland. The Project would be adjacent to Davis Road and south of Noffsinger Road, within CTR's geothermal lease area and on lands owned by Imperial Irrigation District (IID). The gen-tie line will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to the IID interconnection substation at Hudson Ranch. The gen-tie line will be located east of Davis Road and north of McDonald Road within IID's transmission right-of-way and within new right-of-way. The geothermal development area and lithium facilities would be within Sections 11 and 12 of Township 11 South, Range 13 East, San Bernardino Base Meridian, and the gen-tie/power line ROW corridor is located within Sections 12, 13, and 14 of Township 11 South, Range 13 East.

The Project is surrounded to the west by the IID-owned vacant land, to the north by vacant private land, to the east by State of California-owned wildlife areas, and vacant land owned by IID and the Hudson Ranch 1 facility to the south.

Specifically, the Project will consist of the following activities:

- construction and operation of a 49.9-MW geothermal power plant;
- construction of well pads with geothermal production and injection wells;
- construction of pipelines between HKP1 and HKL1 to facilitate the movement of brine between the facilities;
- construction and operation of a mineral-extraction facility to extract lithium hydroxide, silica, bulk sulfide, and polymetallic products from the geothermal brine;
- construction and operation of minerals handling and packaging facilities;
- construction of ingress and egress to the Project site from Davis Road;
- paving of Davis Road from McDonald Road to Noffsinger Road (approximately 2 miles);
- construction and operation of a 230-kV gen-tie line and collocated power line (approximately 2 miles south and 0.3 miles east); and
- construction of shared administrative facilities, offices, repair facilities, shipping and receiving facilities, and other infrastructure components.

The project location is illustrated on Figure 1-1.

1.2 Hydrologic Setting

The project is located in the Frontal Salton Sea Hydrologic Area, in the Imperial Hydrologic Unit (#1810020413).

The Imperial Hydrologic Unit consists of the majority of the Imperial Valley, encompassing over 1.3 million acres of land. The watershed covers the southeast drainage area of the Salton Sea, and includes vast acreages of agricultural land; towns such as Frink, Niland, Pope, and Camp Dunlap, along with a large network of IID operated Canals and Drains. The watershed is atypical of most watersheds in

California, as it currently and historically has been shaped by man-made forces. The watershed's primary watercourses, the Alamo River and the New River, flow northwesterly, from the Mexican border toward their final destination, the Salton Sea. The Salton Sea, a 376 square mile closed inland lake was created in 1905 through a routing mistake and subsequent flood on the Colorado River. The Sea has been fed primarily by agricultural runoff from the New and Alamo Rivers ever since.

The IID has constructed a network of Canals and Drains that are located along portions of the perimeter of the project. The IID Canals convey water to customers and the IID Drains collect and convey agricultural and storm water runoff (surface and subsurface). The project site is served by IID Canals that are on and adjacent to the project site. Except during extreme events, discharges from the site are not anticipated as all onsite storm water runoff will be fully retained. Emergency overflows from the retention basins will discharge to the Salton Sea, just outside of the limits of the 100-year floodplain as mapped by FEMA.

IID facilities, including the adjacent "P" Drain, "Q" Drain and "R" Laterals, do not accept flows from the project site. Existing graded berms prevent run-on from discharging into the IID facilities. These Drains discharge to the Salton Sea approximately one mile west of the project. Pending findings during final engineering, the project concept intends to retain the full 5 inches required by the Environmental Health Services (EHS) Department of the County of Imperial. During extreme storm events (rarer than the 100-year event), emergency overflows from the proposed onsite drainage swales could eventually reach the IID facilities.

1.3 Goals and Objectives

The goal of this conceptual hydrology study is to identify the conceptual drainage conveyance and mitigation facilities that will address the Drainage Improvement requirements from the *Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (County of Imperial Department of Public Works, 2008). The assessment will be performed consistent with the California Environmental Quality Act (CEQA) Guidelines.

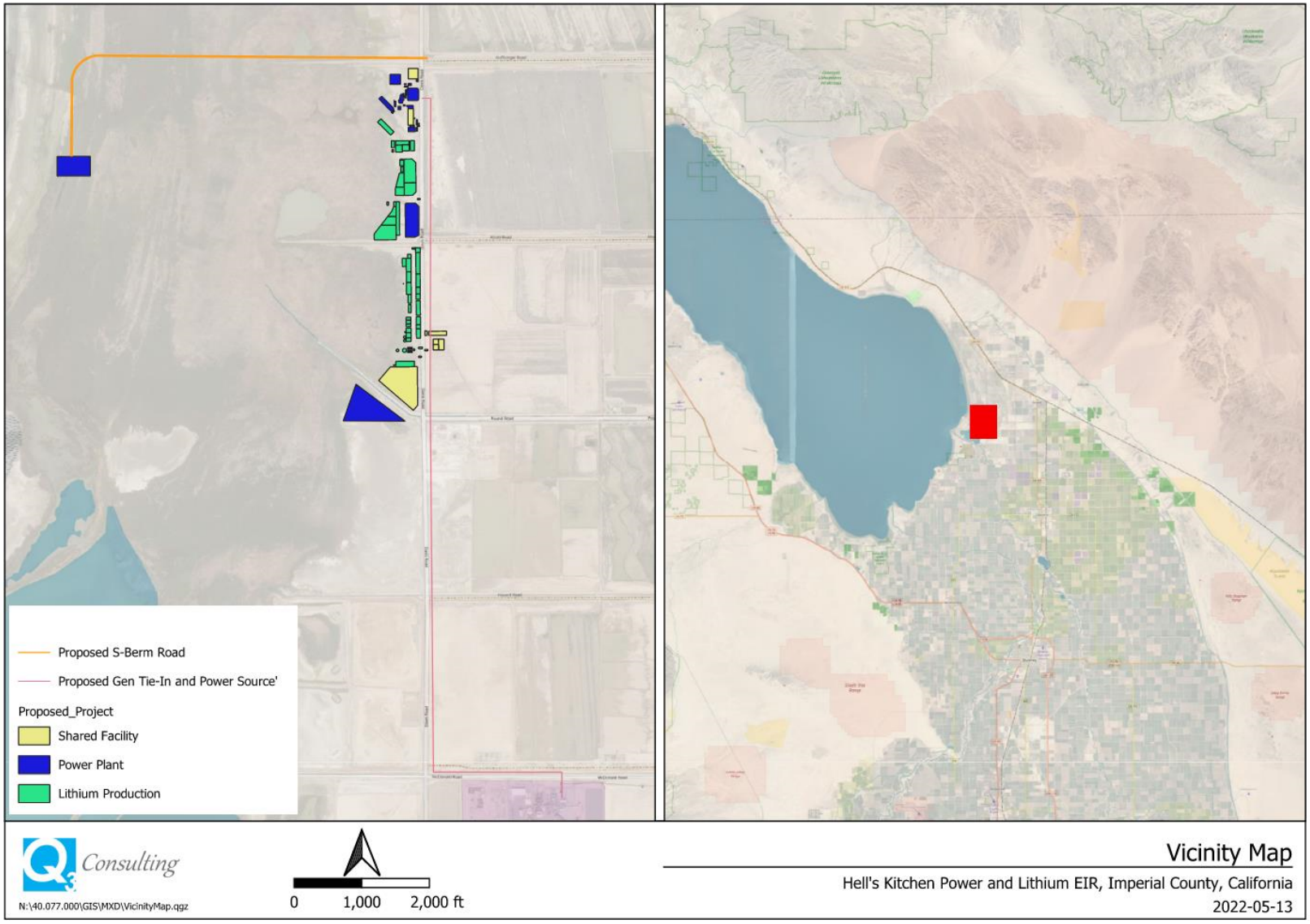
Specific requirements that are addressed in this report include:

> *1. All drainage design and requirements are recommended to be in accordance with the Imperial Irrigation District (IID) "Draft" Hydrology Manual or other recognized source with approval by the County Engineer and based on full development of upstream tributary basins. Another source is the Caltrans I-D-F curves for the Imperial Valley.*
>
> *3. Permanent drainage facilities and right of way, including access, shall be provided from development to point of satisfactory disposal.*
>
> *4. Retention volume on retention or detention basins should have a total volume capacity for a three (3) inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas.*
>
> *There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a minimum 3-inch precipitation over the project site.*
>
> *5. Retention basins should empty within 72 hours and no sooner than 24 hours in order to provide mosquito abatement. Draining, evaporation or infiltration, or any combination thereof*

can accomplish this. If this is not possible then the owner should be made aware of a potential need to address mosquito abatement to the satisfaction of the Environmental Health Services (EHS) Department. ***Additionally, if it is not possible to empty the basin within 72 hours, the basin should be designed for 5 inches, not 3 inches as mentioned in Item #4 above.*** *This would allow for a saturation condition of the soil due to a 5" storm track. EHS must review and approve all retention basin designs prior to County Public Works approval. Nuisance water must not be allowed to accumulate in retention basins. EHS may require a nuisance water abatement plan if this occurs.*

Final design details will be prepared during final engineering to demonstrate full compliance with the provisions of the County's requirements for drainage improvements.

Figure 1 - Vicinity Map



Reference: Hell's Kitchen CUP Application

2 HYDROLOGY

2.1 Methodology

Per the *Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (County of Imperial Department of Public Works, 2008), hydrology calculations are based on the rational formula, as defined below:

> *Use the rational formula Q (flow (cfs)=C I A (area/acreage) for watersheds less than 0.5 square mile unless an alternate method is approved by the County Engineer. For watersheds in excess of 0.5 square mile, the method of analysis shall be approved by the County Engineer prior to submitting calculations*

The RCFC & WCD Hydrology Manual, (Reference 1) was used to develop the hydrological parameters for the 100-year storm event. The Rational method was used to determine the peak flows under both existing and proposed conditions. Because the full retention volume cannot be infiltrated and/or evaporated within 72 hours, EHS Department requires the retention of 5 inches of rainfall onsite. No hydrograph were generated as part of this conceptual hydrology study. Runoff volumes were generated based on the modified rational method equation.

The 100-year rainfall intensities used in this study were determined using the Precipitation-Frequency Atlas of the United States – NOAA Atlas 14, Vol. 1, Version 4 (Reference 2).

Hydrologic Soil Group "C" was used for the study area. Antecedent Moisture Condition 3 (AMC-3) was utilized in the study.

A summary from the rational method computations is provided in Table 1. Results demonstrate that the proposed drainage swale with full retention capacity will result in full mitigation of the onsite runoff.

Table 1 – Proposed vs. Existing 100-Year Discharges

Downstream Hydrologic Node	Existing Q100 (cfs)	Proposed Q100 (cfs) - Without Retention	Proposed Q100 (cfs) - With Retention
101	37.6	74.6	0
111	10.3	0	0
121	14.6	61.6	0
201	10.1	43.9	0
211	9.5	40.1	0
221	20.5	0	0
231	4.3	8.0	0

2.2 Mitigation Options

In its existing condition, the project site does not fall in either FEMA-designated floodplain (special flood hazard Zone A (1% probability of flood depths higher than one foot) or Zone X shaded (0.2% probability of flood depths higher than one foot)). Risks of seiche or tsunami from the Salton Sea are deemed insignificant, especially with the receding water levels of the Salton Sea over the last couple decades. For instance, the shoreline at Red Hill Bay (confluence of Alamo River) has receded by over a mile since 1999. To prevent offsite run-on from comingling with onsite flows and allow proper onsite drain, the import of fill is anticipated to raise the proposed project by approximately 3 feet. Grading will allow runoff to sheet flow westerly at a relatively flat gradient towards the north-south stormwater drainage

swales. The type, size, function, and alignment of the stormwater drainage swales will be identified during final grading based on hydraulic design calculations consistent with the County of Imperial requirements.

A series of linear stormwater drainage swales are proposed to mitigate the runoff generated by the proposed site. A review of the NRCS web soil survey determined that the onsite soils are of Hydrologic Soil Group C with limited infiltration potential. It is anticipated that the proposed facilities will not meet the County's drawdown time requirement of 72 hours, hence the 3-inch retention criteria would not apply. Instead, the stormwater drainage swales would be subject to the 5-inch retention criteria, along with the preparation of a project-specific Mosquito Abatement Plan to be reviewed and approved by the Environmental Health Department. The full onsite runoff stormwater volume will be infiltrated and evaporated. The Imperial Irrigation District estimated the evaporation rate at the Salton Sea to approximate 69 inches per year. Anticipated retention basins include:

- Drainage swale A100 with a retention capacity of 4.4 acre-feet
- Drainage swale A110 with a retention capacity of 6.6 acre-feet
- Drainage swale B200 with a retention capacity of 3.2 acre-feet
- Drainage swale B210 with a retention capacity of 3.3 acre-feet
- Drainage swales B230 with a combined retention capacity of 0.9 acre-feet
- By design, the proposed brine evaporation pond will be self-retaining.

The depth of the drainage swales is anticipated to range from 4 to 6 feet with a basin bottom that is at or below the existing native ground for intrinsic infiltration. An emergency overflow should be incorporated in the design of each drainage swale to bypass the 100-year discharge in case of basin failure or an extreme storm event. The location of the emergency overflow weir should be selected to mimic the existing drainage conditions. Adequate energy dissipation measures will be implemented to mitigate the potential for erosion.

The preparation of the Mosquito Abatement Plan and basin details will be determined at the time of final engineering.

Based upon the results of the conceptual drainage study, it can be concluded that implementation of the conceptual drainage plan will result in no discharge from the site, provide flood protection from the 100-year flood event without adversely impacting the existing drainage conditions downstream of the project site. However, additional hydrology and hydraulic analysis will need to be performed including detailed site grading design based upon detailed on-site topographic mapping and site design in order to validate the findings of this conceptual study. Additional information not available at the time of this conceptual hydrology study and to be obtained during final engineering may require alterations of the conceptual drainage plan. The detailed studies should be performed in conjunction with the final project development plan.

3 FLOODPLAIN STUDY

3.1 Flood Insurance Rate Map Panel #06025C0725C

The existing Federal Emergency Management Agency (FEMA) map was used to determine if the project site is located within the limits of the 100-year floodplain. Review of the existing FEMA Flood Insurance Rate Map (FIRM), panel 06025C1725C, indicates that the project site is located in a Flood Designation Zone X, which means that the site is subject to a 0.2 percent chance of annual flood (equivalent to a 500-year flood).

The proposed project is adjacent to the Wister Waterfowl Management Area, which is also mapped as Flood Designation Zone X. A copy of the FIRMette is included in Appendix G.

4 CEQA THRESHOLDS OF SIGNIFICANCE

4.1 Environmental Impacts

The Thresholds of Significance from Appendix G of the CEQA Guidelines, Section VIII. Hydrology and Water Quality, were reviewed based on the findings from this Conceptual Hydrology Study. Threshold of significance are discussed below.

Impact B - Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Impact Analysis - Groundwater recharge in the area will not be significantly affected due to the fact that the majority of the site will feature a pervious landscape in both the existing and proposed conditions. Drainage swales will also provide infiltration and groundwater recharge. In the post construction condition, no pumping of groundwater is anticipated. During the construction phase, dewatering operations are anticipated to mitigate the existing high water table.

Potential construction that may require dewatering includes footings and foundations for the project infrastructure, as well as for the transmission pole locations or the substation. These dewatering activities are not anticipated to result in a significant decrease in production rates of existing or planned wells. Alternatively, soil-cement mixing techniques and other construction alternatives may be implemented to minimize the need for dewatering operations. It is concluded that this item is considered no significant impact.

Impact C - Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

Impact Analysis - The proposed drainage patterns and general drainage system will be similar to the existing site. Drainage from the construction zone will be routed to the detention basins for retention through infiltration and evaporation. It is concluded that this Item is considered no impact.

Impact D - Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?

Impact Analysis - Existing drainage patterns will not be substantially altered due to the proposed project. Peak flow runoff from the project will be collected in ponding areas. The project facilities will be designed in anticipation of this ponding, and there is no potential for increased flooding onsite or in offsite IID Drains. Due to the use of infiltration/evaporation, it is anticipated that the annual runoff from the proposed project site will be reduced to none when compared to the existing condition. The project will be designed to meet County of Imperial storage requirements for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. It is concluded that this Item is considered no impact.

Impact G - Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation.

Impact Analysis - There is no housing proposed for the project. It is concluded that there is no impact related to this Item.

Impact H - Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

Impact Analysis – The project is located outside of the FEMA Designated Special Flood Hazard Zone A. There is no area structures which would impede or redirect flood flows within a 100-year flood hazard. It is concluded that there is no impact related to this Item.

Impact I - Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Impact Analysis – The project is located outside of the FEMA Designated Special Flood Hazard Zone A. There is no area structures which would impede or redirect flood flows within a 100-year flood hazard. Proposed retention ponds will be graded away from the structures and equipment. No habitable structures will be incorporated onsite.

There are no dams immediately upstream of the project; therefore dam breakage is not a risk concerning the project site.

The Imperial Valley with its low-lying canal/drain systems, lack of relief, and infrequent, intense storm periods can lead to high intensity runoff events. However, the project site does not include any residential development or significant populations of people. It is concluded that there is no impact related to this Item.

Impact J - Inundation by seiche, tsunami, or mudflow.

Impact Analysis – Onsite grading will incorporate fill to raise the site and a berm will protect the site against inundation. The Salton Sea is does not pose a particularly significant danger of inundation from seiche or tsunami as related to the proposed project site. Given that there are no defined stream in proximity to the project, the site is not considered in danger of inundation by mudflow. It is concluded that there is no impact related to this Item.

5 REFERENCES

CALIFORNIA OFFICE OF PLANNING AND RESEARCH, 2020, *CEQA Guidelines (Title 14, Division 6, Chapter 3 of the California Code of Regulations)*.

CONTROL THERMAL RESOURCES, 2021, *Hell's Kitchen PowerCo 1 Project and Hell's Kitchen LithiumCo 1 Project – Conditional Use Permit Applications*, Submitted to County of Imperial, Planning & Development Services Department, December 11.

COUNTY OF IMPERIAL DEPARTMENT OF PUBLIC WORKS, 2008, *Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage, and Grading Plans within Imperial County*, September 15.

IMPERIAL IRRIGATION DISTRICT, 2018, *Salton Sea Hydrology Development*, by CH2M Hill, October.

NATURAL RESOURCES CONSERVATION SERVICE, 2022, *Web Soil Survey Service.*

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, 2022, *Precipitation Frequency Data Server (PFDS) Atlas 14 Volume 1.*

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, 1978, *Hydrology Manual*, April

Technical Appendix

Appendix A

Conceptual Hydrology Map – Existing Condition

S LATERAL CULVERT UNDER
DAVIS RD AT NOFFSINGER RD

Noffsinger Rd

Davis Rd

NF

SHORELINE PER FEMA PANEL
06025C0725C OF 9-26-2008

A-100
22.7

101
775.2

L=930'

100
776.3

A-110
6.0

111
775.2

L=705'

110
776.4

121
775.1

L=765'

120
776.5

A-120
8.5

Alcott Rd

R LATERAL CULVERTS UNDER
DAVIS RD AT ALCOTT RD

B-200
5.0

201
775.6

L=406'

200
776.9

B-210
5.0

230
776.5

211
776.0

L=375'

L=382'

210
776.5

B-230
2.5

231
776.2

221
775.9

B-220
12.5

L=1302'

220
776.8

Q DRAIN CULVERTS UNDER
DAVIS RD AT POUND RD

F

Pound Rd

NS

SHORELINE PER FEMA PANEL
06025C0725C OF 9-26-2008

N

500 125 0 250 500 750

SCALE: 1"=250'

LEGEND

- DRAINAGE AREA BOUNDARY
- SUBAREA DRAINAGE BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED TRAPEZOIDAL EARTHEN CHANNEL (TEC)
- EXISTING TRAPEZOIDAL EARTHEN CHANNEL (TEC)

100 / 612.5 — NODE # / ELEV.

I-608 / 23.2 — SUBAREA ACREAGE

DA	Area (ac)	Imp (%)	Tc (min)	I100 (in/hr)	Runoff Coeff C	Rational Method Q100 (cfs)
A-100	22.7	0%	41.00	1.95	0.85	37.6
A-110	6	0%	34.00	2.02	0.85	10.3
A-120	8.5	0%	34.00	2.02	0.85	14.6
B-200	5	0%	25.00	2.35	0.86	10.1
B-210	5	0%	27.00	2.24	0.85	9.5
B-220	12.5	0%	43.00	1.93	0.85	20.5
B-230	2.5	0%	32.00	2.04	0.85	4.3

Q3 Consulting
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610
949.259.6770

IMPERIAL COUNTY CALIFORNIA 1907

HELL'S KITCHEN POWERCO 1 AND LITHIUMCO 1 PROJECT

CONCEPTUAL HYDROLOGY MAP EXISTING CONDITION

FOR COUNTY OF IMPERIAL

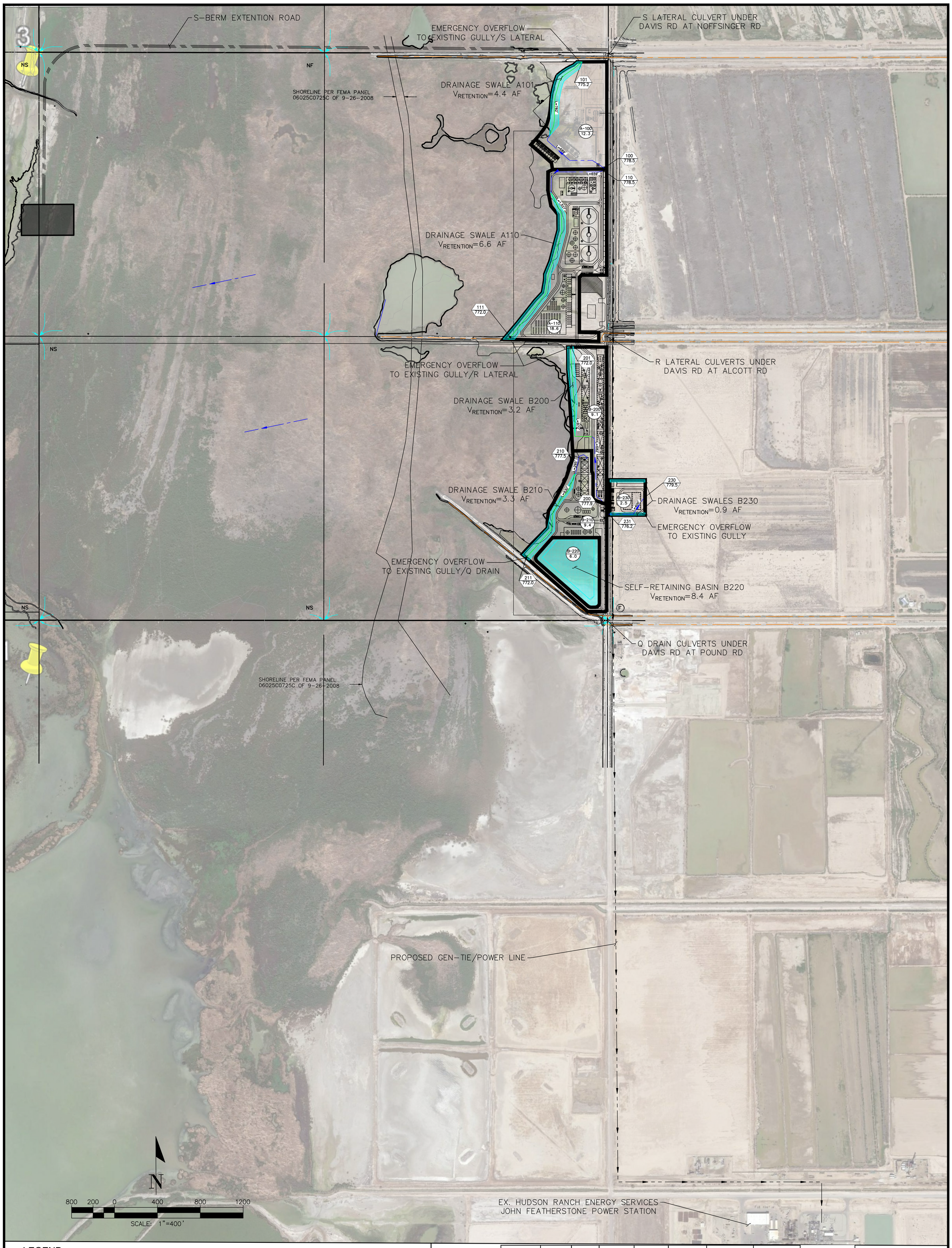
EXHIBIT A

APR 2022

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Appendix B

Conceptual Hydrology Map – Proposed Condition



LEGEND

- DRAINAGE AREA BOUNDARY
- SUBAREA DRAINAGE BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN/SWALE
- EXISTING STORM DRAIN
- PROPOSED TRAPEZOIDAL EARTHEN CHANNEL (TEC)
- EXISTING TRAPEZOIDAL EARTHEN CHANNEL (TEC)

100 / 612.5 — NODE # ELEV.

1-608 / 23.2 — SUBAREA ACREAGE

DRAINAGE SWALES WITH FULL ONSITE RETENTION (EVAPORATION/INFILTRATION)

DA	Area (ac)	Imp (%)	Tc (min)	I100 (in/hr)	Runoff Coeff C	Rational Method Q100 (cfs)	Mitigated Q100 (cfs)	Retention Volume @ 5 inch (AF)
A-100	12.3	85%	16.70	2.84	0.85	74.6	0.00	4.4
A-110	18.6	85%	20.50	2.62	0.85	61.6	0.00	6.6
B-200	9.1	85%	17.50	2.79	0.85	43.9	0.00	3.2
B-210	9.4	85%	14.10	3.07	0.85	40.1	0.00	3.3
B-220	6.0	100%	Brine Evaporation Pond Only				0.00	2.5
B-230	2.5	85%	10.50	3.57	0.90	8.0	0.00	0.9

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IMPERIAL COUNTY CALIFORNIA 1907

HELL'S KITCHEN POWERCO 1 AND LITHIUMCO 1 PROJECT

CONCEPTUAL HYDROLOGY MAP PROPOSED CONDITION

FOR COUNTY OF IMPERIAL

EXHIBIT B

JUNE 2022

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Appendix C

Drainage Standards from County of Imperial

III. DRAINAGE IMPROVEMENTS

III A. GENERAL REQUIREMENTS

1. All drainage design and requirements are recommended to be in accordance with the Imperial Irrigation District (IID) "Draft" Hydrology Manual or other recognized source with approval by the County Engineer and based on full development of upstream tributary basins. Another source is the Caltrans I-D-F curves for the Imperial Valley.

2. Public drainage facilities shall be designed to carry the ten-year six-hour storm underground, the 25-year storm between the top of curbs provided two 12' minimum width dry lanes exist and the 100-year frequency storm between the right of way lines with at least one 12' minimum dry lane open to traffic. All culverts shall be designed to accommodate the flow from a 100-year frequency storm.

3. Permanent drainage facilities and right of way, including access, shall be provided from development to point of satisfactory disposal.

4. Retention volume on retention or detention basins should have a total volume capacity for a three (3) inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas.

   There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a minimum 3-inch precipitation over the project site.

5. Retention basins should empty within 72 hours and no sooner than 24 hours in order to provide mosquito abatement. Draining, evaporation or infiltration, or any combination thereof can accomplish this. If this is not possible then the owner should be made aware of a potential need to address mosquito abatement to the satisfaction of the Environmental Health Services (EHS) Department. Additionally, if it is not possible to empty the basin within 72 hours, the basin should be designed for 5 inches, not 3 inches as mentioned in Item #4 above. This would allow for a saturation condition of the soil due to a 5" storm track. EHS must review and approve all retention basin designs prior to County Public Works approval. Nuisance water must not be allowed to accumulate in retention basins. EHS may require a nuisance water abatement plan if this occurs.

6. The minimum finish floor elevation shall be 12" above top of fronting street curb unless property is below street level and/or 6" above the 100-year frequency storm event or storm track. A local engineering practice is to use a 5" precipitation event as a storm track in the absence of detailed flood information.

   The 100-year frequency storm would be required for detention calculations.

7. Finish pad elevations should be indicated on the plans, which are at or above the 100-year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100-year flood elevation.

8. The developer shall submit a drainage study and specifications for improvements of all drainage easements, culverts, drainage structures, and drainage channels to the Department of Public Works for approval. Unless specifically waived herein, required plans and specifications shall provide a drainage system capable of handling and disposing of all surface waters originating within the subdivision and all surface waters that may flow onto the subdivision from adjacent lands. Said drainage system shall include any easements and

structures required by the Department of Public Works or the affected Utility Agency to properly handle the drainage on-site and off-site. The report should detail any vegetation and trash/debris removal as well as address any standing water.

9. Hydrology and hydraulic calculations for determining the storm system design shall be provided to the satisfaction of the Director, Department of Public Works. When appropriate, water surface profiles and adequate field survey cross-section data may also be required.

10. An airtight or screened oil/water separator or equivalent is required prior to permitting onsite lot drainage from entering any street right of way or public storm drain system for all industrial/commercial or multi residential uses. A maximum 6" drain lateral can be used to tie into existing adjacent street curb inlets with some exceptions. Approval from the Director of Public Works is required.

11. The County is implementing a storm water quality program as required by the State Water Resources Control Board, which may modify or add to the requirements and guidelines presented elsewhere in this document.

    This can include ongoing monitoring of water quality of storm drain runoff, implementation of Best Management Practices (BMPs) to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitos or standing water.

12. A Drainage Report is required for all developments in the County. It shall include a project description, project setting including discussions of existing and proposed conditions, any drainage issues related to the site, summary of the findings or conclusions, offsite hydrology, onsite hydrology, hydraulic calculations and a hydrology map.

13. Specific to small Parcel Map developments:

A. For individual lots, sufficient storage volume must be available on a portion of the proposed parcel to accommodate a three (3) inch precipitation minimum covering the entire area. The resulting storage volume should be accommodated in a single retention basin. However, this office will consider a combination of retention basins and on-lot storage.

B. Remaining portions of the parcel or agricultural parcels that are not being developed should also provide for onsite retention or assurances that the resulting storm runoff does not impact adjacent parcels.

C. Finish pad elevations should be indicated on the plans, which are at or above the 100-year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100-year flood elevation.

D. Onsite driveways should be designed and constructed such that they are at least 3 inches above the 100-year frequency flood elevation identified for the parcel.

E. Septic system manhole access, water systems and other associated electrical appurtenances should also have finish elevations indicated on the plans that are at least 6" above the 100 year frequency flood elevation identified for the parcel.

F. Retention basins should empty within 72 hours in order to provide mosquito abatement. This can be accomplished by either draining, evaporation or infiltration, or any combination thereof. If this is not possible, then the owner should be made aware of a

potential need to address mosquito abatement to the satisfaction of the Environmental Health Services Department. Additionally, if it is not possible to empty the basin within 72 hours, the basin should be designed for 5 inches, not 3 inches as mentioned in Item #A above. This would allow for a saturation condition of the soil due to a 5" storm track.

Detention Basin Design and Maintenance Guideline Note:

The Imperial County Division of Environmental Health Services Vector Control Program is responsible for vector and mosquito control through a variety of means. Poorly designed and ill-maintained detention basins are capable of breeding large numbers of vectors or mosquitoes and offer excellent harborage for adult mosquitoes from other sources. Because detention basins are often situated in residential neighborhoods and other populated areas, they present a significant health risk and pose a challenging pesticide application situation. The California Health and Safety Codes provide for public nuisance abatement and prevention. EHS has guidelines available and they will review all storm retention basin systems prior to Public Works approval.

III B. **HYDROLOGY**

1. Off-site, use a blue line or Xerox prints of the subdivision or tract map. Show existing culverts, cross-gutters and drainage courses based on field review. Indicate the direction of flow; clearly delineate each drainage basin showing the area and discharge and the point of concentration.

2. On-site, use the grading plan. If grading is not proposed, then use a 100-scale plan or greater enlargement. Show all proposed and existing drainage facilities and drainage courses. Indicate the direction of flow. Clearly delineate each drainage basin showing the area and discharge and the point of concentration.

3. Use the rational formula Q (flow (cfs)=C I A (area/acreage) for watersheds less than 0.5 square mile unless an alternate method is approved by the County Engineer. For watersheds in excess of 0.5 square mile, the method of analysis shall be approved by the County Engineer prior to submitting calculations.

III C. **HYDRAULICS**

All facilities that convey drainage must have calculations to support its use. These facilities include streets, culverts, storm drains, channels, catch basins, inlets, etc.

1. Street – provide:

   a) Depth of gutter flow calculation.

   b) Inlet calculations.

   c) Show gutter flow Q, inlet Q, and bypass Q on a plan of the street.

2. Storm drain pipes and open channels – provide:

   a) Hydraulic loss calculations for: entrance, friction, access holes, junctions, bends, angles, reduction and enlargement.

   b) Analyze existing conditions upstream and downstream from proposed system, to be determined by the County Engineer on a case-by-case basis.

c) Calculate critical depth and normal depth for open channel flow conditions.

d) Design for non-silting velocity of 4 feet per second in a two-year frequency storm unless otherwise approved by the County Engineer.

e) All pipes and outlets shall show HGL (hydraulic grade line); velocity and Q value(s) for which the storm drain is designed to discharge.

f) Confluence angles shall be maintained between 45° and 90° from the main upstream flow. Flows shall not oppose main line flows.

III D. INLETS

1. Curb inlets at a sump condition should be designed for two CFS (cubic feet per second) per lineal foot of opening when headwater may rise to the top of curb.

2. Curb inlets on a continuous grade should be designed based on the following equation:

$$Q=0.7\ L\ (a+y) * 3/2$$

Where: y = depth of flow in approach gutter in feet
a = depth of depression of flow line at inlet in feet
L = length of clear opening in feet (maximum 30 feet)
Q = flow in CFS

3. Grated inlets should be avoided when possible. When necessary, the design should be based on the Bureau of Public Roads Nomographs (now known as the Federal Highway Administration). All grated inlets shall be bicycle proof.

4. All catch basins shall have an access main, a minimum of 24 inches in diameter in the top unless access through the grate section is satisfactory to the County Engineer.

5. Catch basins/curb inlets shall be located so as to eliminate, whenever possible, cross gutters. Catch basins/curb inlets shall not be located within 5 feet of any curb return or driveway.

6. Minimum connector pipes for pubic drainage systems shall be 18 inches.

7. Flow through inlets may be used when pipe size is 24 inches or less and open channel flow characteristics exist.

III E. STORM DRAINS

1. Minimum pipe slopes shall be 0.001 (0.1%) unless otherwise approved by the County Engineer.

2. Minimum storm drain, within public right of way, size shall be 18-inch diameter.

3. Provide cleanouts at 300 feet maximum spacing and at angle points and at breaks in grade greater than 10°. For pipes 48 inches in diameter and larger, a maximum spacing of 500 feet may be used.

4. The material for storm drains in right-of-way shall be rubber gasket reinforced concrete pipe, poly vinyl chloride pipe or HDPE storm drainpipe designed in conformance with Imperial County design criteria.

5. Horizontal and vertical curve design shall conform to manufacturer recommended specifications.

6. The pipe invert elevations, slope, and pipe profile line shall be delineated on the Mylar of the improvement plans.

   The strength classification of any pipe shall be shown on the plans. Minimum strength for RCP shall be Class III in all County streets or future right of way. Minimum strength for depths less than 2 feet, if allowed, shall be Class V or greater.

   PVC pipe, if used, must meet or exceed standards for schedule 40-wall thickness and SDR values. Thirty (30) inches minimum cover depth is required. (See Section II J.)

7. For all drainage designs that are not covered in these standards, other established standard practice criteria can be used as approved by the Director of Public Works.

8. For storm drain discharging into unprotected or natural channel, proper energy dissipation measures shall be installed to prevent damage or erosion.

9. The use of detention basins to even out storm peaks and reduce piping is permitted with substantiating engineering calculations and proper maintenance agreements.

10. Desiltation measures for silt caused by development shall be provided and cleaned regularly and after major rainfall events as required by the County Engineer or his designated representative. Adequate storage capacity shall be maintained at all times.

11. Protection of downstream or adjacent properties from incremental flows (caused by change from an underdeveloped to a developed site) shall be provided. Such flows shall not be concentrated and directed across unprotected adjacent properties unless an easement and storm drains or channels to contain flows are provided.

12. Storm drainpipe under pressure flow for the design storm, i.e., HGL above the soffit of the pipe, shall meet the requirements of ASTM C76, C361, and C443 for water-light joints in the section of pipe calculated to be under pressure.

III F. **DRAINAGE SPECIFICATIONS AND DESIGN STANDARDS**

"To be Added"

Appendix D

NOAA Atlas 14 Precipitation Intensity-Duration

NOAA Atlas 14, Volume 6, Version 2
Location name: Calipatria, California, USA*
Latitude: 33.2031°, Longitude: -115.5745°
Elevation: -222.78 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.708** (0.588-0.840)	**1.10** (0.924-1.33)	**1.73** (1.45-2.09)	**2.32** (1.92-2.82)	**3.25** (2.60-4.10)	**4.10** (3.22-5.28)	**5.09** (3.89-6.72)	**6.25** (4.64-8.50)	**8.10** (5.76-11.5)	**9.79** (6.72-14.4)
10-min	**0.504** (0.426-0.606)	**0.792** (0.666-0.954)	**1.24** (1.04-1.49)	**1.66** (1.38-2.02)	**2.33** (1.87-2.94)	**2.94** (2.30-3.79)	**3.64** (2.78-4.81)	**4.48** (3.32-6.09)	**5.81** (4.13-8.25)	**7.02** (4.81-10.3)
15-min	**0.404** (0.340-0.488)	**0.640** (0.536-0.768)	**1.00** (0.836-1.20)	**1.34** (1.11-1.63)	**1.88** (1.51-2.37)	**2.37** (1.86-3.05)	**2.94** (2.24-3.88)	**3.61** (2.68-4.91)	**4.68** (3.33-6.65)	**5.66** (3.88-8.33)
30-min	**0.284** (0.240-0.342)	**0.448** (0.376-0.540)	**0.702** (0.588-0.846)	**0.940** (0.780-1.14)	**1.32** (1.06-1.66)	**1.66** (1.30-2.14)	**2.06** (1.58-2.72)	**2.53** (1.88-3.45)	**3.28** (2.34-4.67)	**3.97** (2.72-5.85)
60-min	**0.198** (0.166-0.238)	**0.312** (0.262-0.375)	**0.487** (0.408-0.588)	**0.652** (0.541-0.794)	**0.916** (0.734-1.15)	**1.15** (0.905-1.49)	**1.43** (1.09-1.89)	**1.76** (1.31-2.39)	**2.28** (1.62-3.24)	**2.76** (1.89-4.06)
2-hr	**0.138** (0.116-0.165)	**0.208** (0.174-0.250)	**0.314** (0.263-0.379)	**0.413** (0.343-0.502)	**0.568** (0.455-0.715)	**0.704** (0.552-0.908)	**0.862** (0.658-1.14)	**1.04** (0.776-1.42)	**1.33** (0.946-1.89)	**1.59** (1.09-2.34)
3-hr	**0.108** (0.091-0.129)	**0.160** (0.135-0.192)	**0.239** (0.200-0.288)	**0.311** (0.258-0.379)	**0.424** (0.340-0.535)	**0.524** (0.411-0.675)	**0.637** (0.487-0.841)	**0.768** (0.570-1.04)	**0.970** (0.690-1.38)	**1.15** (0.789-1.69)
6-hr	**0.069** (0.058-0.083)	**0.101** (0.085-0.122)	**0.149** (0.125-0.180)	**0.193** (0.160-0.235)	**0.261** (0.209-0.328)	**0.319** (0.250-0.411)	**0.385** (0.295-0.509)	**0.461** (0.343-0.628)	**0.578** (0.411-0.821)	**0.680** (0.466-1.00)
12-hr	**0.041** (0.035-0.050)	**0.061** (0.051-0.074)	**0.090** (0.076-0.109)	**0.117** (0.097-0.142)	**0.158** (0.126-0.199)	**0.193** (0.151-0.248)	**0.232** (0.178-0.307)	**0.277** (0.206-0.377)	**0.346** (0.246-0.491)	**0.405** (0.278-0.597)
24-hr	**0.027** (0.023-0.031)	**0.040** (0.035-0.046)	**0.059** (0.052-0.069)	**0.077** (0.067-0.090)	**0.104** (0.088-0.125)	**0.127** (0.105-0.156)	**0.152** (0.124-0.191)	**0.182** (0.144-0.234)	**0.226** (0.172-0.303)	**0.264** (0.195-0.366)
2-day	**0.015** (0.013-0.017)	**0.023** (0.020-0.026)	**0.034** (0.030-0.039)	**0.044** (0.038-0.051)	**0.059** (0.050-0.071)	**0.072** (0.060-0.089)	**0.086** (0.070-0.109)	**0.103** (0.081-0.132)	**0.127** (0.096-0.170)	**0.148** (0.109-0.204)
3-day	**0.011** (0.009-0.012)	**0.016** (0.014-0.019)	**0.024** (0.021-0.028)	**0.031** (0.027-0.036)	**0.042** (0.035-0.050)	**0.051** (0.042-0.062)	**0.061** (0.049-0.076)	**0.072** (0.057-0.093)	**0.089** (0.068-0.119)	**0.103** (0.076-0.143)
4-day	**0.008** (0.007-0.010)	**0.013** (0.011-0.015)	**0.019** (0.017-0.022)	**0.025** (0.021-0.029)	**0.033** (0.028-0.040)	**0.040** (0.033-0.049)	**0.048** (0.039-0.060)	**0.057** (0.045-0.073)	**0.070** (0.053-0.093)	**0.081** (0.059-0.112)
7-day	**0.005** (0.004-0.006)	**0.008** (0.007-0.009)	**0.011** (0.010-0.013)	**0.015** (0.013-0.017)	**0.020** (0.017-0.024)	**0.024** (0.020-0.030)	**0.029** (0.023-0.036)	**0.034** (0.027-0.044)	**0.042** (0.032-0.056)	**0.049** (0.036-0.067)
10-day	**0.004** (0.003-0.004)	**0.005** (0.005-0.006)	**0.008** (0.007-0.010)	**0.011** (0.009-0.012)	**0.014** (0.012-0.017)	**0.017** (0.014-0.021)	**0.021** (0.017-0.026)	**0.024** (0.019-0.032)	**0.030** (0.023-0.040)	**0.035** (0.026-0.048)
20-day	**0.002** (0.002-0.002)	**0.003** (0.003-0.003)	**0.004** (0.004-0.005)	**0.006** (0.005-0.007)	**0.008** (0.006-0.009)	**0.009** (0.008-0.011)	**0.011** (0.009-0.014)	**0.013** (0.010-0.017)	**0.016** (0.012-0.021)	**0.018** (0.014-0.026)
30-day	**0.001** (0.001-0.002)	**0.002** (0.002-0.002)	**0.003** (0.003-0.004)	**0.004** (0.004-0.005)	**0.005** (0.005-0.007)	**0.007** (0.006-0.008)	**0.008** (0.006-0.010)	**0.009** (0.007-0.012)	**0.011** (0.009-0.015)	**0.013** (0.010-0.018)
45-day	**0.001** (0.001-0.001)	**0.002** (0.001-0.002)	**0.002** (0.002-0.003)	**0.003** (0.003-0.004)	**0.004** (0.004-0.005)	**0.005** (0.004-0.006)	**0.006** (0.005-0.007)	**0.007** (0.006-0.009)	**0.009** (0.006-0.011)	**0.010** (0.007-0.014)
60-day	**0.001** (0.001-0.001)	**0.001** (0.001-0.001)	**0.002** (0.002-0.002)	**0.002** (0.002-0.003)	**0.003** (0.003-0.004)	**0.004** (0.003-0.005)	**0.005** (0.004-0.006)	**0.006** (0.004-0.007)	**0.007** (0.005-0.009)	**0.008** (0.006-0.011)

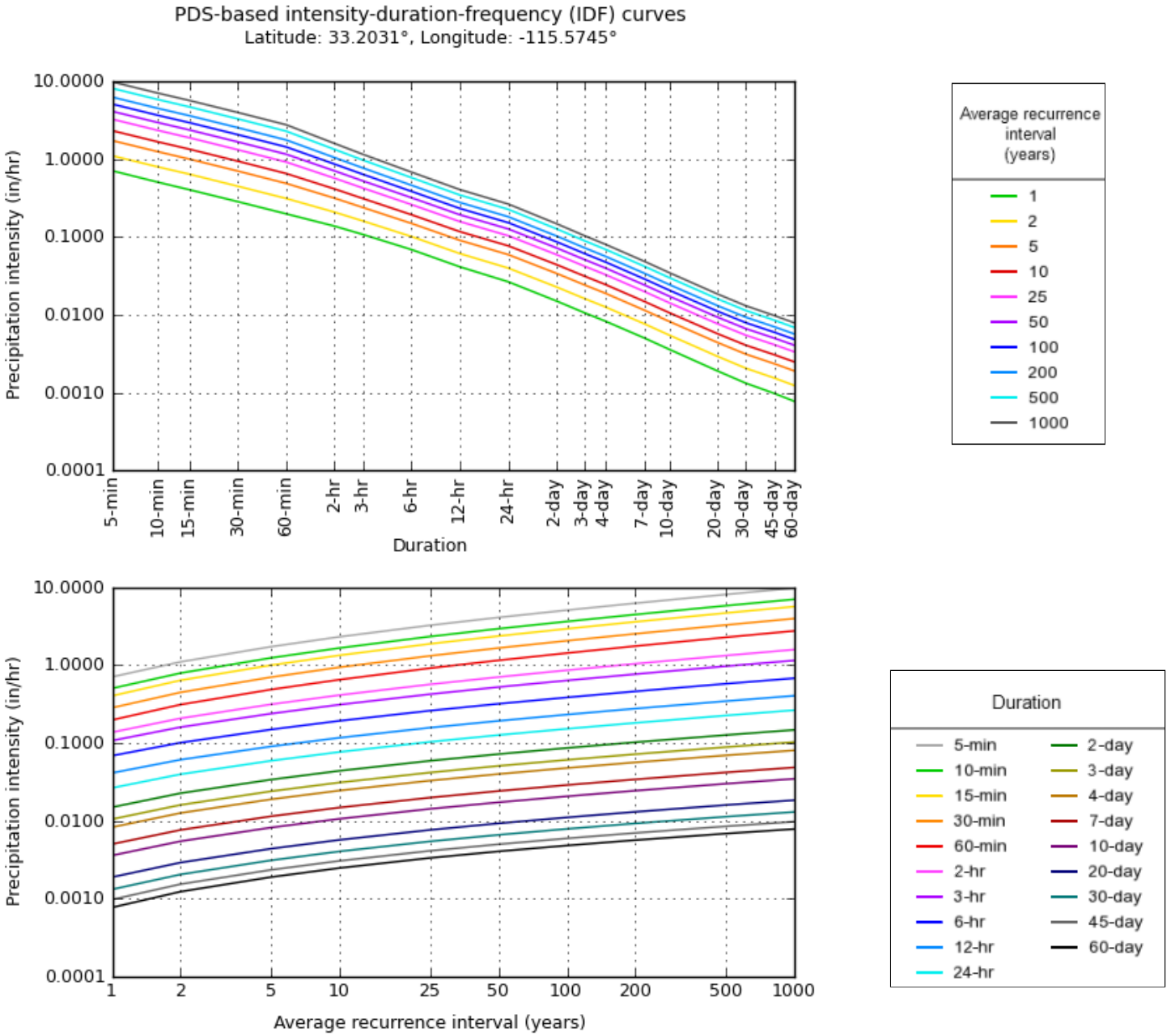
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical



NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Thu Apr 21 18:47:14 2022

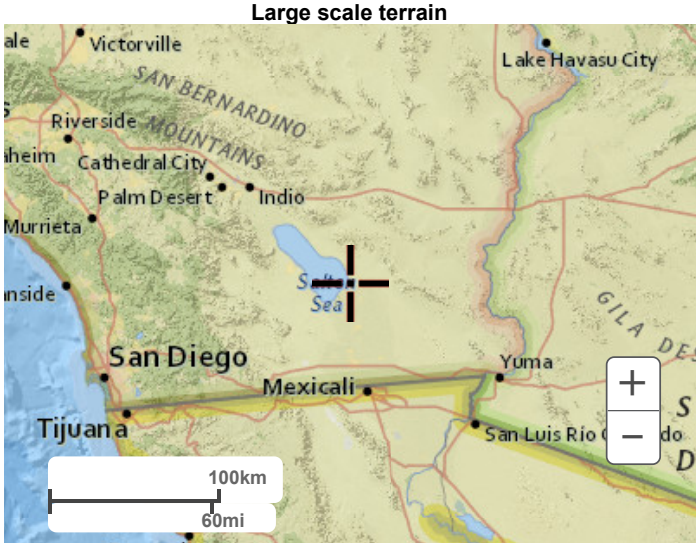
Back to Top

Maps & aerials

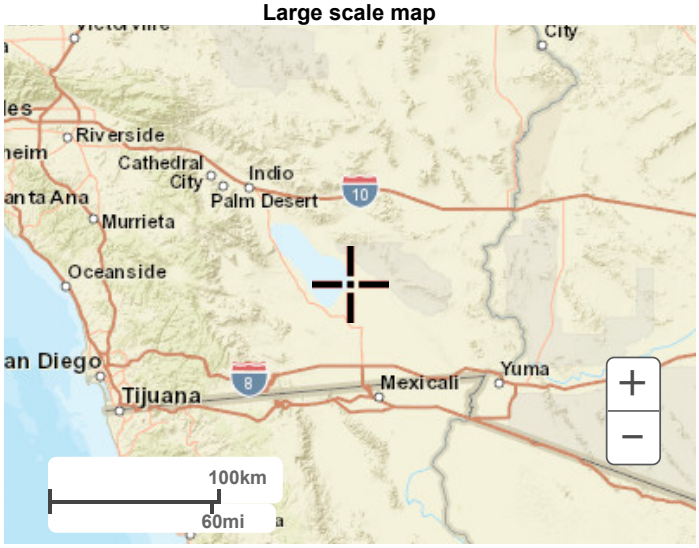
Small scale terrain



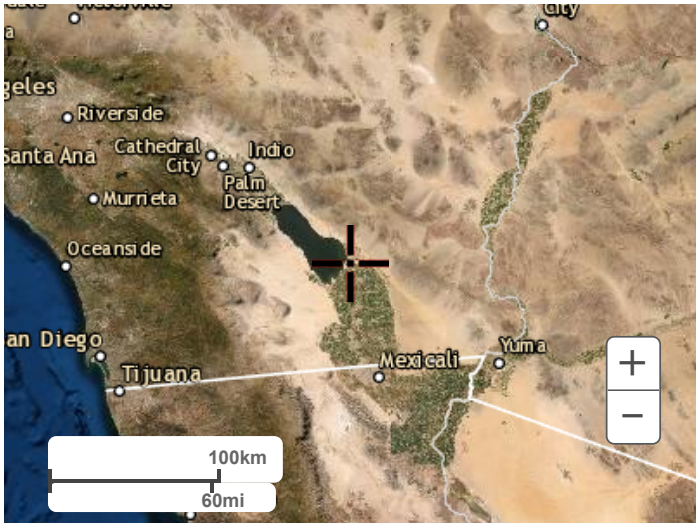
Large scale terrain



Large scale map



Large scale aerial



Back to Top

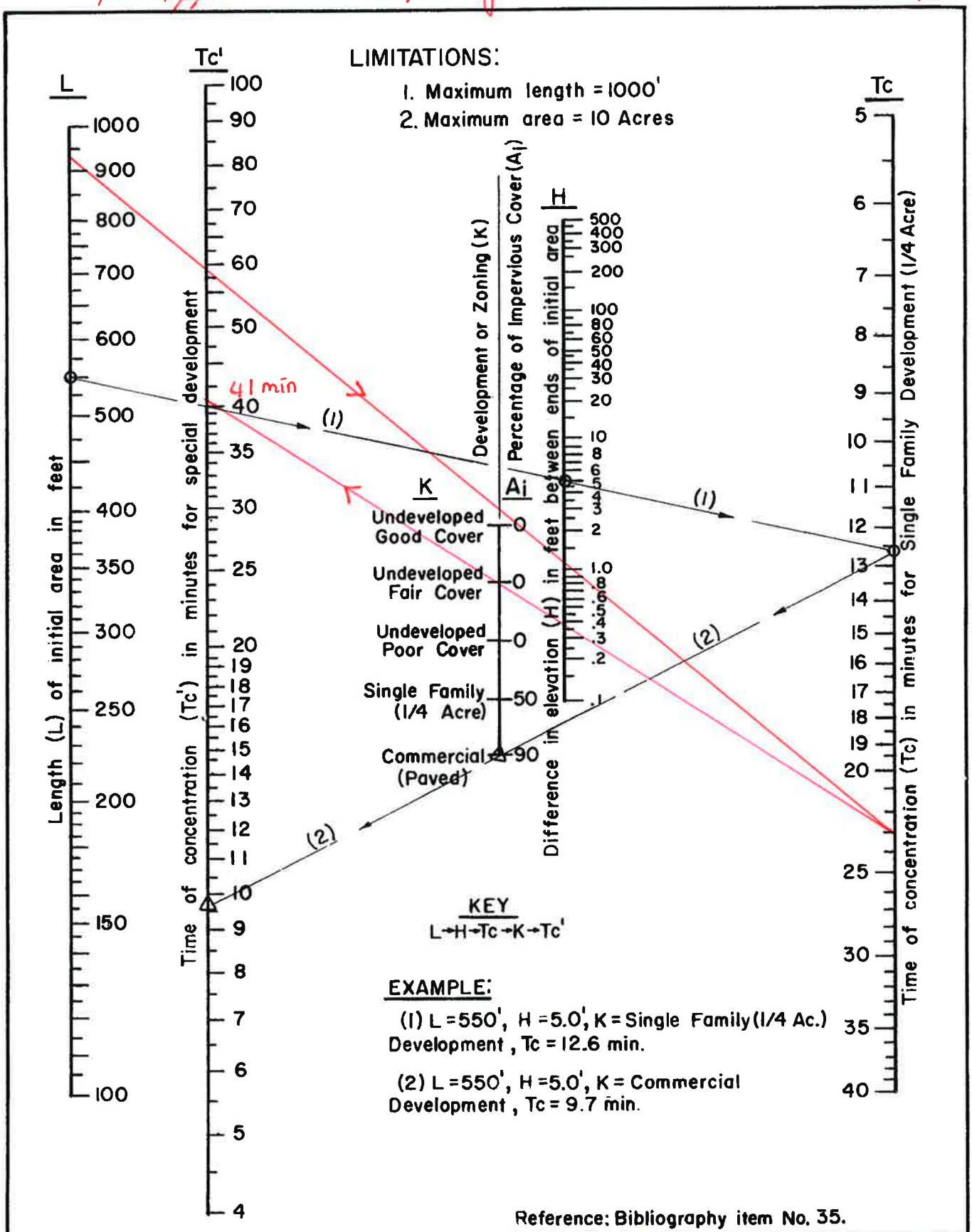
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix E

Time of Concentration Calculations

A-100 Existing Condition 04/22/2022



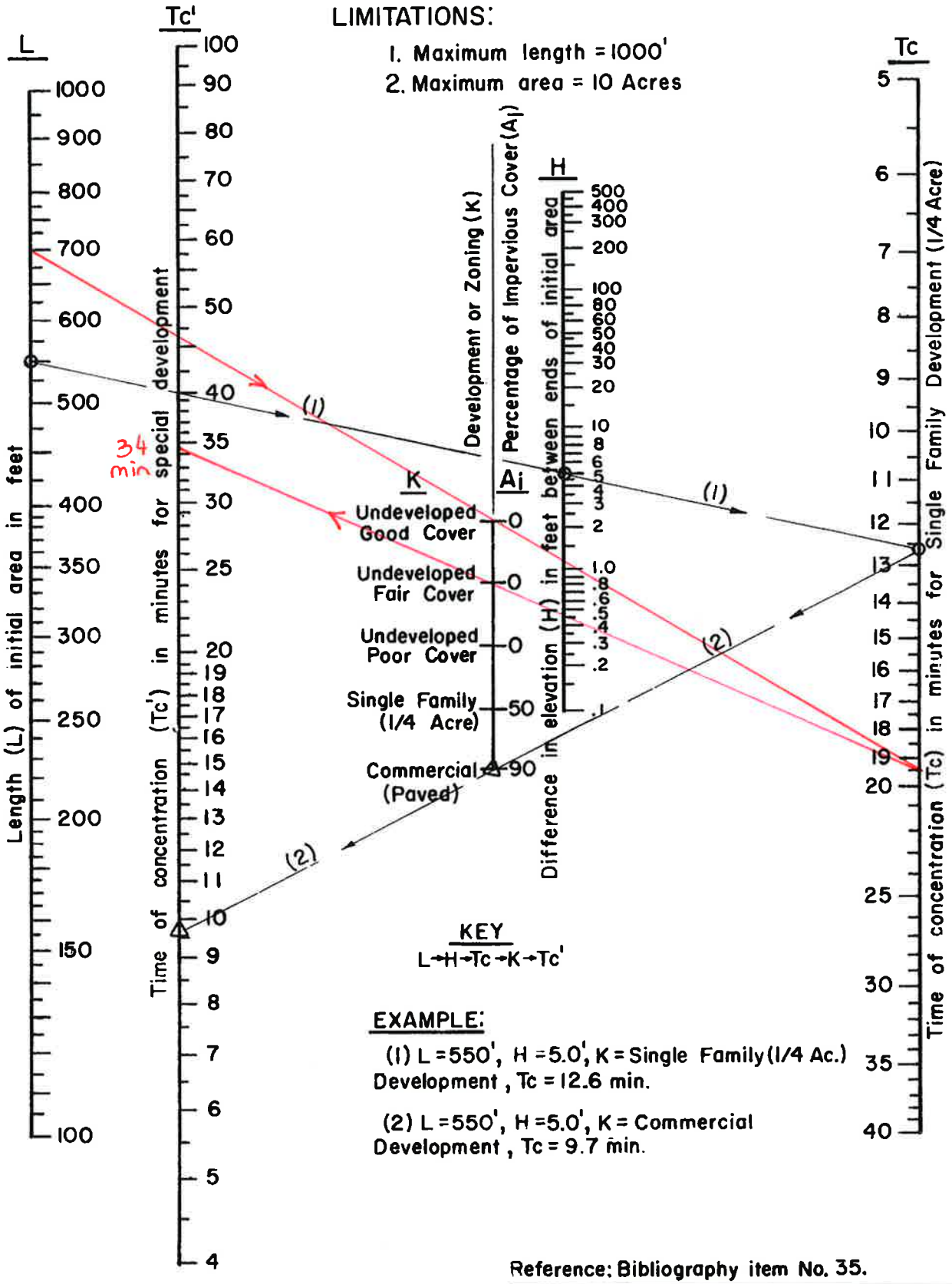
Reference: Bibliography item No. 35.

RCFC & WCD
HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

A-110 Existing Condition 04/22/2022



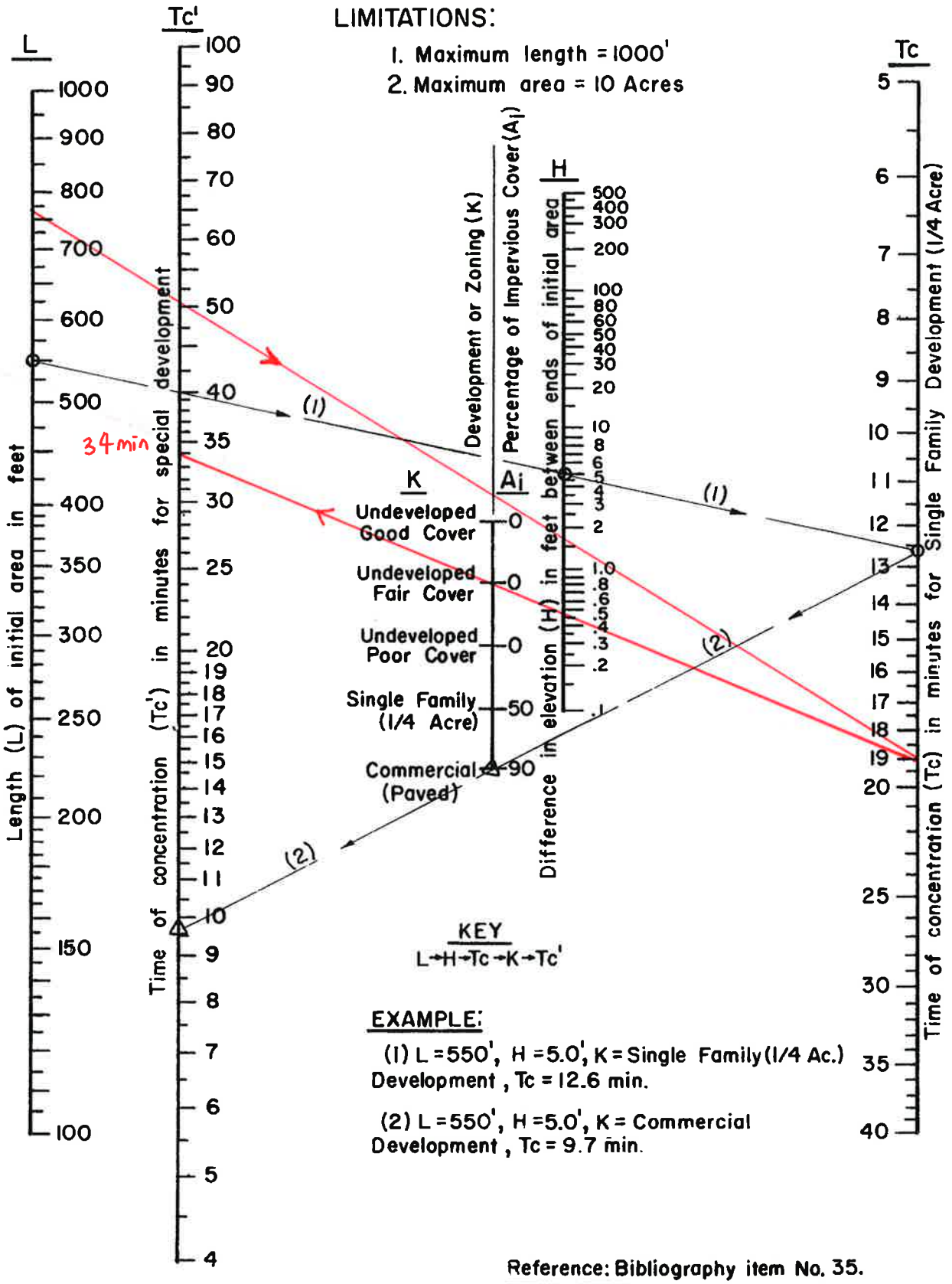
Reference: Bibliography item No. 35.

RCFC & WCD
HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

A-12Ø Existing Condition 04/22/2022



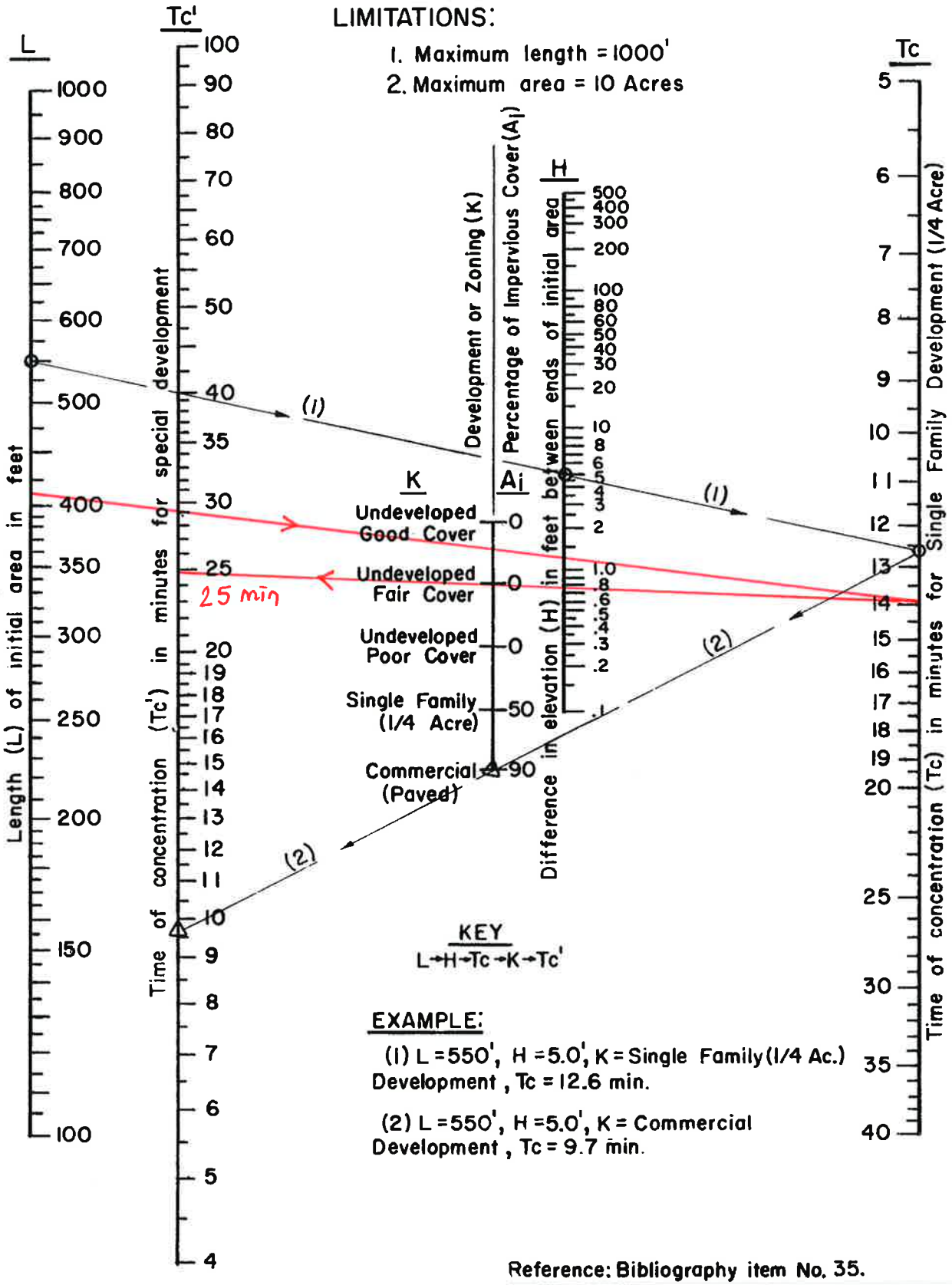
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HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

B-200 Existing Condition 04/22/2022



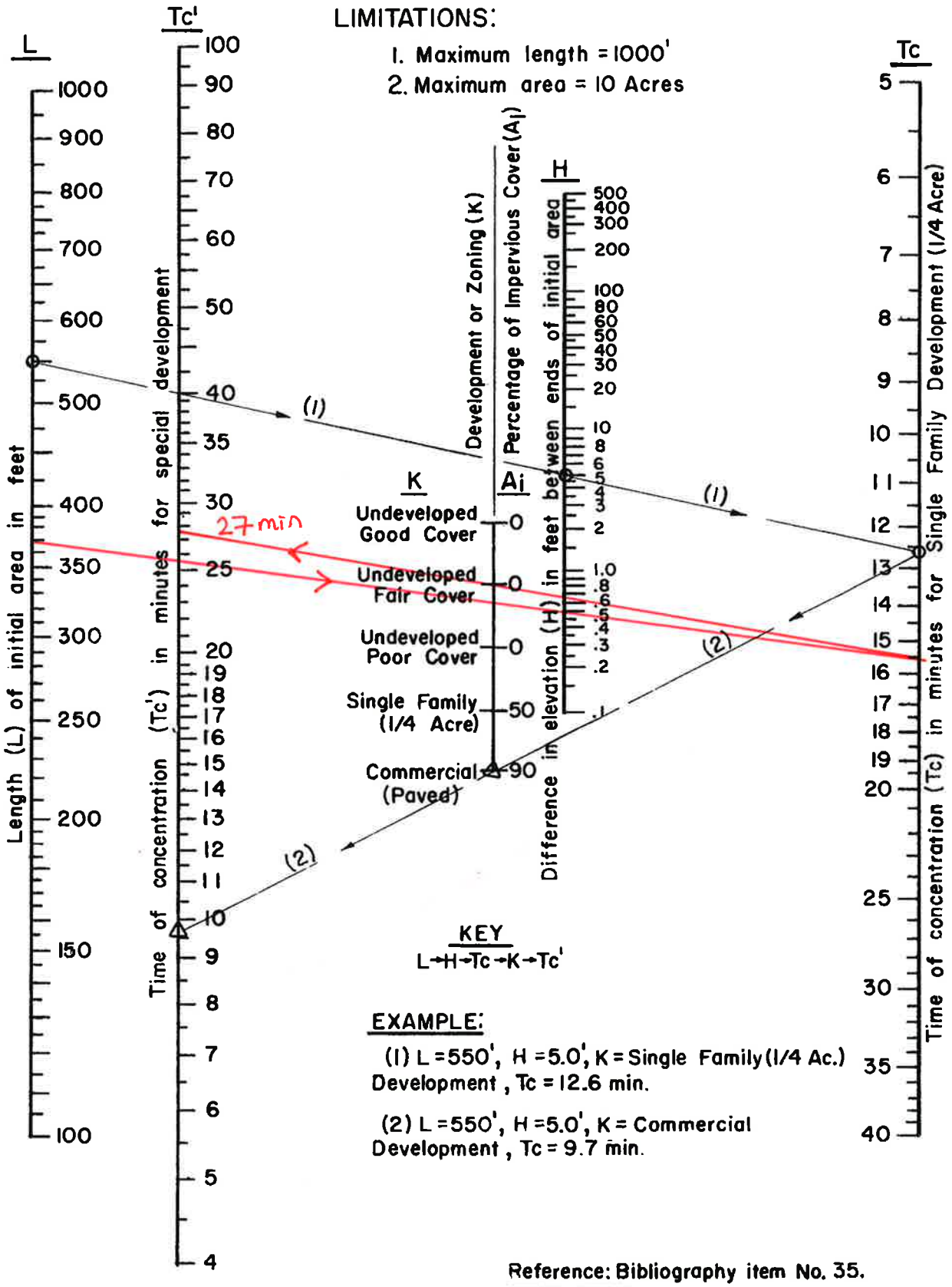
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RCFC & WCD
HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

B-210 Existing Condition 04/22/2022



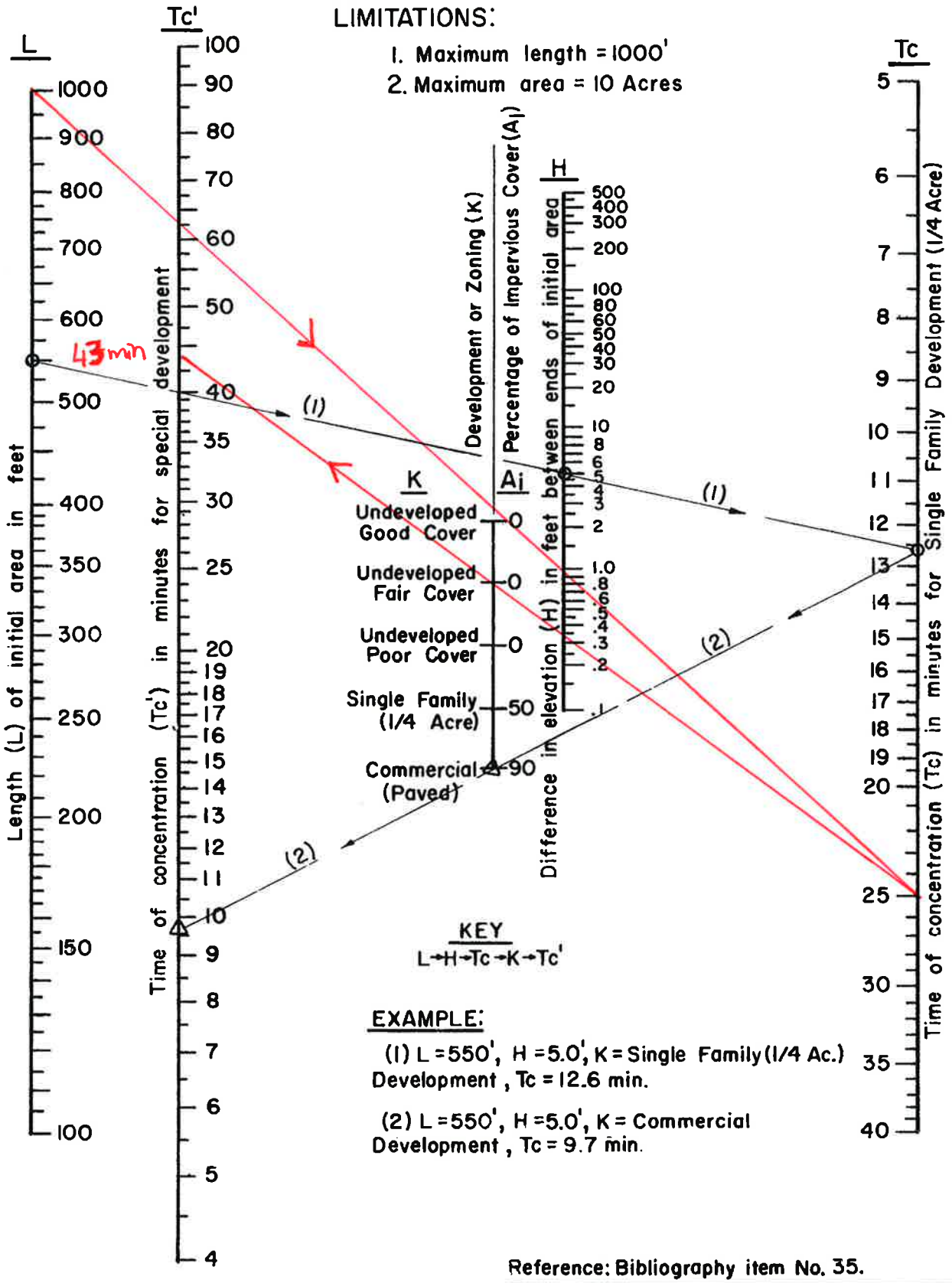
Reference: Bibliography item No. 35.

RCFC & WCD
HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

B-220 Existing Condition 04/22/2022



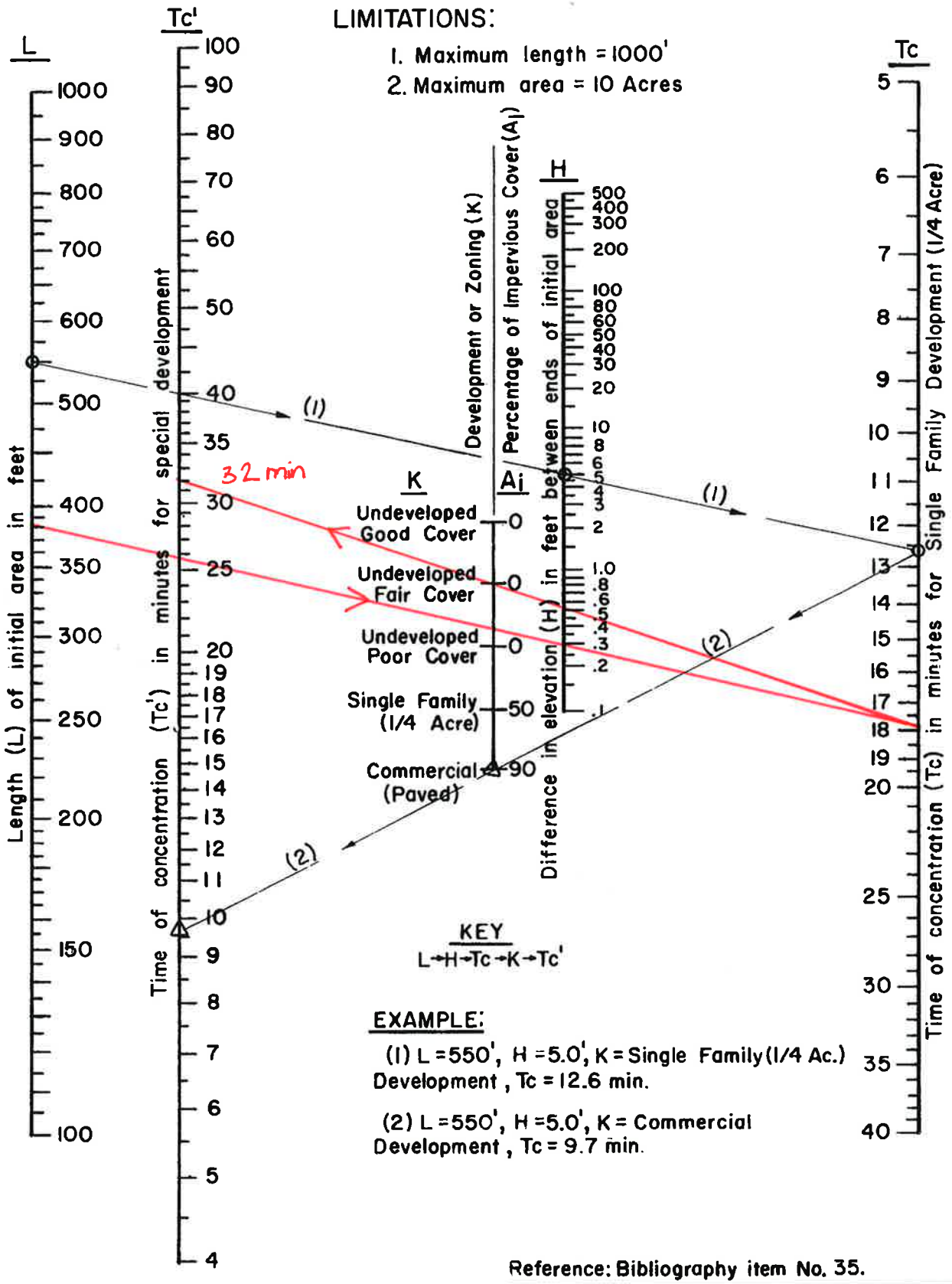
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RCFC & WCD
HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

B-23Ø Existing Condition 04/22/2022

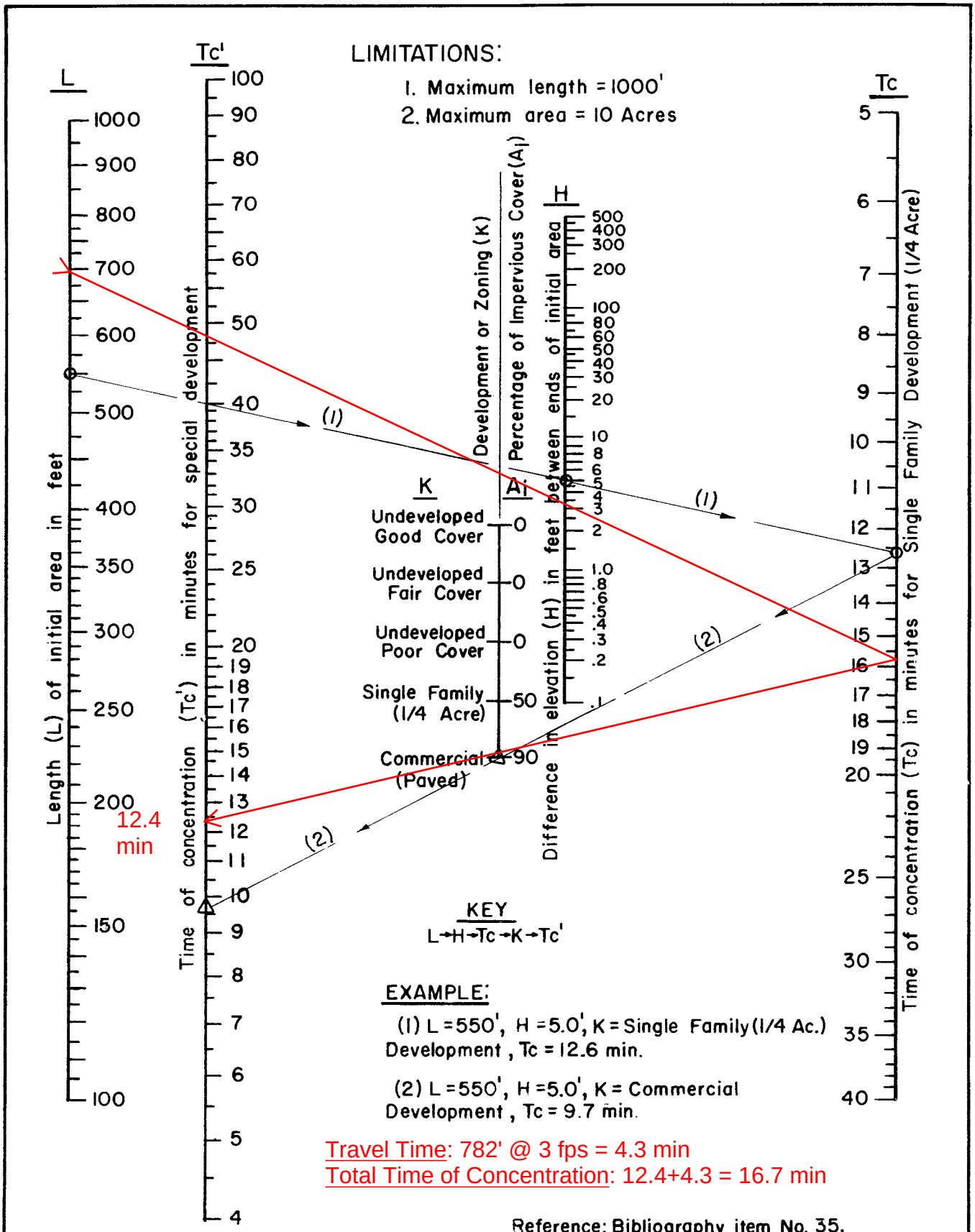


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HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3



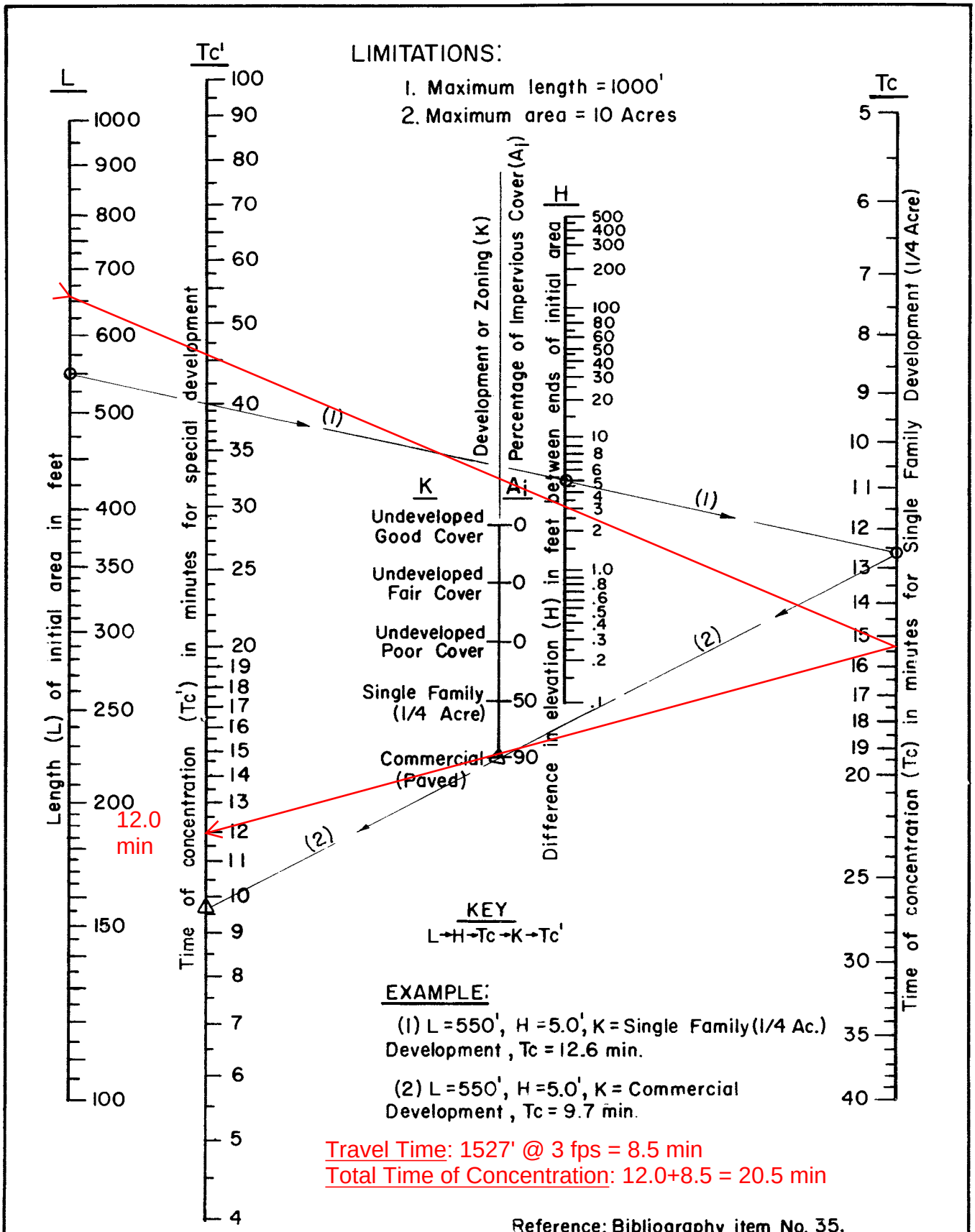
Travel Time: 782' @ 3 fps = 4.3 min
Total Time of Concentration: 12.4+4.3 = 16.7 min

Reference: Bibliography item No. 35.

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HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3



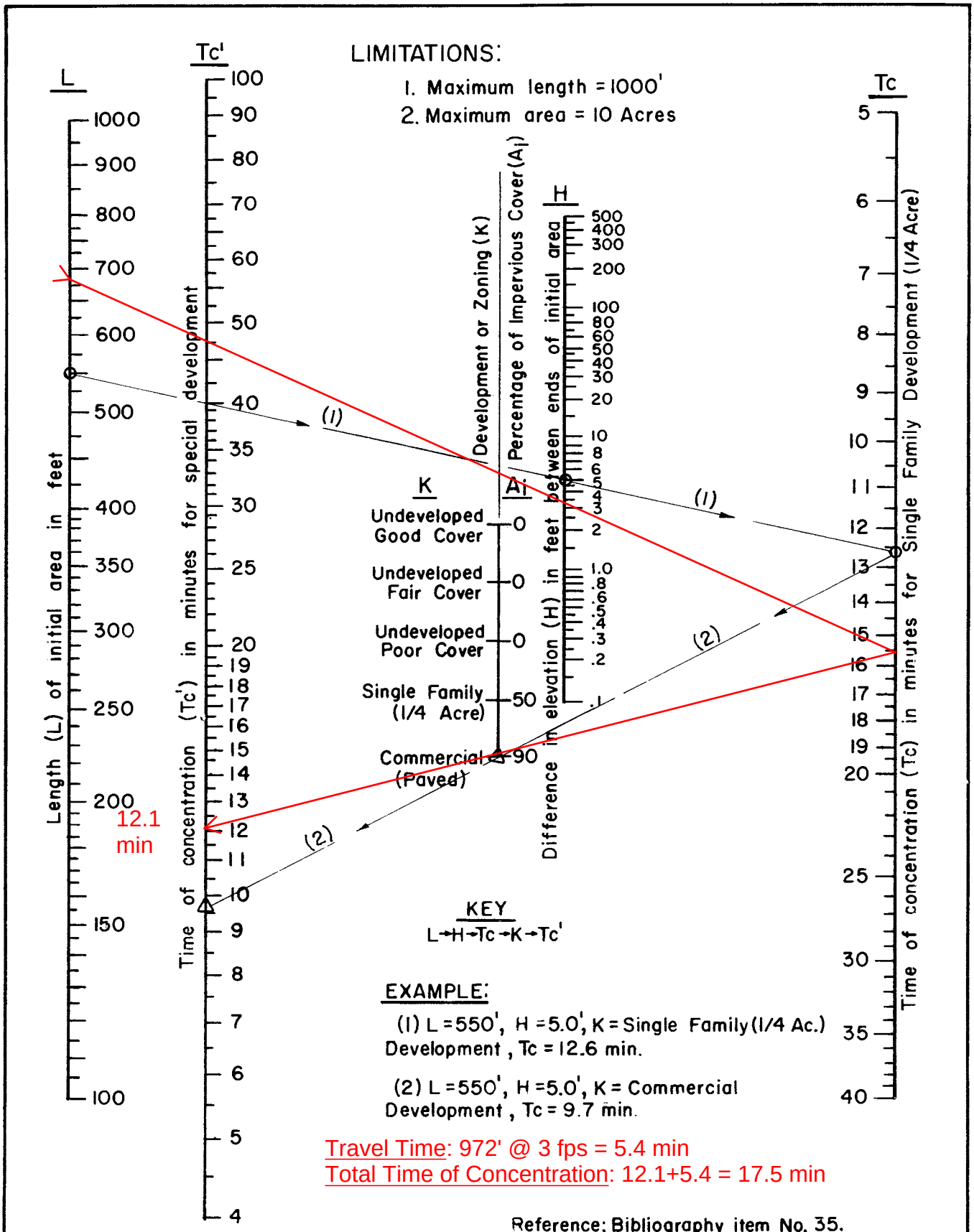
Travel Time: 1527' @ 3 fps = 8.5 min
Total Time of Concentration: 12.0+8.5 = 20.5 min

Reference: Bibliography item No. 35.

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HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3



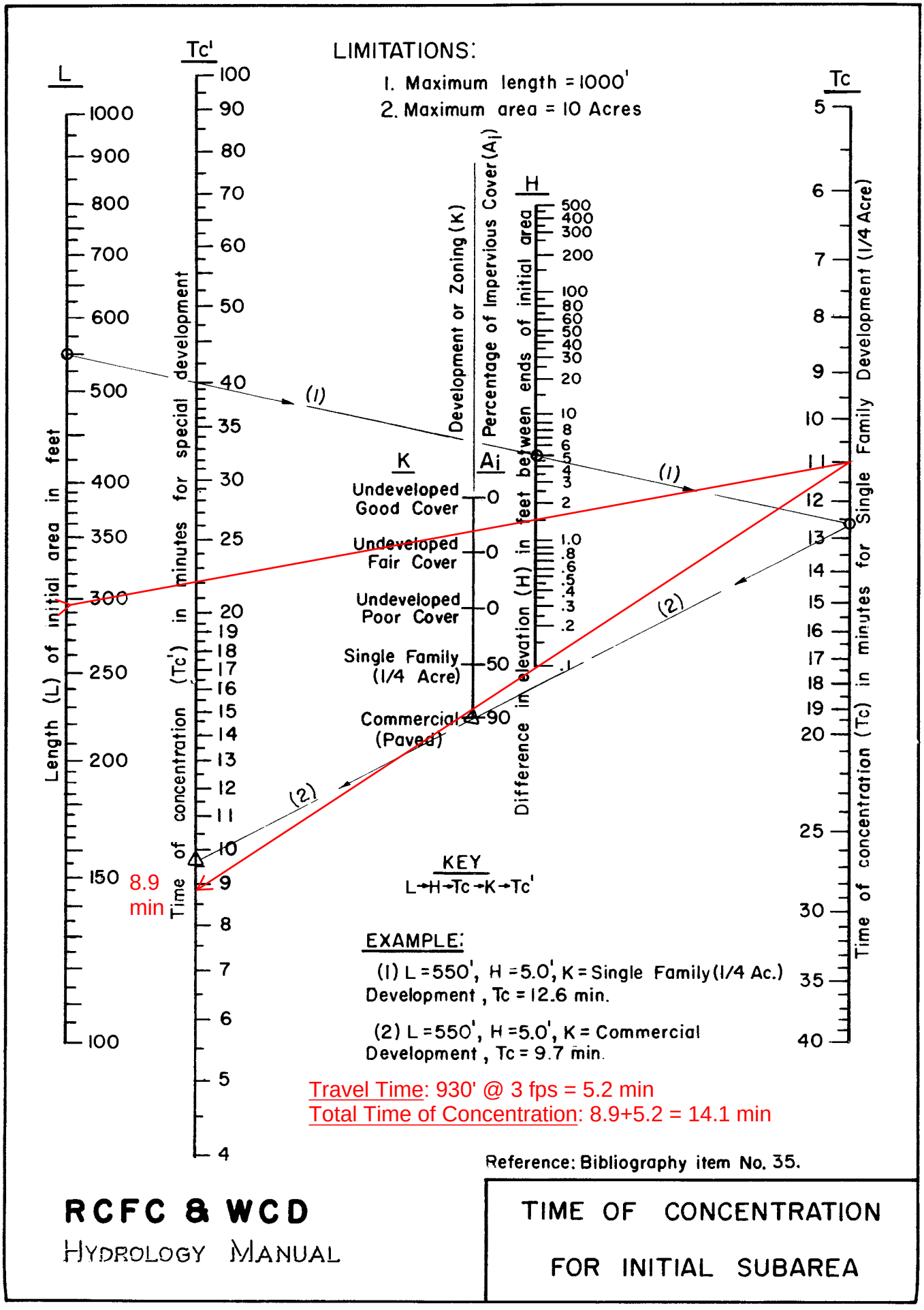
Travel Time: 972' @ 3 fps = 5.4 min
Total Time of Concentration: 12.1+5.4 = 17.5 min

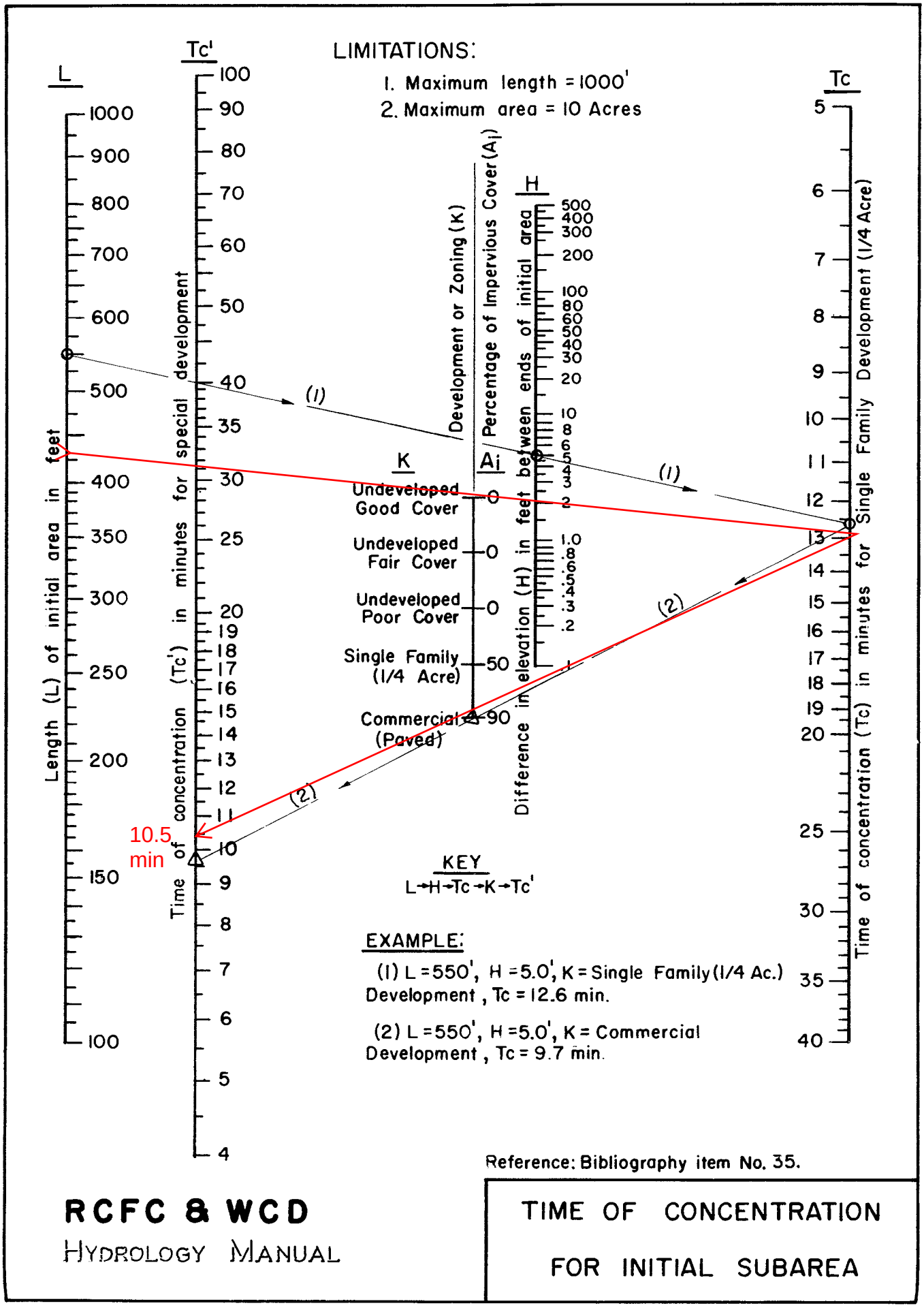
Reference: Bibliography item No. 35.

RCFC & WCD
HYDROLOGY MANUAL

TIME OF CONCENTRATION
FOR INITIAL SUBAREA

PLATE D-3


LIMITATIONS:
1. Maximum length = 1000'
2. Maximum area = 10 Acres
L
Length (L) of initial area in feet
Tc'
Time of concentration (Tc') in minutes for special development
K
Development or Zoning (K)
Undeveloped Good Cover
Undeveloped Fair Cover
Undeveloped Poor Cover
Single Family (1/4 Acre)
Commercial (Paved)
Ai
Percentage of Impervious Cover (Ai)
H
Difference in elevation (H) in feet between ends of initial area
Tc
Time of concentration (Tc) in minutes for Single Family Development (1/4 Acre)
(1)
(2)
8.9 min
KEY
L→H→Tc→K→Tc'
EXAMPLE:
(1) L = 550', H = 5.0', K = Single Family (1/4 Ac.) Development, Tc = 12.6 min.
(2) L = 550', H = 5.0', K = Commercial Development, Tc = 9.7 min.
Travel Time: 930' @ 3 fps = 5.2 min
Total Time of Concentration: 8.9+5.2 = 14.1 min
Reference: Bibliography item No. 35.
RCFC & WCD
HYDROLOGY MANUAL
TIME OF CONCENTRATION
FOR INITIAL SUBAREA
PLATE D-3



Reference: Bibliography item No. 35.

RCFC & WCD
HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

PLATE D-3

Appendix F

NRCS Soil Resource Report for Hell's Kitchen Projects

United States Department of Agriculture

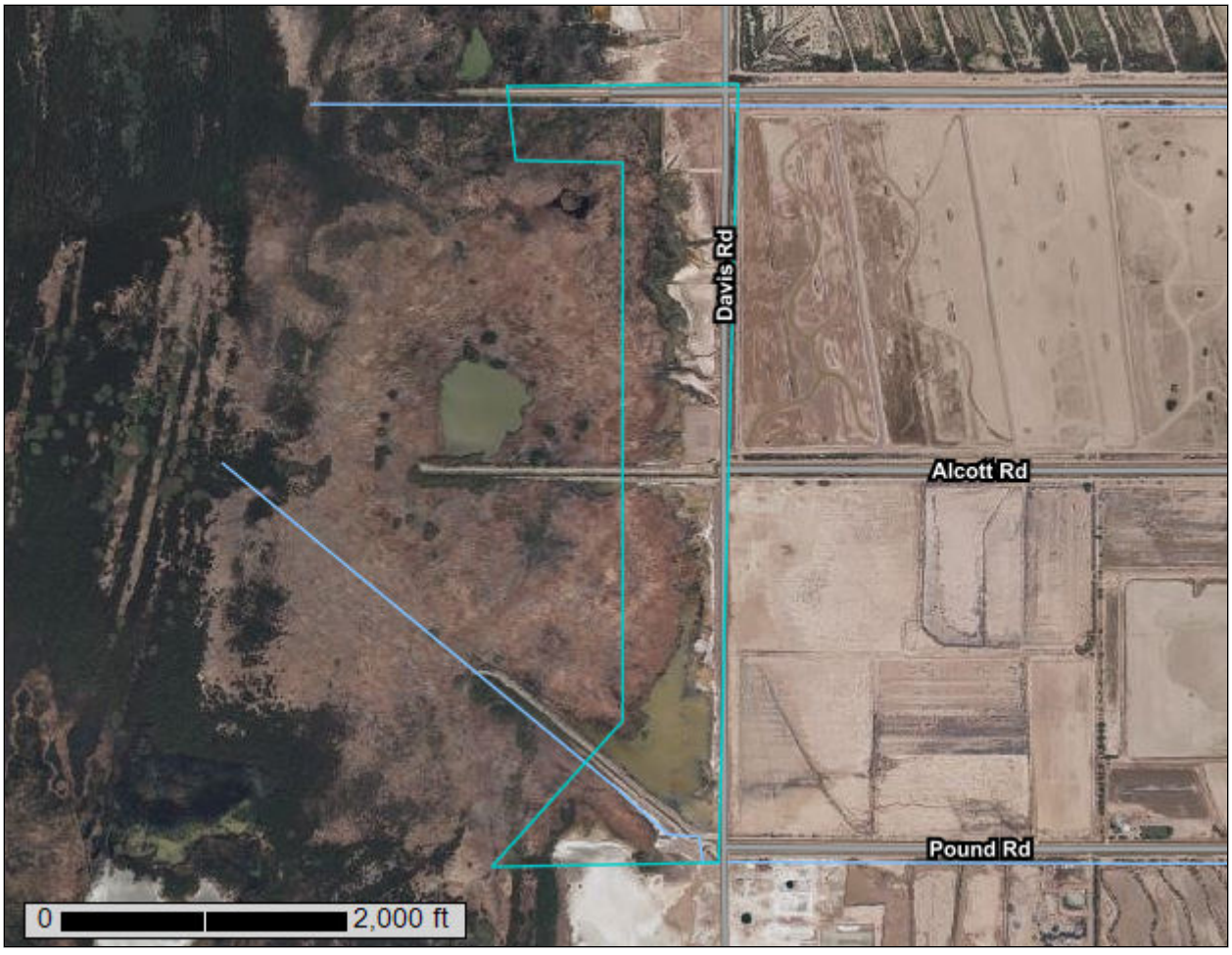
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Imperial County, California, Imperial Valley Area

Hell's Kitchen, Calipatria, CA



April 18, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....12
Map Unit Descriptions.....12
Imperial County, California, Imperial Valley Area.....14
104—Fluvaquents, saline.....14
114—Imperial silty clay, wet.....15
115—Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes.....16
Soil Information for All Uses.....19
Soil Properties and Qualities.....19
Soil Qualities and Features.....19
Hydrologic Soil Group (Hell's Kitchen).....19
References.....25

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

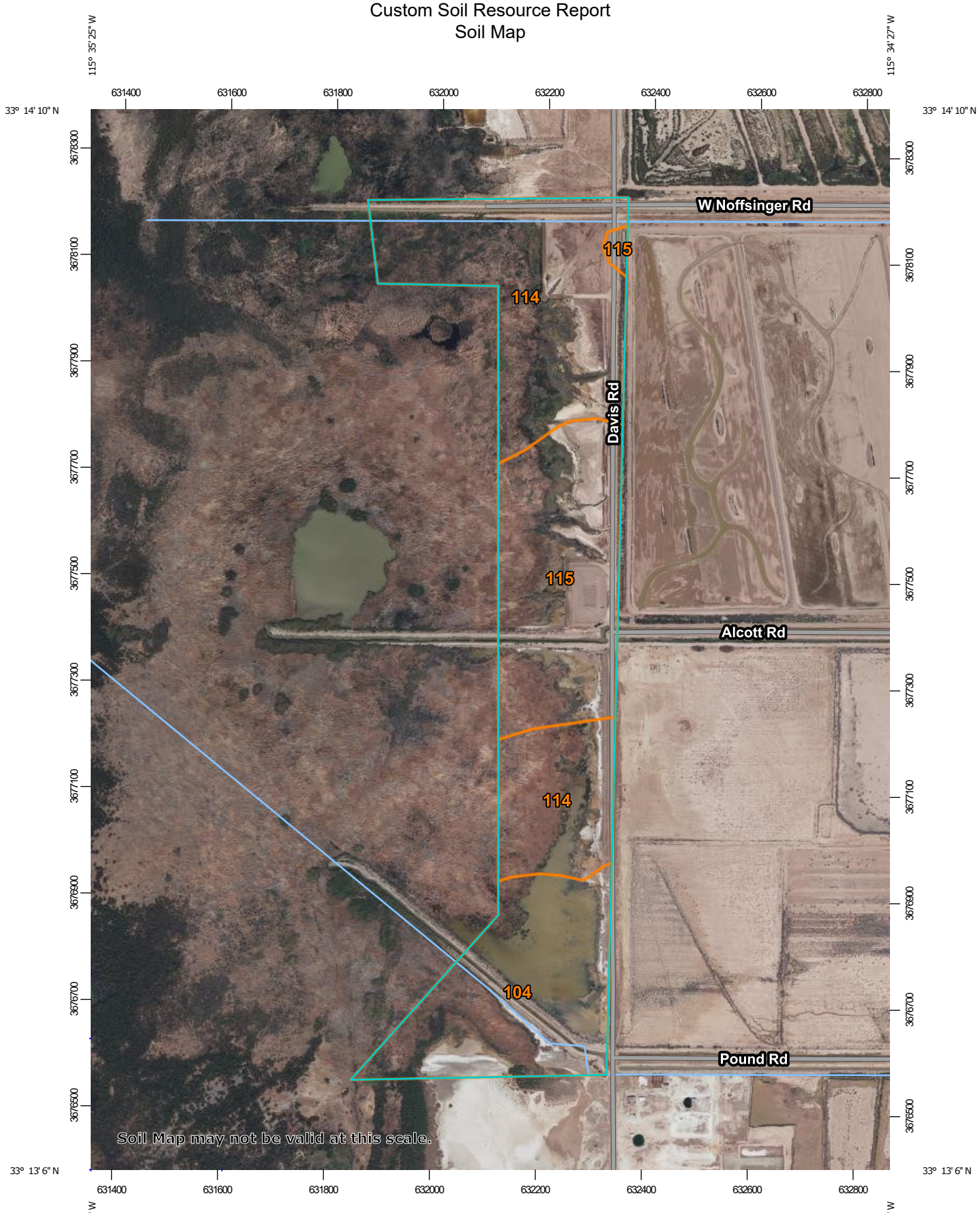
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:9,720 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 13, Sep 15, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 6, 2021—May 29, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Fluvaquents, saline	30.1	26.8%
114	Imperial silty clay, wet	50.1	44.7%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	31.8	28.4%
Totals for Area of Interest		**112.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Imperial County, California, Imperial Valley Area

104—Fluvaquents, saline

Map Unit Setting

National map unit symbol: h8zb
Elevation: -230 to 150 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents, saline, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents, Saline

Setting

Landform: Basin floors
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 60 inches: variable

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: Yes

Minor Components

Unnamed soils

Percent of map unit: 10 percent
Hydric soil rating: No

Rositas

Percent of map unit: 5 percent
Hydric soil rating: No

114—Imperial silty clay, wet

Map Unit Setting

National map unit symbol: h8zn
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Imperial, wet, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Imperial, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed

Typical profile

H1 - 0 to 12 inches: silty clay
H2 - 12 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland
Percent of map unit: 4 percent
Hydric soil rating: No

Holtville
Percent of map unit: 4 percent
Hydric soil rating: No

Glenbar
Percent of map unit: 4 percent
Hydric soil rating: No

Niland
Percent of map unit: 3 percent
Hydric soil rating: No

115—Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: h8zp
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Imperial, wet, and similar soils: 41 percent
Glenbar, wet, and similar soils: 40 percent
Minor components: 19 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Imperial, Wet

Setting
Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed

Typical profile
H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 60 inches: silty clay loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Description of Glenbar, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland

Percent of map unit: 10 percent
Hydric soil rating: No

Holtville

Percent of map unit: 9 percent
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group (Hell's Kitchen)

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

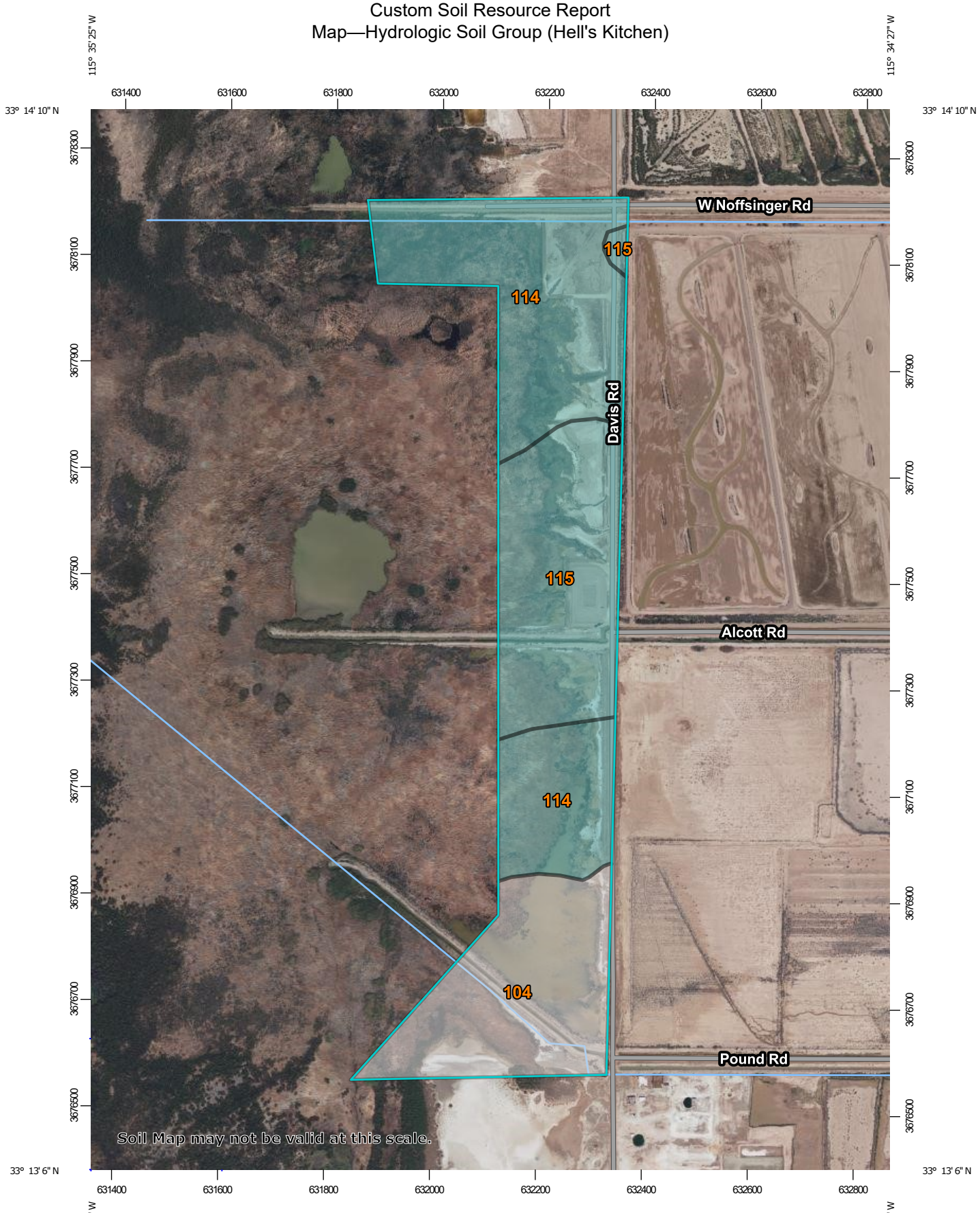
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group (Hell's Kitchen)



Map Scale: 1:9,720 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 13, Sep 15, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 6, 2021—May 29, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group (Hell's Kitchen)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
104	Fluvaquents, saline		30.1	26.8%
114	Imperial silty clay, wet	C	50.1	44.7%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	C	31.8	28.4%
Totals for Area of Interest			**112.0**	**100.0%**

Rating Options—Hydrologic Soil Group (Hell's Kitchen)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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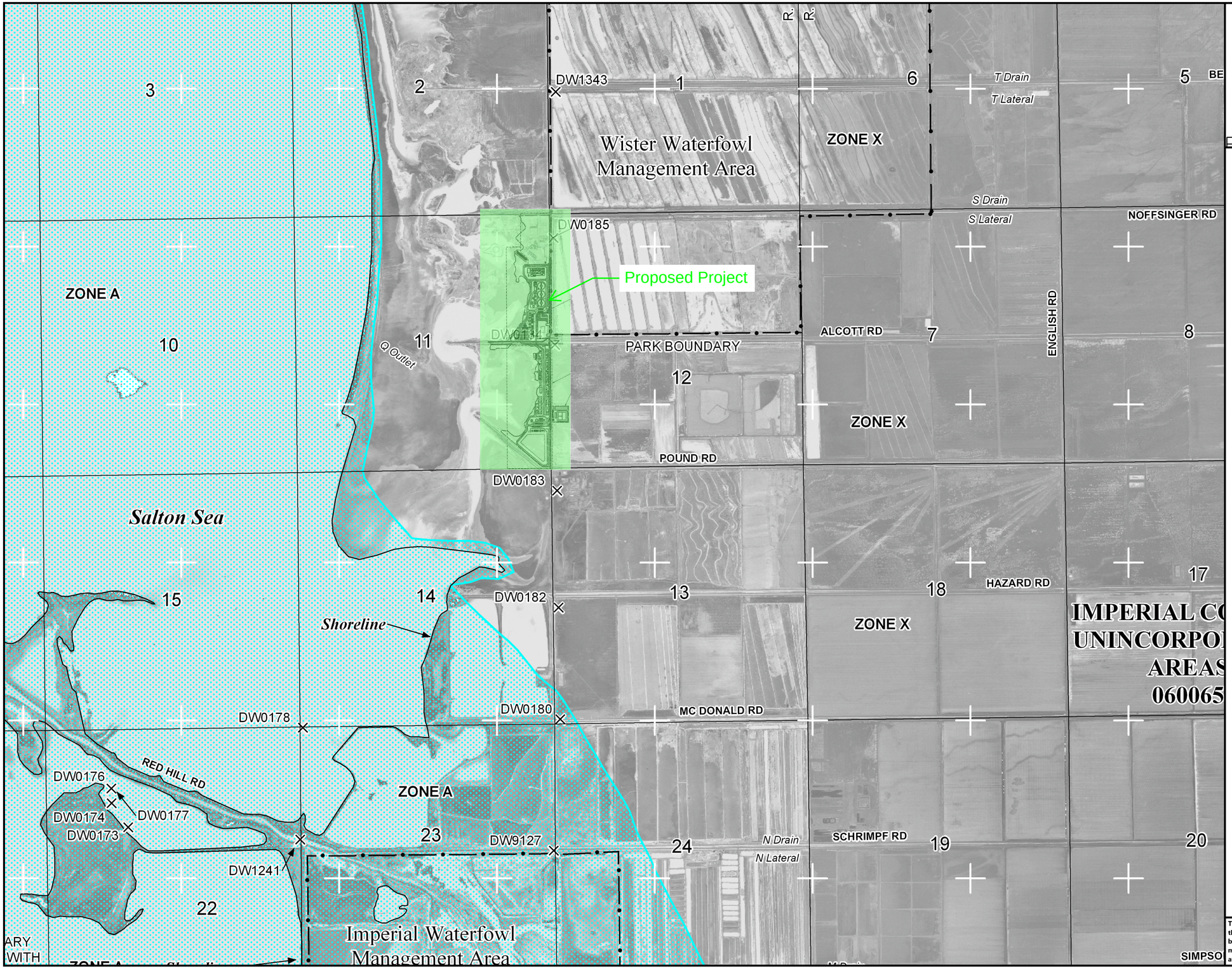
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Appendix G

FEMA DFIRM Panel #06025C0725C



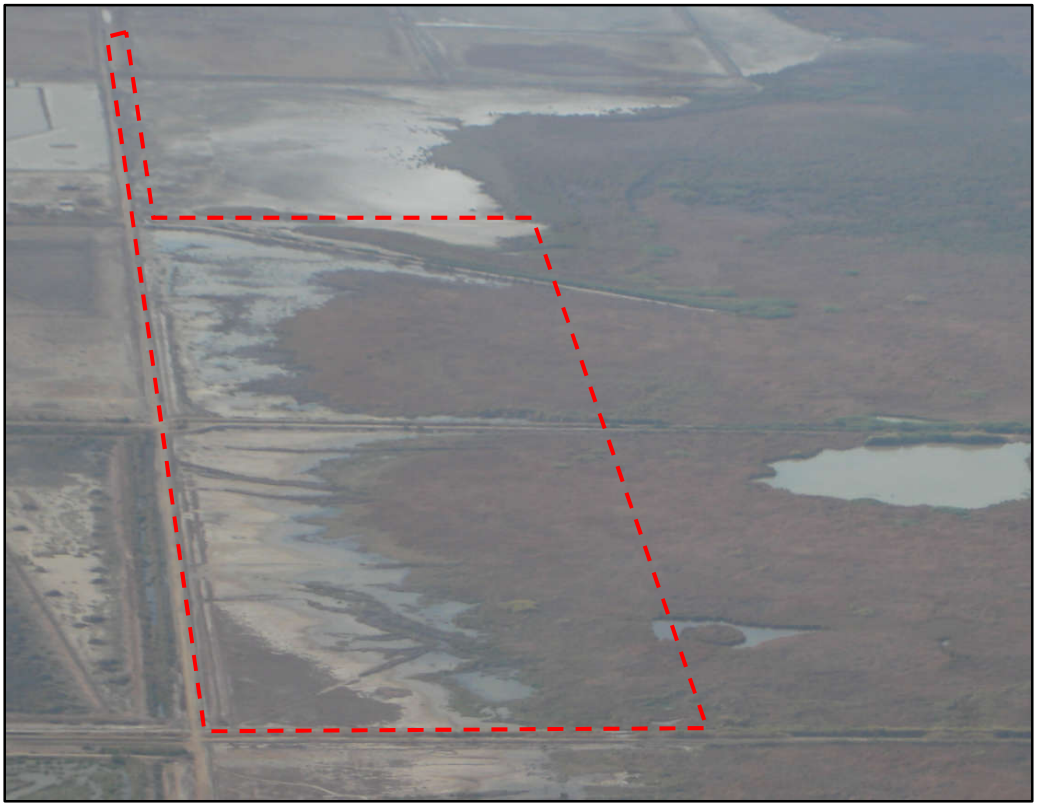
This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Phase I ESA Report

Proposed CTR Development Area
NWC Davis Road and Alcott Road
Calipatria, California

Prepared for:

Panorama Environmental, Inc.
717 Market Street, Suite 650
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Prepared by:

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August 2021

GSL Lyon

Engineering And
Information Technology

August 20, 2021
(Revised October 26, 2022)

Ms. Susanne Heim
Panorama Environmental, Inc.
717 Market Street, Suite 650
San Francisco, CA 94103

Phase I Environmental Site Assessment Report
CTR Development Area
NWC & SWC Davis Road and Alcott Road
Calipatria, California
GSL Report No. GS2116

Dear Ms. Heim

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located along the west side of Davis Road between Pound and Noffsinger Roads approximately 6 miles northwest of Calipatria, California. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. **This assessment has revealed the following recognized environmental conditions (REC's) in connection with the property:**

There is potential for evaporite deposits located around the abandoned carbon dioxide wells and active mud pots containing potential hazardous substances. The chemical characteristics of the deposits are unknown.

Former exploratory geothermal Imperial 1-13 well site is located east of the overhead electrical transmission line (gen-tie) route within the parcel, which is within the subject property. Geothermal fluids resulting from drilling operations in the area are known to contain hazardous metals. The well has been plugged and abandoned; however, the site may contain residual wastes at the well location or at the test well containment basin that has since been backfilled.

Former State 2-14 geothermal testing facility located along the east side of Davis Road is within the gen-tie route. Residual pieces of scrap metal and pond liner have been found on

complete; therefore, the site may contain residual wastes at the test facility location (Reference EMA 2010).

Two active geothermal wells pads (HR1 Production Pad #1 and #2) with a total of three wells (13-1, 13-2, 13-3) are present at the south end of the gen-tie route. The drilling operations generate hazardous brine; therefore, these areas may contain residual wastes at the active well locations.

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR §312 and we have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Attached is our report which describes the procedures used and results of the assessment. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 337-1100. We appreciate the opportunity to provide our professional review for this subject property.

Respectfully Submitted,
GS Lyon Consultants, Inc.

Jeffrey O. Lyon, PE
Principal Engineer

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TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Purpose 1
1.2 Scope of Services 1
1.3 Limitations 2
1.4 Deviations or Data Gaps 2
1.4.1 Data Failures 3
1.4.2 Data Gaps 3
1.5 Significant Assumptions 4
1.6 User Reliance 4
2.0 SITE DESCRIPTION 5
2.1 Site Location and Legal Description 5
2.2 Current Property Use and Description 5
2.3 Adjoining Property Use 5
2.4 Physical Site Characteristics 6
3.0 USER PROVIDED INFORMATION 8
3.1 Title Records 8
3.2 Environmental Liens or Activity and Use Limitations 8
3.3 Specialized Knowledge 9
3.4 Commonly Known or Reasonable Ascertainable Information 9
3.5 Valuation Reduction for Environmental Issues 9
3.6 Owner, Property Manager, and Occupant Information 9
3.7 Previous Reports and Other Provided Documentation 9
4.0 RECORDS REVIEW 11
4.1 Regulatory Database Review 11
4.1.1 Standard Environmental Record Sources 11
4.1.2 Additional Environmental Record Sources 14
4.2 Historical Use Records 16
4.2.1 Title Records 17
4.2.2 Sanborn Fire Insurance Maps 17
4.2.3 Aerial Photographs 17
4.2.4 Street Directories 17
4.2.5 Historic Topographic Maps 18
4.2.6 Historical Telephone Directories 18
4.3 Historical Use Summary 18
4.3.1 Summary of the Historical Use of Property 18
4.3.2 Summary of the Historical Use of Adjacent Properties 18
5.0 SITE RECONNAISSANCE 20
5.1 Methodology and Limiting Conditions 20
5.2 General Site Setting 20
5.3 Adjacent Properties 21
5.4 Exterior and Interior Observations 21
5.4.1 Hazardous Substances and Petroleum Products 21
5.4.2 Storage Tanks 21
5.4.3 Odors 22

5.4.4 Pools of Liquid 22
5.4.5 Drums and Containers 22
5.4.6 Unidentified Substance Containers 22
5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment 22
5.5 Interior Observations 22
5.5.1 Heating/Cooling 22
5.4.2 Stains or Corrosion 22
5.4.3 Drains and Sumps 22
5.6 Exterior Observations 22
5.6.1 Pits, Ponds, and Lagoons 22
5.6.2 Stained Soils or Pavement 22
5.6.3 Stressed Vegetation 23
5.6.4 Solid Waste 23
5.6.5 Wastewater 23
5.6.6 Wells 23
5.6.7 Septic Systems 23
5.7 Non-Scope Issues 23
5.7.1 Asbestos-Containing Building Materials 23
5.7.2 Lead-Based Paint 23
5.7.3 Radon 24
5.7.4 Wetlands 24
5.7.5 Agricultural Use 24
6.0 INTERVIEWS 25
6.1 Interview with COO of CTR 25
6.2 Interview with the Site Manager 25
6.3 Interview with Occupants 25
6.4 Interview with Local Government Officials 25
6.5 Interview with Others 25
7.0 EVALUATION 26
7.1 Summary of Findings 26
7.2 Conclusions 26
7.2.1 Recognized Environmental Conditions 26
7.2.2 Historical Recognized Environmental Conditions 27
7.2.3 Environmental Concerns and De Minimis Conditions 27
7.3 Recommendations 28
7.4 Potential Mitigation Measures 28
8.0 REFERENCES 29

APPENDICES

Appendix A: Site Photographs
Appendix B: Vicinity, Site, and Soils Maps
Appendix C: Historical Aerial Photographs
Appendix D: Historical Topographic Maps
Appendix E: EDR Sanborn Fire Insurance Maps
Appendix F: EDR Environmental Records Search Report
Appendix G: Other Environmental Records Search Results
Appendix H: EDR Street Directories
Appendix I: User Questionnaire
Appendix J: Resumes of Environmental Professionals

1.0 INTRODUCTION

1.1 Purpose

GS Lyon Consultants, Inc. was retained by Panorama Environmental, Inc. to conduct a Phase I Environmental Site Assessment (ESA) for the Property (herein referred to as the subject property or subject property in this Phase I ESA Report) as a prerequisite to property transaction (purchase, sale, refinance, etc.). The subject property is located along the west side of Davis Road between Pound and Noffsinger Roads approximately 6 miles northwest of Calipatria, California. A Gen-Tie power transmission line is proposed along the east side of Davis Road from the subject property south to the substation on McDonald Road. (See Plate 1 in Appendix B for a Vicinity Map of the subject property.)

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions (RECs) associated with past and present activities on the subject property or in the immediate subject property vicinity in general conformance to ASTM Standard E1527-13 "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*" that may affect future uses of the subject property.

This report is intended to satisfy the Phase I ESA portion of "*all appropriate inquiry*" into the previous ownership and uses of the subject property as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Title 42 of the United States Code (U.S.C.) §9601(35)(B) and in accordance with 40 Code of Federal Regulations (CFR) Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule (AAI Rule).

1.2 Scope of Services

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E1527-13. This assessment included:

- Reconnaissance of the subject property and adjacent properties
- Review user-provided information
- Interviews with persons with significant knowledge of the subject property
- Review of a regulatory database report provided by a third-party vendor
- Review readily-available historical sources (including but not limited to: aerial photographs, fire insurance maps, property tax files, recorded land title records, and topographical maps)
- Prepare report of findings

1.3 Limitations

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard E1527-13 is intended to reduce, but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While GS Lyon has made reasonable effort to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. Our assessment of the subject property and surrounding areas was conducted in accordance with ASTM guidelines and the *generally accepted environmental engineering standard of practice* which existed in Imperial County, California at the time that the report was prepared. No warranty, express or implied, is made.

GS Lyon Consultants, Inc. derived the data in this report primarily from visual inspections, examination of public records and information in the public domain, informal interviews with individuals, and readily available information about the subject property. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration of the subject property, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in this report.

The findings, observations, and conclusions expressed by GS Lyon Consultants in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the subject property with any federal, state or local law or regulation.

This report should not be relied upon after **180 days** from the date of issuance, unless additional services are performed as defined in ASTM E1527-13 - Section 4.7.

1.4 Deviations or Data Gaps

ASTM Standard E1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the subject property or adjacent properties.

Through the course of this assessment, *data failures* or *data gaps* may have been encountered. These failures or gaps, if any, are discussed below. The following provides the opinion of the Environmental Professional as to the significance of the data gaps in terms of defining *recognized environmental conditions* at the subject property. Data failures may or may not be significant data gaps, and the discussion also provides information pertaining to whether the data failures resulted in significant data gaps.

1.4.1 Data Failures

Data failure is a failure to achieve the historical (property use) research objectives specified in the ASTM Standard Practice even after reviewing the eight standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

No *data failures w*ere encountered during this investigation.

1.4.2 Data Gaps

A *data gap* is a lack of or inability to obtain information required by the ASTM Standard Practice, despite good faith efforts by the Environmental Professional (EP) to gather such information. This could include any component of the Practice, e.g., standard environmental records, interviews, or a complete reconnaissance. A data gap by itself is not inherently significant, but if other information and/or the EP's experience raises reasonable concerns about the gap, it may be judged to be significant.

Due to the location of the subject property, Sanborn Fire Insurance maps were not available for the subject property. Because there is no historical data or physical indications that the property has ever been developed or occupied by a business that would have produced hazardous materials, the lack of Sanborn Fire Insurance maps is not considered a significant data gap.

Aerial photographs and other historical records were not available at 5 year intervals as required under the ASTM E1527-13 standard. This resulted in a data gap for years that records were not available regarding the area of the subject property. However, based upon other historical information reviewed and general lack of significant changes in the appearance of the subject property in the years data is available, most of the subject property has been vacant desert from the 1930's until the 1970's when the Salton Sea shoreline rose to within the subject property (other than a 10 acre warm water "spa" and dry ice plant that was located at the north end of the gen-tie route from the 1930's to 1940's). Carbon dioxide wells were made on the subject property and exploratory geothermal wells were made along the gen-tie route in the late 1970's and 1980's. A map of the former well sites is depicted on Plate 2d, Former Well Sites. The data gap is not considered to be significant.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 3.0), this data gap is not expected to alter the findings of this assessment.

GS Lyon requested information relative to deed restrictions and environmental liens, a title search, and completion of a pre-survey questionnaire from the Report User. This information was not provided at the time of the assessment. This represents a data gap.

1.5 Significant Assumptions

In preparing this report, GS Lyon Consultants, Inc. has relied upon and presumed accurate certain information (or the absence thereof) about the subject property and adjacent properties by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, GS Lyon Consultants has not attempted to verify the accuracy or completeness of any such information.

1.6 User Reliance

This report has been prepared on behalf of and for the exclusive use of Panorama Environmental, Inc. for the particular subject property identified in this report, and is subject to and issued in connection with the referenced Agreement and the provisions thereof. This report should not be relied upon by any party other than the client, its legal counsel, and financial institution without the express permission of GS Lyon Consultants, Inc. Any reliance on this report by other parties shall be at such party's sole risk. Any future consultation or provision of services to third parties related to the subject property requires written authorization from Panorama Environmental, Inc. or their representatives. Any such services may be provided at GS Lyon Consultants sole discretion and under terms and conditions acceptable to GS Lyon Consultants, including potential additional compensation.

2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The subject property is located along the west side of Davis Road between Pound and Noffsinger Roads (APN 020-010-012 and 020-010-013) approximately 6 miles northwest of Calipatria, California. The subject property location is depicted on Plate 2, Site Map. A Gen-Tie power line is proposed along the east side of Davis Road from the subject property south to the substation on McDonald Road.

2.2 Current Property Use and Description

The subject property, approximately 640 acres total, currently consists of vacant land with the Hells Kitchen geothermal well pad located on the eastern boundary of the subject property at the northwest corner of Davis and Alcott Road. The vacant land consists of dried Salton Sea shoreline and smaller inland freshwater ponds/wetlands that flow in and out of the Salton Sea, depending on water levels. Agricultural tailwater runoff supply the majority of the water to the ponds/wetlands.

Gen-Tie Route: The Gen-Tie route transits three parcels along the east side of Davis Road and north side of McDonald Road. An old abandoned CO_2 dry ice plantsite is located on 10 acres at the southeast corner of Pound and Davis Roads (north end of the Gen-Tie route). Abandoned carbon dioxide wells are located along the route with duck ponds (shallow water ponds for duck hunting clubs) located on the eastern portion of the parcels. Two active geothermal well pads are located within the Gen-Tie route and depicted on Plate 2, Site Map – Subject Property.

2.3 Adjoining Property Use

The subject property is located within the edge of the Salton Sea shoreline (wetlands) and an agricultural area with a geothermal development overlay northwest of Calipatria, California. Adjacent properties consist of vacant land and abandoned dry duck hunting ponds to the east, active water-filled duck hunting ponds, wetlands and geothermal wells to the northeast and southeast, and vacant land adjacent to the Salton Sea to the west, north and south. Several carbon dioxide (CO_2) gas driven mud volcanoes, active for over 100 years, are located on vacant parcels south, southeast, and northwest of the subject property.

The subject property is located adjacent to the Salton Sea (current shoreline approximately ½-mile west), an inland saltwater lake with no outlet. Agricultural tailwater runoff and periodic storm water runoff supply the majority of the water in the lake. Industrial and wastewater plant outfalls from Mexicali, Baja California also flow to the Salton Sea via the New River.

2.4 Physical Site Characteristics

Topography: Topographic maps (USGS 7.5 minute Niland, CA Quadrangle) indicate that the subject property elevation is approximately 225 feet below mean sea level (MSL) or Elevation 775 (local datum). The Imperial Irrigation District, which supplies power and raw (irrigation) water to the area, established local datum by equating mean sea level to El. 1000.00 feet. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea.

Geologic Setting: The subject property is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and the southwest by faults of the San Jacinto Fault Zone. The Salton Trough represents northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity. The subject site is in the general extended alignment of the San Andreas Fault which submerges south of Bombay Beach.

The subject property is directly underlain by Holocene (0-11,000 years before present) Cahuilla Lake sediments, which consist of interbedded lenticular and tabular sand, silt, and clay. The predominant surface soil is silty clay. The Holocene lake deposits are considered to be less than 100 feet thick and are characterized by surficial clay and silt deposits with varying amounts of fine sand. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea.

Soil Conditions: The U. S. Soil Conservation Service compiled a map of surface soil conditions and published a soil survey report including maps in 1980. The soil survey maps indicate that surficial deposits at the subject property and surrounding area consist predominantly of silty clay and silty clay loams of the Imperial soil group (see Appendix B). These loams are formed in sediment and alluvium of mixed origin (Colorado River overflows and fresh-water lake-bed sediments). Based on Unified Soil Classification System presented in the Soils Survey Report, the permeability of these soils is expected to be low to very low.

Groundwater Conditions: The groundwater in the vicinity of the subject property is brackish and is encountered at a depth of 8 to 12 feet below the ground surface. Standing surface water is present across most of the subject property. Depth to groundwater may fluctuate due to localized geologic conditions, precipitation, irrigation, drainage and construction practices in the region. Based on the regional topography, groundwater flow is assumed to be generally towards the west within the subject property area. Flow directions may also vary locally in the vicinity of the subject property.

3.0 USER PROVIDED INFORMATION

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user was asked to provide information or knowledge of the following:

- Environmental cleanup liens that are filed or recorded against the subject property.
- Activity and land use limitations that are in place on the subject property or that have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the LLPs.
- Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
- Commonly known or *reasonably ascertainable* information about the *property*.
- The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
- The reason for preparation of this Phase I ESA.

A user questionnaire was provided to the user to aid in gathering information that may be pertinent to the evaluation of the subject property for environmental conditions. The completed user questionnaire is provided in Appendix I.

3.1 Title Records

GS Lyon was not provided with title records for review as part of this assessment.

3.2 Environmental Liens or Activity and Use Limitations

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. According to the User Questionnaire, Mr. Jim Turner of Controlled Thermal Resources is not aware of any Environmental Liens or Activity and Use Limitations associated with the subject property that have been filed or recorded under federal, tribal, state or local law (Appendix I).

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut to conduct a search of environmental liens for the subject property. According to the EDR environmental lien report, there are no environmental liens associated with the subject property. The EDR environmental lien report is included in Appendix I.

3.3 Specialized Knowledge

According to the User Questionnaire, Mr. Jim Turner of Controlled Thermal Resources is not aware of any specialized knowledge or experience associated with the subject property or nearby properties.

3.4 Commonly Known or Reasonable Ascertainable Information

No information was provided by the Client regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property.

3.5 Valuation Reduction for Environmental Issues

The client indicated that the purchase price of this property reasonably reflects the fair market value of the property with no discounts for environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The current owner of the subject property parcels are:

APN 020-010-012	Imperial Irrigation District	560 acres
APN 020-010-013	Imperial Irrigation District	80 acres

Gen-Tie parcels:

APN 020-010-031	Gina A Borgia
APN 020-010-032	Magma Power Company
APN 020-010-035	Magma Power Company
APN 020-100-044	Hudson Ranch Power I LLC

The subject property is currently undeveloped land. No property manager or occupant information is available.

3.7 Previous Reports and Other Provided Documentation

No previous reports or other pertinent documentation was provided to GS Lyon for review during the course of this assessment other than:

GS Lyon prepared a Phase I ESA report for the approximately 65 acre Hudson Ranch geothermal power plant facility in August 2019 (GSL Report No. GS1910, dated August 7, 2019). GS Lyon reviewed that report as part of this site assessment.

Mr. Jurg Heuberger, Senior Vice President of Hudson Ranch Power 1, LLC, provided a copy for our review of a Phase I Environmental Site Assessment Update for the Hudson Ranch I Geothermal Property Area, prepared by Environmental Management Associates

(EMA) of Brea, California in February 2010 (EMA Report No. 1988-05, dated February 2010).

GS Lyon prepared a Phase I ESA report for Hudson Ranch 1 geothermal power plant area in December 2019 (GSL Report No. GS1921, dated December 2, 2019). GS Lyon reviewed that report as part of this site assessment.

GS Lyon has conducted previous Phase 1 ESA report for Hudson Ranch Area 2 in November 2019 (GSL Report No. GS1922, dated November 4, 2019). GS Lyon reviewed that report as part of this assessment.

4.0 RECORDS REVIEW

A review of historic aerial photographs (Appendix C), historic topographic maps (Appendix D), historic Sanborn Fire Insurance maps (Appendix E), governmental regulatory databases (Appendix F), other regulatory and agency databases (Appendix G), and historic telephone and city directories (Appendix H) was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the subject property. The details of the review are presented in Sections 4.1 through 4.5 of this report.

4.1 Regulatory Database Review

4.1.1 Standard Environmental Record Sources

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of Federal, State and Tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of ASTM E1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the ASTM E1527-13 Standard. The purpose of the records review is to obtain and review *reasonably ascertainable* records that will help identify *recognized environmental conditions* or *historical recognized environmental conditions* in connection with the subject property.

EDR‘s Phase I ESA search packages were ordered and performed on July 2, 2021. The search package included: Radius Map with Geocheck, aerial photographs, historic topographic maps, Sanborn maps and city directory information.

The results of EDR’s search were used to evaluate if the subject property and/or properties within prescribed search distances are listed as having a past or present record of actual or potential environmental impact. Inclusion of a property in a government database list does not necessarily indicate that the property has an environmental problem.

The following is a brief synopsis of sites identified in the EDR Radius Map with Geocheck report. The government record search report is included in its entirety in Appendix F.

Federal NPL List

The Environmental Protection Agency’s (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-

term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

Federal CERCLIS List

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to determine if risks sites within ½ mile are listed for investigation. The CERCLIS database identifies hazardous waste sites that are on or proposed to be included in the NPL and sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.

The CERCLIS database search did not identify any risk sites within 0.5 mile of the subject property.

Federal CERCLIS – No Further Remedial Action Planned

The EPA's CERCLIS – No Further Remedial Action Planned (NFRAP) database was reviewed to determine if risks sites within ½ mile are listed. CERCLIS NFRAP site are risk sites that have been removed from and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at the subject property has been completed and the EPA has determined that no further steps will be taken to list this subject property on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

This designation is for sites where no contamination was found, contamination was quickly removed without the need for the subject property to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

The CERCLIS – NFRAP database search did not identify any risk sites within ½mile of the subject property.

Federal RCRA List

The Federal Resource Conservation Recovery Act (RCRA) Notifiers List was reviewed to determine if RCRA treatment, storage or disposal sites (TSD) are located within 1 mile of the subject property. The RCRA Correction Action Sites List (CORRACTS) is maintained for risk sites which are undergoing "a corrective action". A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from

a RCRA facility.

The RCRA and RCRA CORRACTS database searches did not identify any RCRA TSD or RCRA CORRACTS risk sites within ½ mile of the subject property.

The RCRA regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjoining the subject property. No RCRA generator facilities within ¼ mile of the subject property were identified in the database.

Federal ERNS List

The Federal Emergency Response Notification System (ERNS) List was reviewed to determine if reported release of oil and/or hazardous substances occurred on the subject property.

The ERNS database searches did not identify any reported releases for the subject property.

State and Tribal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

State and Tribal Leaking Underground Storage Tank Sites

The California State Water Resources Control Board (SWRCB) maintains a list of information concerning reported leaking underground storage tanks (LUST). The LUST inventory list was reviewed to determine if any LUSTs are located within ½ mile the subject property.

The SWRCB LUST database did not identify any risk sites within ½ mile of the subject property.

State and Tribal Underground and Aboveground Storage Tank Sites

The California State Water Resource Control Board (SWRCB) underground storage tank (UST) and above ground storage tank (AST) inventory list was reviewed to determine if any UAST's are located on or adjacent to the subject property.

The SWRCB UST and AST databases did not identify any risk sites within ¼ mile of the subject property.

Solid Waste Disposal/Landfill Facilities

The Solid Waste Disposal/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list database did not identify any risk sites within ½ mile of the subject property.

Unmapped (Orphan) Sites

Not all sites or facilities identified in the database records can be accurately located in relation to the Subject Property due to incomplete information being supplied to the regulatory agencies and are referred to as "orphan sites" by EDR.

The "Orphan Summary" section of the EDR Radius Map Report identified several orphan sites. Based on a drive-by reconnaissance of the Subject Property vicinity and review of location and status information provided in the database report, none of the identified orphan sites are located within the search radii for databases specified by the Standard.

No unmapped (orphan) listings were reported.

4.1.2 Additional Environmental Record Sources

California Department of Toxic Substances Control (DTSC) Records – Envirostor Database: EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. Public Access to EnviroStor is accessible via the DTSC Web Page located at: http://www.envirostor.dtsc.ca.gov/public/. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. The information includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, planned and completed activities. The EnviroStor database also contains current and historical information relating to Permitted and Corrective Action facilities. The EnviroStor database includes current and historical information on the following permit-related documents: facility permits; permit renewal applications; permit modifications to an existing permit; closure of hazardous waste management units (HWMUs) or entire

facilities; facility corrective action (investigation and/or cleanup); and/or post-closure permits or other required post-closure activities.

The EnviroStor database was queried on July 2, 2021. A map showing the results of the query is provided in Appendix G. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

California State Water Resources Control Board Records – GeoTracker Database: GeoTracker is a geographic information system (GIS) maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at http://www.geotracker.swrcb.ca.gov\. GeoTracker tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Site information from the Spills, Leaks, Investigations, and Cleanups (SLIC) Program is also included in GeoTracker.

The GeoTracker database was queried for environmental data pertaining to the Subject property on July 2, 2021. A map showing the results of the query is provided in Appendix G. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

CalEPA Records Search: CalEPA Regulated Site Portal is a website that combines data about environmentally regulated sites and facilities in California into a single, searchable database and interactive map. The portal was created to provide a more holistic view of regulated activities statewide. By combining data from a variety of state and federal databases, the portal provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials. The portal combines information from the following databases: Cal/OSHA, California Environmental Reporting System (CERS), California Integrated Water Quality System (CIWQS), US EPA's Air Emission Inventory System (EIS), Envirostor, Geotracker, Stormwater Multiple Application and Report Tracking System (SMARTS), Solid Waste Information System (SWIS), and Toxics Release Inventory (TRI).

The CalEPA database was queried for environmental data pertaining to the subject property on July 2, 2021. One (1) risk site is listed for the subject property. Hells Kitchen Exploratory Well1 for a Storm Water Application and Report Tracking System. Two (2) risk sites are listed for Hudson Ranch 1 the site where the Gen-Tie line ends. A map

showing the results of the query and the CalEPA information for these two risk sites are provided in Appendix G.

CUPA Records Search: The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPA).

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on July 16, 2021. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

4.2 Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the property's first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the property. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps, property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs. Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

GS Lyon reviewed the following historical records to identify obvious uses of the subject property from the present back to the property's first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

4.2.1 Title Records

GS Lyon was not provided with title records for review as part of this assessment.

4.2.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the subject property and vicinity for the years the Sanborn Fire Insurance Maps were available for this subject property, no maps are available for the subject property. An "Unmapped Property" letter for the Sanborn Fire Insurance Maps is included in Appendix E.

4.2.3 Aerial Photographs

Aerial photographs obtained from Environmental Data Resources (EDR) dating back to 1937 were reviewed for historical development of the subject property. Reproductions of the historical aerial photographs reviewed are included in Appendix C.

The 1937 and 1949 aerial photographs show the subject site as being vacant land with natural washes and IID earthen canal laterals and field roads at boundaries and across the middle of the site. There is an approximately 9 acre abandoned warm water "spa" and dry ice plant located adjacent to the southeast corner of the site (north end of Gen-tie route).

The 1976, 1984, 1992, 1996, 2002, 2006, 2009, 2012 and 2016 aerial photographs are all similar with the Salton Sea shoreline moving in and out within the subject property creating wetlands and inland ponds during years that the shoreline receded. Adjacent properties to the east were also agricultural fields until 1984 when some fields were converted to shallow freshwater ponds for duck hunting clubs. Old carbon dioxide wells are visible in these photographs. The wells have been abandoned and are visible currently as mud pots, pools, and dried "craters".

4.2.4 Street Directories

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut to conduct a search of historic city directories for the subject property (Appendix H). City directories are used for locating individuals and businesses in a particular urban or suburban area. City directories are generally divided into three sections:

a business index, a list of resident names and addresses, the name and type of businesses (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural and small towns.

EDR Digital Archives: The EDR Digital Archives City Directories for the years 1988, 1992, 1995, 2000, 2005, 2010, 2014 and 2017 were reviewed.

Polk City Directories: The Polk City Directories for the years 1959, 1963, 1967, 1972, 1977, 1982, and 1987 were reviewed.

4.2.5 Historic Topographic Maps

Historic topographic maps (1945) USGS 15 Min. Calipatria, CA Quadrangle and the 1943, 1944, 1947, 1956, 1976, 1995, and 2012 USGS 7.5 Min. Niland, CA Quadrangle, showed the subject property being vacant and undeveloped (Appendix D) other than the carbon dioxide wells located at the north and southeast portions of the subject site.

4.2.6 Historical Telephone Directories

Telephone Directories: Telephone directories for the Imperial County, which included the County of Imperial businesses published in 1941, 1955, 1965, 1974, 1994, and 2004 were reviewed. No service stations, chemical manufacturers, petroleum manufacturers, distributors, or automotive repair facilities were noted at or in the immediate vicinity of the subject property.

4.3 Historical Use Summary

4.3.1 Summary of the Historical Use of Property

Based on a review of the historical information, the northern portion of the subject property had carbon dioxide wells as early as 1943. The subject property was relatively vacant desert land until the Salton Sea shoreline rose within the subject property in the 1970's. Carbon dioxide wells and the former Imperial 1-13 well site have also been drilled in the north portion of the Gen-Tie property. The wells have been abandoned and are currently present as mud pots, pools, and dried "craters". A 10 acre abandoned warm water "spa" and dry ice plant was located at the southeast corner of Davis Road and Pound Road from in the 1930's and 1940's. The former State 2-14 Test Facility was located along the east side of Davis Road within the southern portion of the Gen-tie route.

4.3.2 Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject property have been comprised of agricultural fields and duck hunting ponds with the Salton Sea to the west.

A 10 acre abandoned warm water "spa" and dry ice plant is located adjacent to the southeast corner of the subject property (north end of the Gen-tie route). Old abandoned carbon dioxide wells, currently seen as mud pots, pools, and dried "craters", are located to the north, south and east of the subject property.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

A site reconnaissance was performed by Mr. Pete LaBrucherie, a consulting engineer to GS Lyon Consultants, on July 21, 2021. The site visit consisted of a walking the perimeter of the subject property and randomly crossing the subject property. The reconnaissance included visual observations of surficial conditions at the subject property and observation of adjoining properties to the extent that they were visible from public areas. Mr. LaBrucherie was unaccompanied during the site reconnaissance.

The site reconnaissance was limited to visual and/or physical observation of the exterior and interior of the subject property and its improvements, the current uses of the property and adjoining properties, and the current condition of the property. The site visit evaluated the subject property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

A site reconnaissance can be limited by weather conditions, bodies of water, adjacent buildings, or other obstacles. The weather was warm and sunny and no access limitations were placed on the site visit other than the water surface conditions and thick vegetation within the west half of the subject property.

5.2 General Site Setting

The subject property, approximately 640 acres total, currently consists of vacant land with the Hells Kitchen geothermal well pad located on the eastern boundary of the subject property at the northwest corner of Davis and Alcott Road. The vacant land consists of dried Salton Sea shoreline and smaller inland freshwater ponds/wetlands that flow in and out of the Salton Sea, depending on water levels. Agricultural tailwater runoff supplies the majority of the water in the ponds/wetlands.

Gen-Tie Route: The Gen-Tie route transits three parcels along the east side of Davis Road and north side of McDonald Road. An old abandoned CO_2 dry ice plantsite is located on 10 acres at the southeast corner of Pound and Davis Roads (north end of the Gen-Tie route).

Abandoned carbon dioxide wells are along the route with duck ponds (shallow ponds for duck hunting clubs) located on the eastern portion of the parcels. Two active geothermal well pads are located within the Gen-Tie route and depicted on Plate 2, Site Map – Subject Property.

Photographs of the subject property taken on July 21, 2021 during the site reconnaissance are included in Appendix A.

5.3 Adjacent Properties

The subject property is located within the edge of the Salton Sea shoreline (wetlands) and an agricultural area with a geothermal development overlay northwest of Calipatria, California. Adjacent properties consist of vacant land and abandoned dry duck hunting ponds to the east, active water-filled duck hunting ponds, wetlands and geothermal wells to the northeast and southeast, and vacant land adjacent to the Salton Sea to the west, north and south. Several carbon dioxide (CO_2) gas driven mud volcanoes, active for over 100 years, are located on vacant parcels south, southeast, and northwest of the subject property.

The subject property is located adjacent to the Salton Sea (current shoreline approximately ½-mile west), an inland saltwater lake with no outlet. Agricultural tailwater runoff and periodic storm water runoff supply the majority of the water in the lake. Industrial and wastewater plant outfalls from Mexicali, Baja California also flow to the Salton Sea via the New River.

5.4 Exterior and Interior Observations

The following conditions were specifically assessed for their potential to indicate RECs and may include conditions inside or outside structures on the subject property.

5.4.1 Hazardous Substances and Petroleum Products

GS Lyon did not observe operations that use, treat, store, dispose of, or generate hazardous materials or petroleum products on the subject property.

5.4.2 Storage Tanks

Underground Storage Tanks (USTs) – No obvious visual evidence indicating the current presence of USTs (i.e. vent pipes, fill ports, etc.) was noted.

Aboveground Storage Tanks (ASTs) – No obvious visual evidence indicating the historical presence of ASTs (i.e. secondary containments, concrete saddles, etc.) was observed.

5.4.3 Odors

No obvious strong, pungent, or noxious odors were noted during the site reconnaissance.

5.4.4 Pools of Liquid

The only pool of liquid observed during the site reconnaissance were the wetlands/ponds and mudpots.

5.4.5 Drums and Containers

GS Lyon did not observe drums or storage containers on the subject property.

5.4.6 Unidentified Substance Containers

GS Lyon did not observe open or damaged containers containing unidentified substances at the subject property.

5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed during the site reconnaissance on the subject property or immediate vicinity.

5.5 Interior Observations

The subject property is currently vacant with no structures.

5.5.1 Heating/Cooling

No heating and cooling units are present on the subject property.

5.4.2 Stains or Corrosion

Stains and/or corrosion were not observed on floors, walls, or ceiling of the subject property structures.

5.4.3 Drains and Sumps

No drains or sumps were noted on the subject property.

5.6 Exterior Observations

5.6.1 Pits, Ponds, and Lagoons

The subject property made up of wetlands and ponds, the southeast corner of the subject property has an active mud pot.

5.6.2 Stained Soils or Pavement

No evidence of significantly stained soil or pavement was noted on the subject property.

5.6.3 Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the subject property other than areas that had salt crust along the old Salton Sea shoreline along the east side of the Subject Property.

5.6.4 Solid Waste

No dumpsters or solid waste containers exist on the subject property.

There were small quantities of shoreline debris along the west side of Davis Road within the north side of the Subject Property.

5.6.5 Wastewater

The is no wastewater on the subject property other than stormwater that flows into the wetlands/ponds on west side of the parcels.

5.6.6 Wells

No evidence of wells (dry wells, drinking water, observation wells, groundwater monitoring wells, irrigation wells) was noted on the subject property. Abandoned carbon dioxide wells and geothermal exploratory wells were noted on the subject property and gen-tie route.

5.6.7 Septic Systems

Septic systems may be present on the subject property (gen-tie route) at the old dry-ice facility.

5.7 Non-Scope Issues

ASTM guidelines identify non-scope issues, which are beyond the scope of a Phase I ESA as defined by ASTM. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment. Some of these non-scope issues include; asbestos-containing building materials, radon, lead-based paint, and wetlands which are discussed below.

5.7.1 Asbestos-Containing Building Materials

There is a potential for asbestos containing materials (ACM) existing at the north 10 acre parcel of the gen-tie route where the abandoned dry ice facility and warm water spa due to the age of the building.

5.7.2 Lead-Based Paint

There is protentional for lead based paint at the north end of the gen-tie route where the abandoned warm water ‘spa’ and dry ice structures are located.

5.7.3 Radon

The subject property is located in Zone 3 as shown on the EPA Map of Radon Zones indicating a predicted average indoor radon screening level of less than 2 pCi/L; therefore, no further action is required. Radon gas is not believed to be a potential hazard at the subject property.

5.7.4 Wetlands

Wetlands are located within one (1) mile of the subject property and consist of duck habitat ponds (for recreational hunting) and the Salton Sea, a migratory birds flyway.

The subject site consists of Freshwater Emergent Wetland, Freshwater Pond, Lake and Freshwater Forested/Shrub Wetland when viewed on the National Wetlands Inventory website. The National Wetlands Inventory mapper was viewed for the Subject property on August 13, 2021. A map showing the wetlands is provided in Appendix G.

5.7.5 Agricultural Use

Based on our review of environmental records, historical documents, and subject property conditions, the property was never in agricultural use but contains agricultural tailwater runoff from the IID's drains that flow into the Salton Sea and the subject property. Residues of currently available pesticides and currently banned pesticides such as DDT/DDE may be present in near surface soils in limited concentrations. The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25% of the current regulatory threshold limits and, at those levels, are not considered a significant environmental hazard. The presence and concentration of near surface pesticides at this subject property can be accurately characterized only by site-specific sampling and testing.

6.0 INTERVIEWS

GS Lyon interviewed various individuals familiar with the subject property, as identified to us, and/or government officials in order to evaluate historical uses and identify potential RECs existing on the subject property. The individuals interviewed were asked to provide responses in good faith and to the best of their knowledge. The following sections identify the individuals interviewed and summarize the information each provided; however, additional information provided by these individuals may be presented in other sections of this report.

6.1 Interview with COO of CTR

Mr. Jim Turner, Chief Operations Officer of Controlled Thermal Resources, was interviewed by GS Lyon personnel on August 19, 2021. Mr. Turner indicated that he had no information pertaining to any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the subject property; any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property; or any notices from a governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.

6.2 Interview with the Site Manager

The subject property is vacant, undeveloped land; therefore, there is no site manager.

6.3 Interview with Occupants

The subject property is vacant, undeveloped land; therefore, there are no occupants.

6.4 Interview with Local Government Officials

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on July 16, 2021. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

6.5 Interview with Others

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap.

7.0 EVALUATION

7.1 Summary of Findings

The subject property is located along the west side of Davis Road between Pound and Noffsinger Roads (APN 020-010-012 and 020-010-013) approximately 6 miles northwest of Calipatria, California. A Gen-Tie power line is proposed along the east side of Davis Road from the subject property south to the substation on McDonald Road. Carbon dioxide wells have been located in the north and southeast portion of the subject property along with the 10 acre abandoned dry ice plant at southeast corner of Davis Road and Pound Road since the 1930's and 1940's. The wells have been abandoned and are currently present as mud pots, pools, and dried "craters". Multiple former geothermal exploratory wells have been drilled within the subject property gen-tie route since the early 1960's. The former exploratory wells have been plugged and abandoned but there are incomplete records describing cleanup of these former wells and their respective geothermal drilling fluid containment basins.

7.2 Conclusions

GS Lyon has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located along the east side of Davis Road between Pound and Noffsinger Roads approximately 6 miles northwest of Calipatria, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this Phase I ESA report.

7.2.1 Recognized Environmental Conditions

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions as defined in Section 7.2.3 of this report.

This Phase I ESA has revealed evidence of *recognized environmental conditions* in connection with the subject property:

There is potential for evaporite deposits located around the abandoned carbon dioxide wells and active mud pot containing potential hazardous substances. The chemical characteristics of the deposits is unknown.

Former exploratory geothermal Imperial 1-13 well site is located east of the gen-tie route within the parcel, which is within the subject property. Geothermal fluids resulting from drilling operations in the area are known to contain hazardous metals. The well has been plugged and abandoned; however, the site may contain residual wastes at the well location or at the test well containment basin that has since been backfilled.

Former State 2-14 geothermal testing facility located along the east side of Davis Road is within the gen-tie route. Residual pieces of scrap metal and pond liner have been found on the former site. The records for cleanup and backfill of the test facility and basins are not complete; therefore, the site may contain residual wastes at the test facility location (Reference EMA 2010).

Two active geothermal wells pads (HR1 Production Pad #1 and #2) with a total of three wells (13-1, 13-2, 13-3) are present at the south end of the gen-tie route. The drilling operations generate hazardous brine; therefore, these areas may contain residual wastes at the active well locations.

7.2.2 Historical Recognized Environmental Conditions

A *historical recognized environmental condition (HREC)* refers to a past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *property* to any required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*).

This Phase I ESA has revealed no evidence of *historical recognized environmental conditions* in connection with the subject property.

7.2.3 Environmental Concerns and De Minimis Conditions

A *de minimis condition* is a condition that generally does not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

This Phase I ESA has revealed *de minimis* conditions or environmental concerns in connection with the subject property.

- **The potential for asbestos and/or lead containing material existing at the gen-tie route is possible due to the age of the abandoned warm water "spa" and dry ice facility structures.**

7.3 Recommendations

Based on the scope of work performed for this assessment, it is our professional opinion that the REC's that have been identified are within the subject property and gen-tie route. The REC's found within the subject property area may require further site assessment if the area cannot be avoided by future development.

7.4 Potential Mitigation Measures

To avoid health risks to construction workers, the applicant shall require the contractor to prepare and implement a site health and safety plan if areas containing hazardous materials are to be disturbed. This plan will outline measures that will be employed to protect construction workers and the public from exposure to hazardous materials during construction activities.

For any gen-tie structures or other areas of project ground disturbance that are in close proximity to a REC, a Phase 2 Limited Soil Sampling (soil sampling) shall be conducted to determine if there are any hazardous materials present on-site. The soil sampling shall be conducted during final design and prior to construction. Soil sampling will determine the California Human Health Screening Levels (CHHSL) of the testing protocol (CAM 17 metals, a list of 17 metals found typically in hazardous materials and mining sites). The CHHSLs are a list of 54 hazardous chemicals in soil or soil gas that the California Environmental Protection Agency (Cal/EPA) considers to be below thresholds for risks to human health. The soil sampling results shall be reviewed by Imperial County Division of Environmental Health. If the soil sampling results are above the CHHSLs, then Imperial County Division of Environmental Health would refer the project to the DTSC for proper soil handling and removal procedures.

8.0 REFERENCES

40 CFR 312, Standards and Practices for All Appropriate Inquiries; Final Rule, November 2005 (AAI Rule).

American Society for Testing and Materials. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation E 1527-13. West Conshohocken, Pennsylvania. 35 pp.

California Environmental Protection Agency (CalEPA). 2021. CalEPA Regulated Site Portal, https://siteportal.calepa.ca.gov/nsite/map/help accessed via the Internet, July 2, 2021.

Department of Toxic Substances Control. 2021. EnviroStor Database Website, http://www.envirostor.dtsc.ca.gov/public/ accessed via the Internet, July 2, 2021.

Environmental Data Resources, Inc., *The EDR Radius Map with Geocheck*. Inquiry number 6563586.2s and 6563575.2s July 2, 2021

Environmental Data Resources, Inc., *The EDR-City Directory Abstract*. Inquiry number 6563586.5 and 6563575.5 July 9, 2021

Environmental Data Resources, Inc., *EDR Historical Topographic Map Report*. Inquiry number 6563586.4 and 6563575.4 July 2, 2021

Environmental Data Resources, Inc., *The EDR Aerial Photo Decade Package*. Inquiry number 6563575.8 and 6563586.8 July 6 and 7, 2021

Environmental Data Resources, Inc., *Sanborn Map Report*. Inquiry number 6563586.3 and 6563575.3 July 2, 2021

Environmental Management Associates, Inc. (EMA). 2010a. Phase 1 Environmental Site Assessment, Hudson Ranch 1 Geothermal Project. EMA Report No. 1988-05 dated February 2010.

Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Number 06025C0725C, dated September 26, 2008

State Water Resources Control Board. 2021. GeoTracker Database Website, http://geotracker.swrcb.ca.gov/ accessed via the Internet, July 2, 2021

United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the Internet, July 2, 2021

United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA-402-R-93-071), accessed via the Internet, July 2, 2021

APPENDIX A



Photo 1: Looking west from the southeast corner of the subject property.



Photo 2: Looking north form the south boundary of the subject property.



Photo 3: Looking east toward the southeast corner boundary of the subject property from the southern boundary.



Photo 4: Looking at a duck 'blind' located along the berm at the southern boundary of the subject property.



Photo 5: Looking at an active mud pot near the southeast corner of the subject property.



Photo 6: Looking north from the southeast corner of the subject property along the east boundary.



Photo 7: Looking northwest from Davis Road Across the subject property.



Photo 8: Looking west from Davis Road Across the subject property.



Photo 9: Looking at some debris at the southwest corner of Davis and Alcott Road intersection within the southern portion of the subject property.



Photo 10: Looking west across the subject property from Davis Road along the south side of the IID's R Lateral.



Photo 11: Looking southwest across the southern portion of the subject property from the intersection of Davis and Alcott Roads.



Photo 12: Looking north along Davis Road at the Alcott Road intersection.



Photo 13: Looking northwest across the north portion of the subject property at the geothermal well pad located at the northwest corner of Davis and Alcott Rds.



Photo 14: Looking west across the north portion of the subject property from Davis Road.



Photo 15: Looking northwest across the north portion of the subject property from Davis Road.



Photo 16: Looking at shoreline debris along the north portion of the subject property near Davis Road.



Photo 16: Looking at shoreline debris along the north portion of the subject property near Davis Road.



Photo 16: Looking at shoreline debris along the north portion of the subject property near Davis Road.



Photo 17: Looking southwest at shoreline debris along the north portion of the subject property near Davis Road.



Photo 18: Looking northwest at shoreline debris along the north portion of the subject property near Davis Road.



Photo 19: Looking southwest from the northeast corner of the subject property.



Photo 20: Looking west from the northeast corner of the subject property.



Photo 21: Looking south from the northeast corner of the subject property.



Photo 22: Looking at shoreline debris along the northeast corner of the subject property.



Photo 23: Looking at shoreline debris along the northeast corner of the subject property.



Photo 24: Looking west along the northern boundary berm of the subject property.



Photo 25: Looking southwest across the subject property from the northern boundary.



Photo 26: Looking south along a berm from the norther boundary of the subject property.



Photo 27: Looking south to southeast at the north end of the Gen-Tie line route on the east side of Davis Road.



Photo 28: Looking east from Davis Road at the north end of the Gen-Tie route.



Photo 29: Looking south to southeast near the north end of the Gen-Tie line route on the east side of Davis Road.



Photo 30: Looking east from Davis Road toward the unoccupied well pad access road along the Gen-Tie line route.



Photo 31: Looking south to southeast from Davis Road along the Gen-Tie line route.



Photo 32: Looking at an abandoned carbon dioxide well east of Davis Road east of the Gen-Tie line route.



Photo 33: Looking southeast along the Gen-Tie line route from the Davis and Hazard Road intersection.



Photo 34: Looking northeast across the southern portion of the Gen-Tie line route from the Davis and McDonald Road intersection.



Photo 35: Looking east along the Gen-Tie line route from McDonald Road.

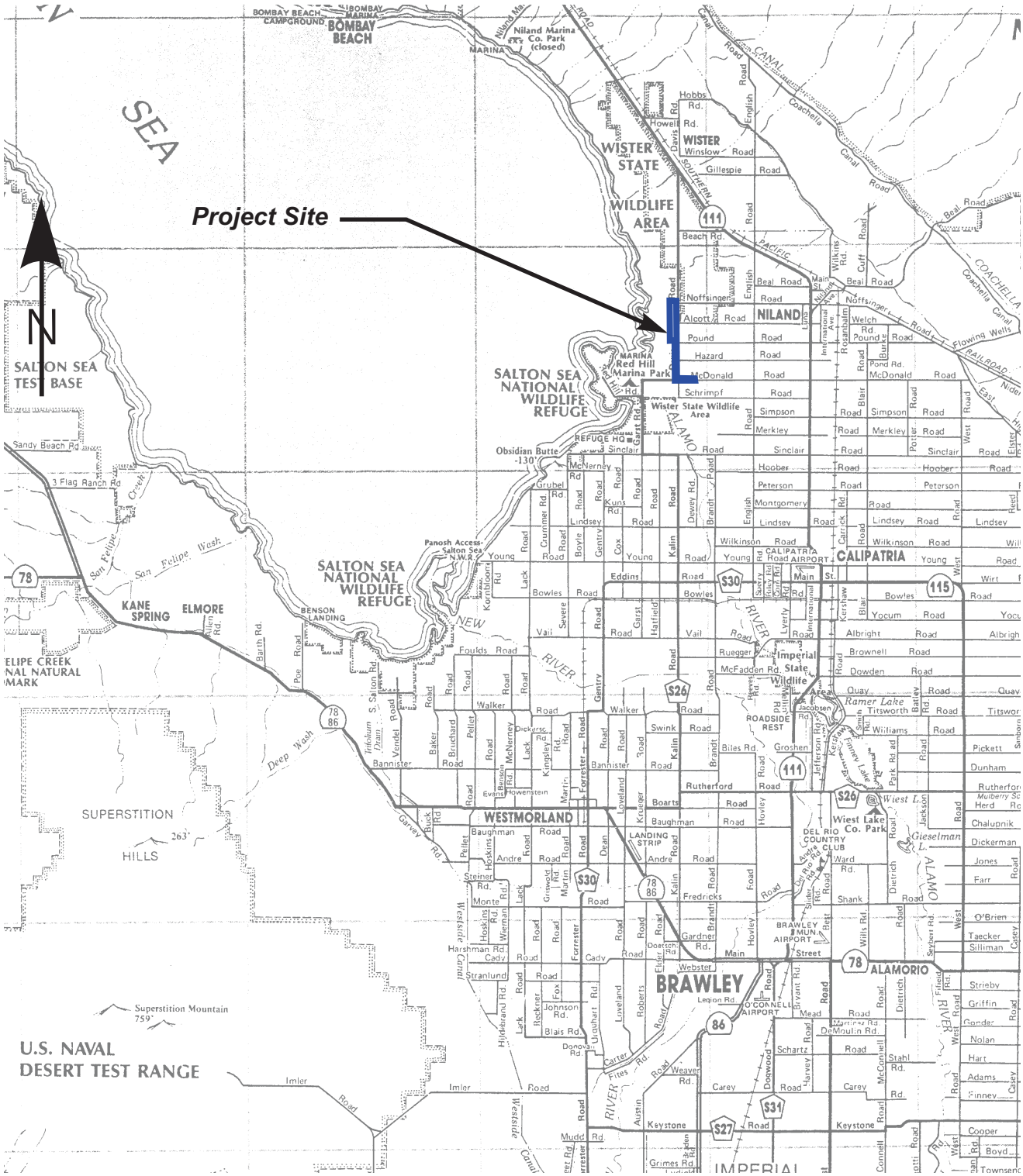


Photo 36: Looking northwest to west along the Gen-Tie line route from McDonald Road.

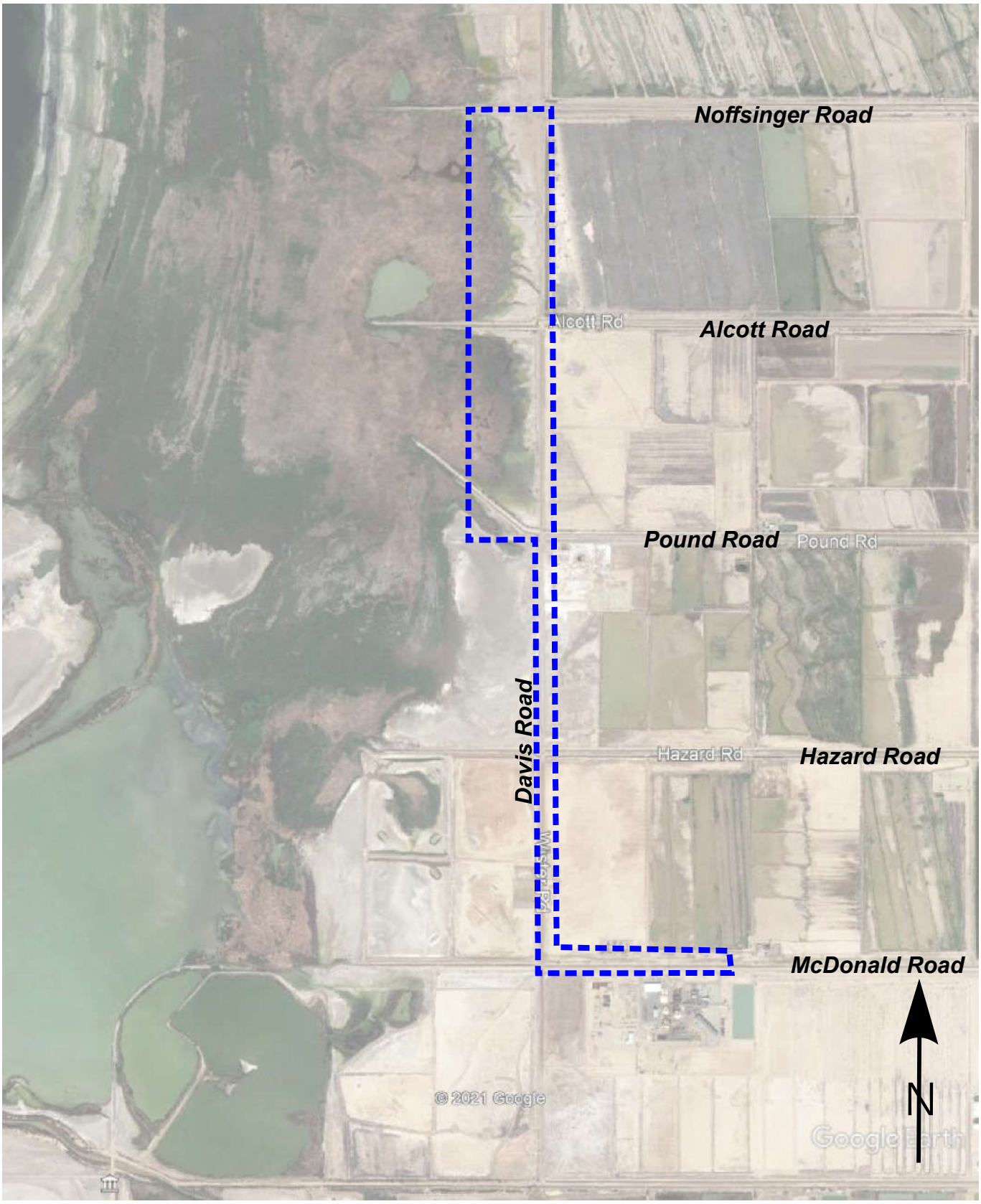


Photo 37: Looking at the Gen-Tie termination area of the existing power substation from McDonald Road.

APPENDIX B



GS Lyon Project No.: GS2116	Vicinity Map	Plate 1

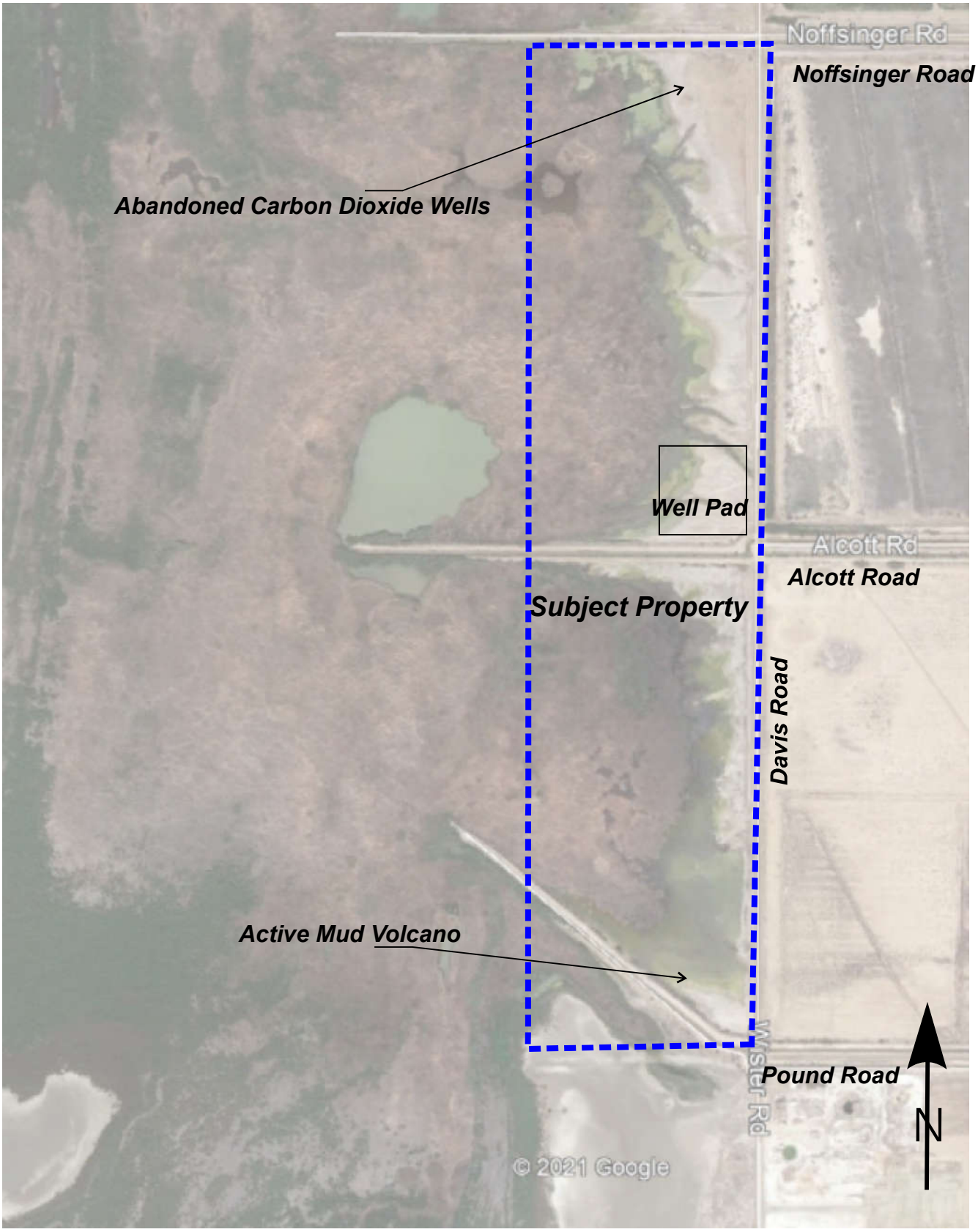


GS Lyon

Project No.: GS2116

Site Map - Subject Property

Plate 2

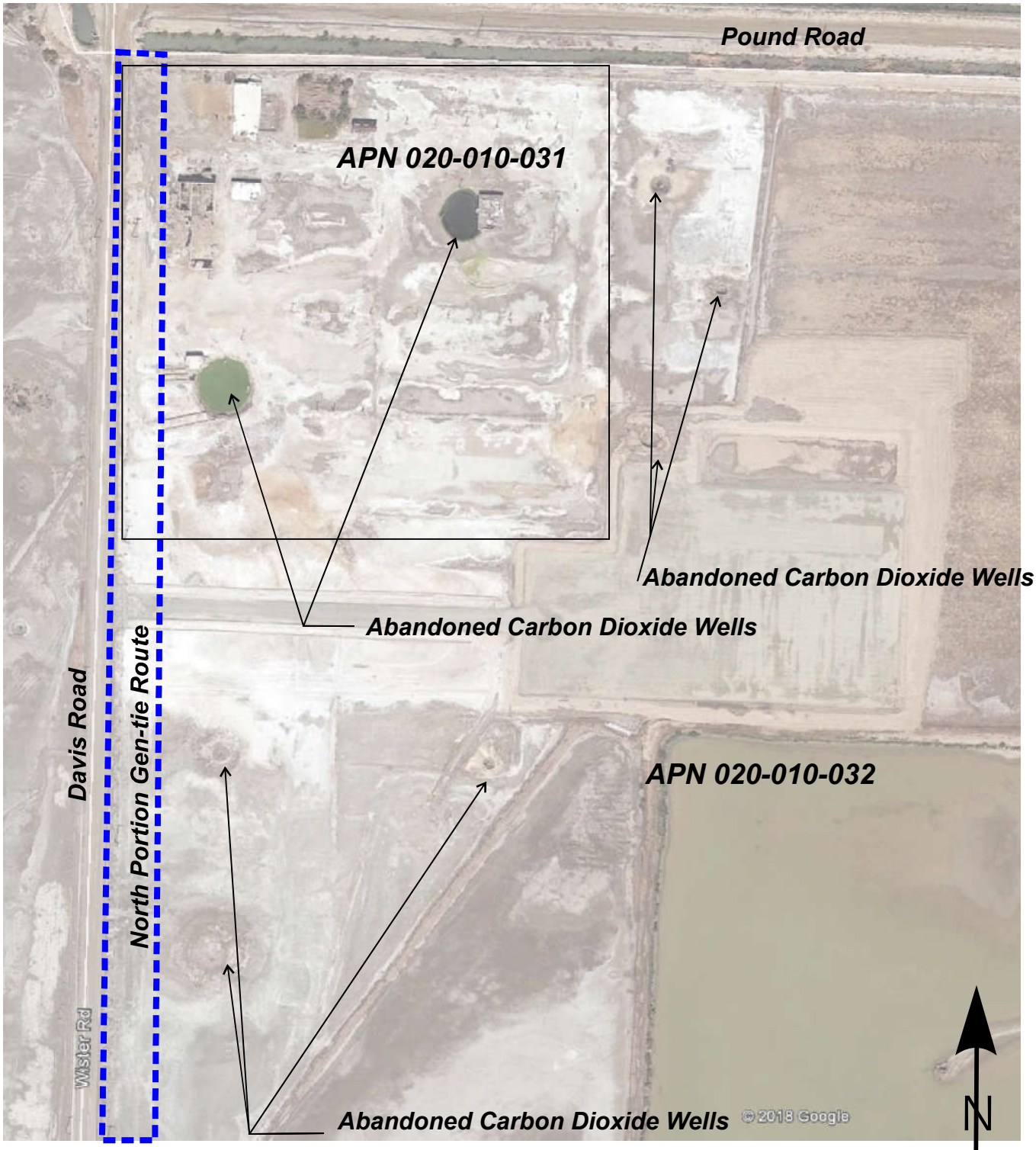


GS Lyon

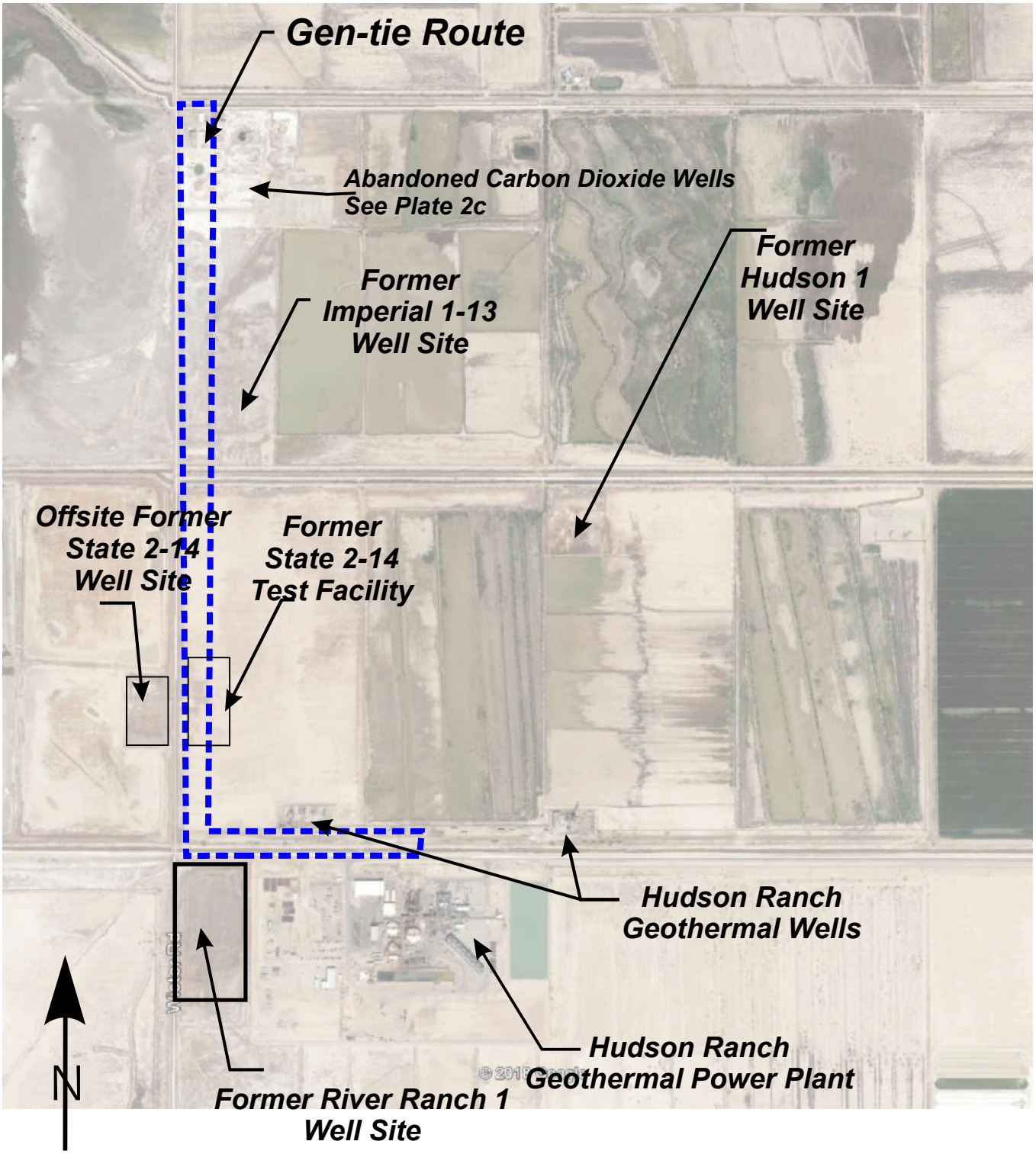
Project No.: GS2116

Site Map - Subject Property

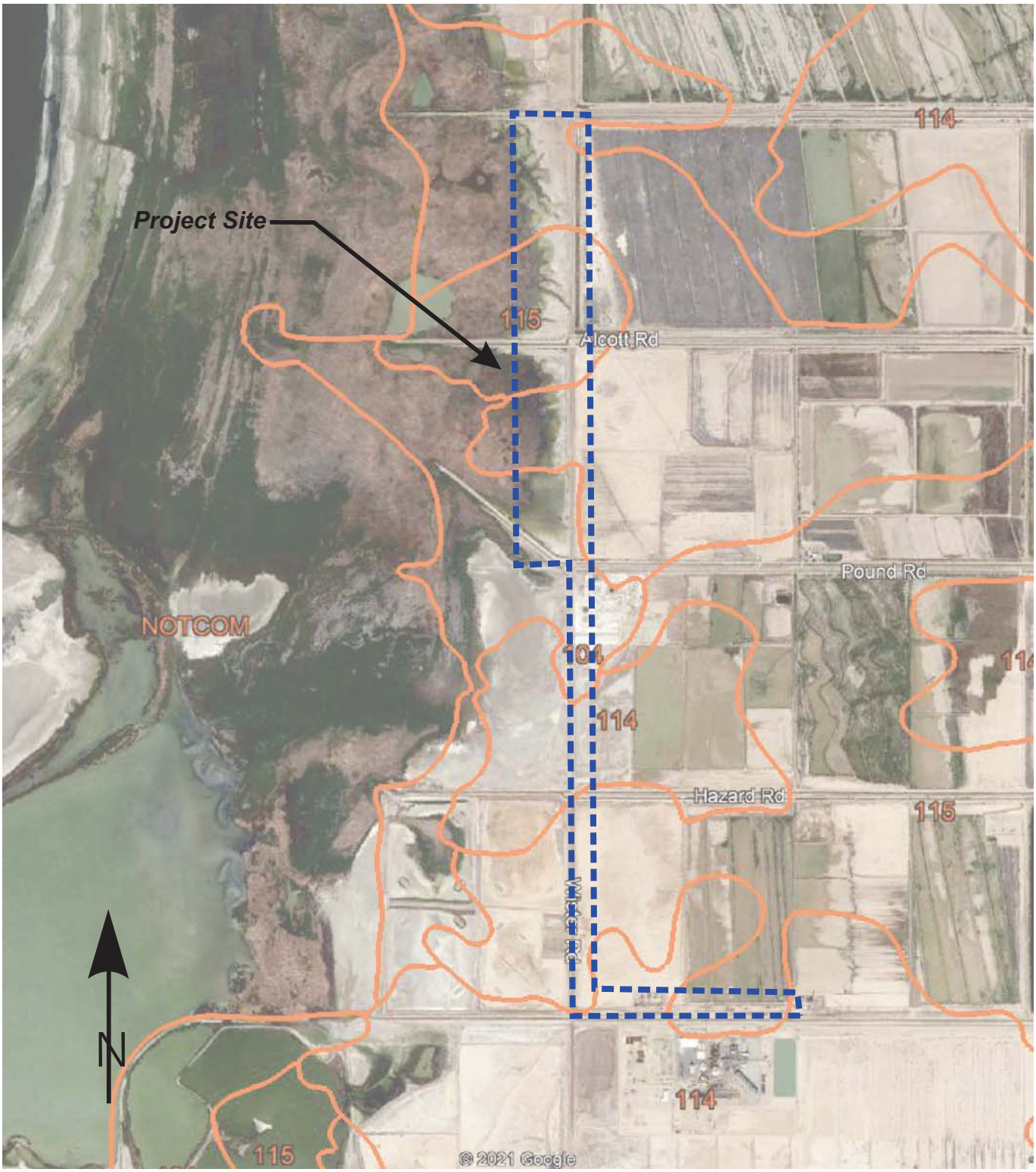
Plate 2b



GS Lyon Project No.: GS2116	Site Map - North End of Gen-Tie Route	Plate 2c



GS Lyon Project No.: GS2116	Site Map - Gen-Tie Route Showing Former Well Sites	Plate 2d



GS Lyon

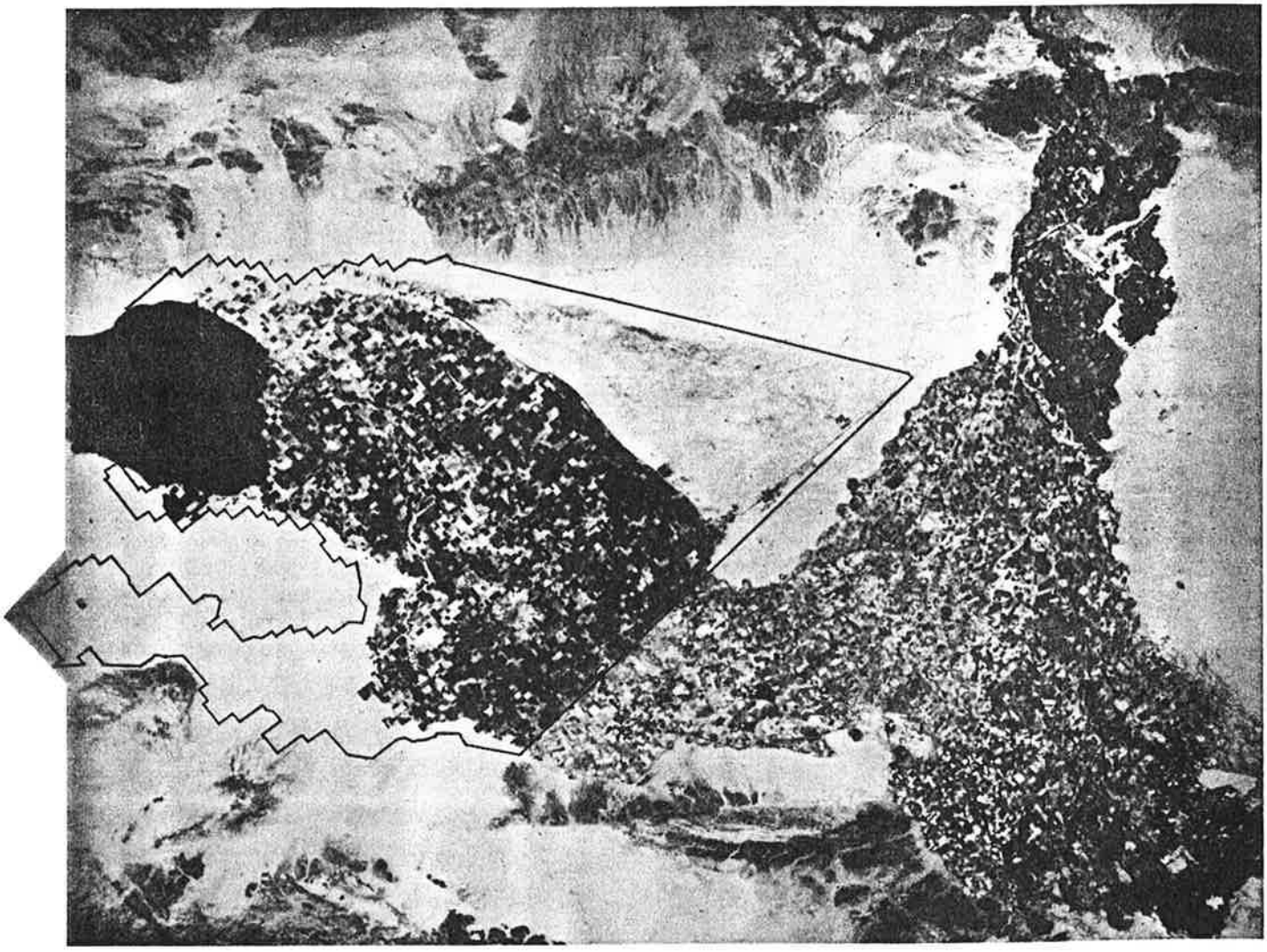
Project No.: GS2116

Soil Survey Map

Plate 3

Soil Survey of

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and
Imperial Irrigation District

TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
100----------	0-13	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
Antho	13-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
101*:											
Antho----------	0-8	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	8-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
Superstition------	0-6	Fine sand-------	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
102*. Badland											
103----------	0-10	Gravelly sand---	SP, SP-SM	A-1, A-2	0-5	60-90	50-85	30-55	0-10	---	NP
Carsitas	10-60	Gravelly sand, gravelly coarse sand, sand.	SP, SP-SM	A-1	0-5	60-90	50-85	25-50	0-10	---	NP
104* Fluvaquents											
105----------	0-13	Clay loam-------	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
106----------	0-13	Clay loam-------	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
107*----------	0-13	Loam----------	ML, CL-ML, CL	A-4	0	100	100	100	70-80	20-30	NP-10
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
108----------	0-14	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
Holtville	14-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
109----------	0-17	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
110----------	0-17	Silty clay------	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
111*:											
Holtville	0-10	Silty clay loam	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	10-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
112	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
113	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	100	85-95	50-70	25-45
114	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
115*:											
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
116*:											
Imperial	0-13	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	13-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
117, 118	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Indio	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
119*:											
Indio	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Vint	0-10	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	25-35	---	NP
	10-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
120*	0-12	Loam	ML, CL-ML	A-4	0	100	95-100	75-85	55-65	20-30	NP-10
Laveen	12-60	Loam, very fine sandy loam.	ML, CL-ML	A-4	0	95-100	85-95	70-80	55-65	15-25	NP-10

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

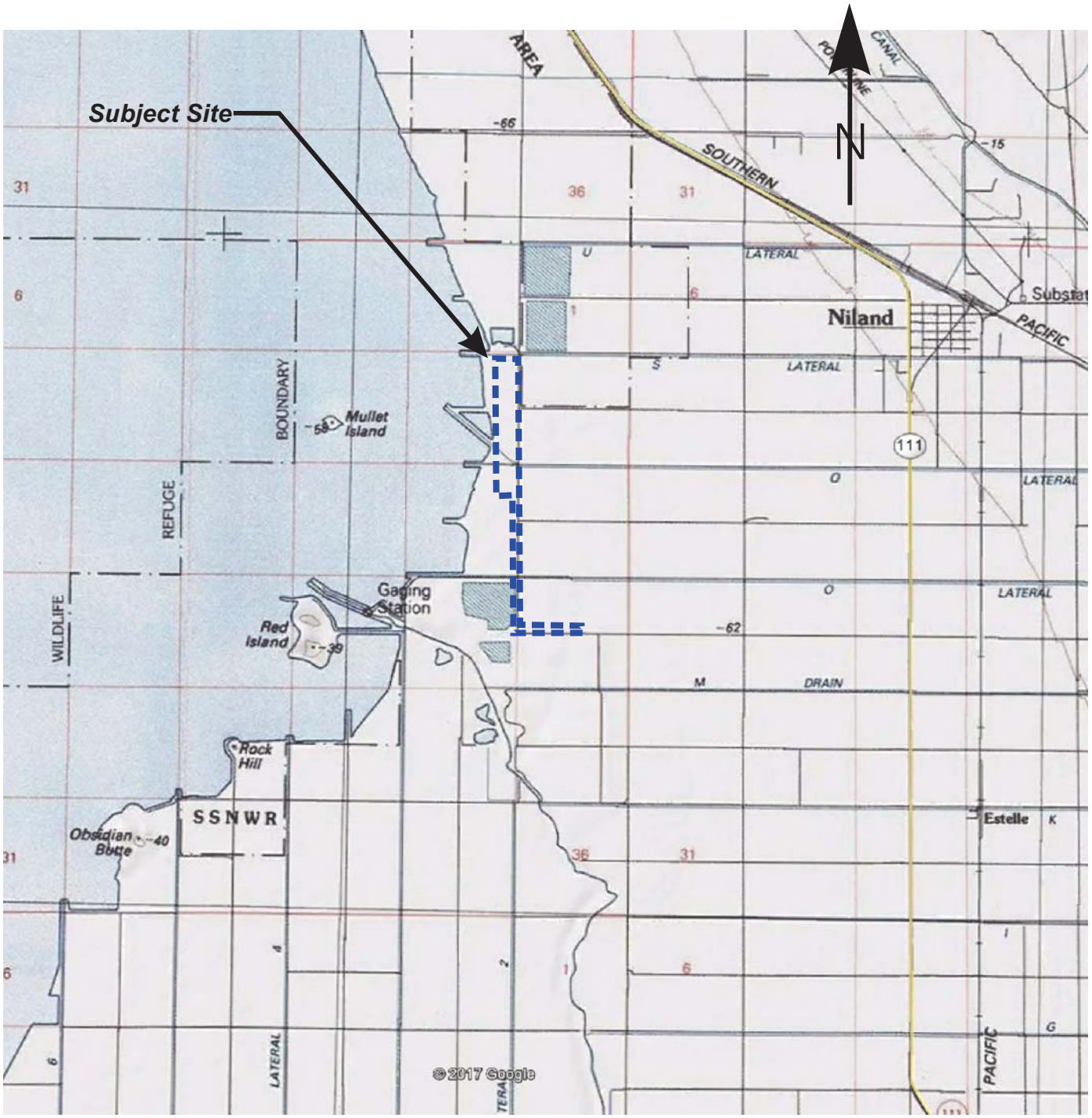
Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
121---------- Meloland	0-12	Fine sand-------	SM, SP-SM	A-2, A-3	0	95-100	90-100	75-100	5-30	---	NP
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-65	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-40
122---------- Meloland	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
123*: Meloland----------	0-12	Loam----------	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-38	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
	38-60	Stratified silt loam to loamy fine sand.	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville---------	0-12	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	12-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-36	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	36-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
124, 125---------- Niland	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
126---------- Niland	0-23	Fine sand-------	SM, SP-SM	A-2, A-3	0	90-100	90-100	50-65	5-25	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
127---------- Niland	0-23	Loamy fine sand	SM	A-2	0	90-100	90-100	50-65	15-30	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
128*: Niland----------	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-100	40-65	20-40
Imperial----------	0-12	Silty clay------	CH	A-7	0	100	100	100	85-95	50-70	25-45
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
129*: Pits											
130, 131---------- Rositas	0-27	Sand----------	SP-SM	A-3, A-1, A-2	0	100	80-100	40-70	5-15	---	NP
	27-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
132, 133, 134, 135-Rositas	0-9	Fine sand-------	SM	A-3, A-2	0	100	80-100	50-80	10-25	---	NP
	9-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
136----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
Rositas	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
137----------	0-12	Silt loam-------	ML	A-4	0	100	100	90-100	70-90	20-30	NP-5
Rositas	12-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
138*:											
Rositas----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
Superstition------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
139----------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
Superstition	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
140*:											
Torriorthents											
Rock outcrop											
141*:											
Torriorthents											
Orthids											
142----------	0-10	Loamy very fine sand.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
Vint	10-60	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
143----------	0-12	Fine sandy loam	ML, CL-ML, SM, SM-SC	A-4	0	100	100	75-85	45-55	15-25	NP-5
Vint	12-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
144*:											
Vint----------	0-10	Very fine sandy loam.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
	10-40	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
	40-60	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Indio----------	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-40	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	40-72	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

* See description of the map unit for composition and behavior characteristics of the map unit.



GS Lyon

Project No.: GS2116

Topographic Map

Plate 4

APPENDIX C

CTR Area

SWC Noffsinger Road and Wister Road

Niland, CA 92257

Inquiry Number: 6563575.8

July 06, 2021

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

07/06/21

Site Name:

CTR Area
SWC Noffsinger Road and Wis
Niland, CA 92257
EDR Inquiry # 6563575.8

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

Year	Scale	Details	Source
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2009	1"=750'	Flight Year: 2009	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
2002	1"=750'	Acquisition Date: January 01, 2002	USGS/DOQQ
1996	1"=750'	Acquisition Date: June 16, 1996	USGS/DOQQ
1992	1"=750'	Acquisition Date: January 01, 1992	USGS/DOQQ
1984	1"=750'	Flight Date: August 23, 1984	USDA
1976	1"=750'	Flight Date: October 12, 1976	USGS
1949	1"=750'	Flight Date: February 18, 1949	USDA
1937	1"=750'	Flight Date: November 19, 1937	USDA

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EDR Aerial Photo Decade Package

07/07/21

Site Name:

CTR Gen-Tie Line
Wister Road
Niland, CA 92257
EDR Inquiry # 6563586.8

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2009	1"=750'	Flight Year: 2009	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1984	1"=750'	Flight Date: August 23, 1984	USDA
1976	1"=750'	Flight Date: October 12, 1976	USGS
1953	1"=750'	Flight Date: January 01, 1953	USGS
1949	1"=750'	Flight Date: February 18, 1949	USDA
1937	1"=750'	Flight Date: November 19, 1937	USDA

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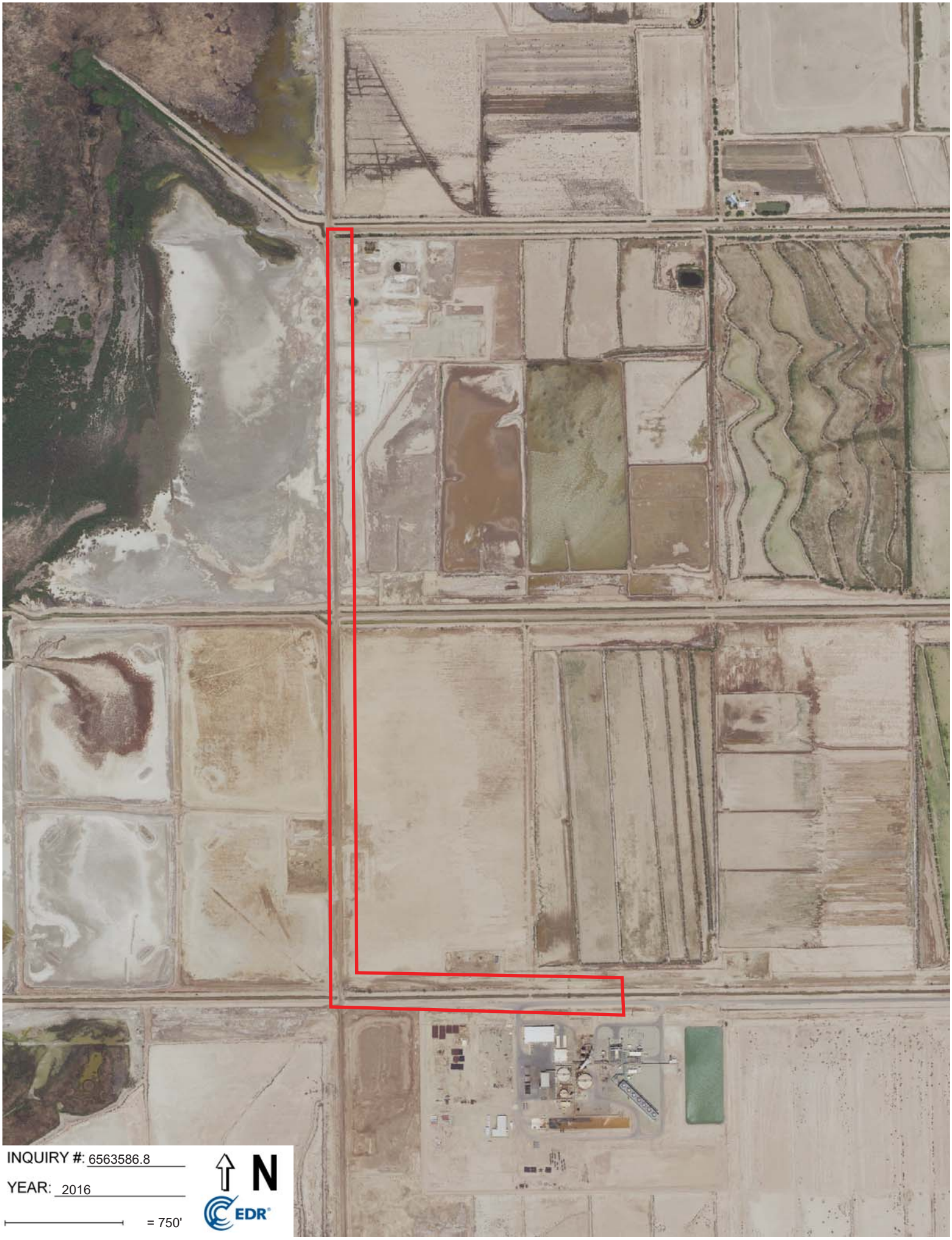
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INQUIRY #: 6563575.8
YEAR: 2016
= 750'
N
EDR



INQUIRY #: 6563586.8

YEAR: 2016

= 750'

N

EDR



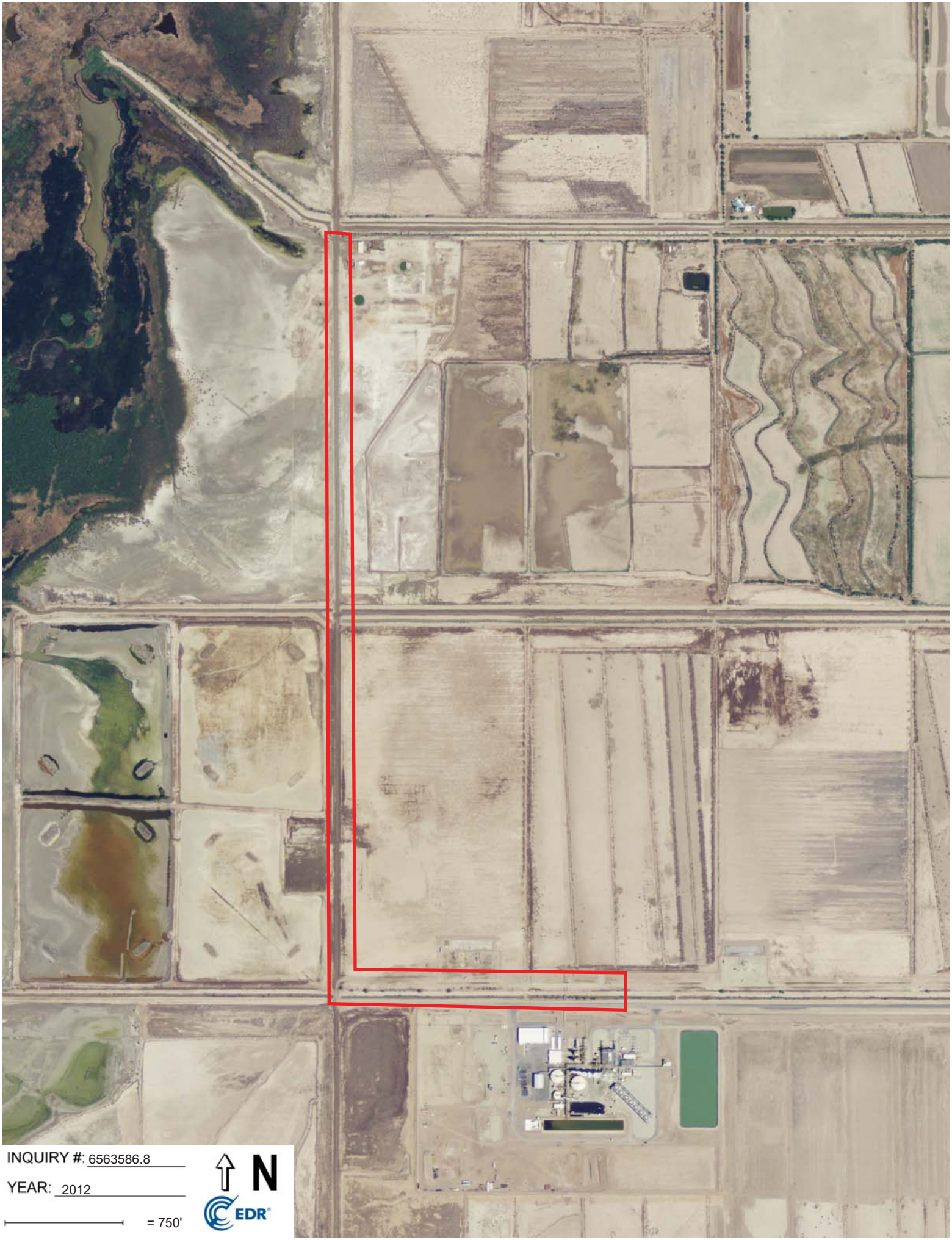
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YEAR: 2012

= 750'

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EDR


INQUIRY #: 6563586.8
YEAR: 2012
= 750'
N
EDR


INQUIRY #: 6563575.8
YEAR: 2009
= 750'
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EDR


INQUIRY #: 6563586.8
YEAR: 2009
= 750'
N
EDR



INQUIRY #: 6563575.8

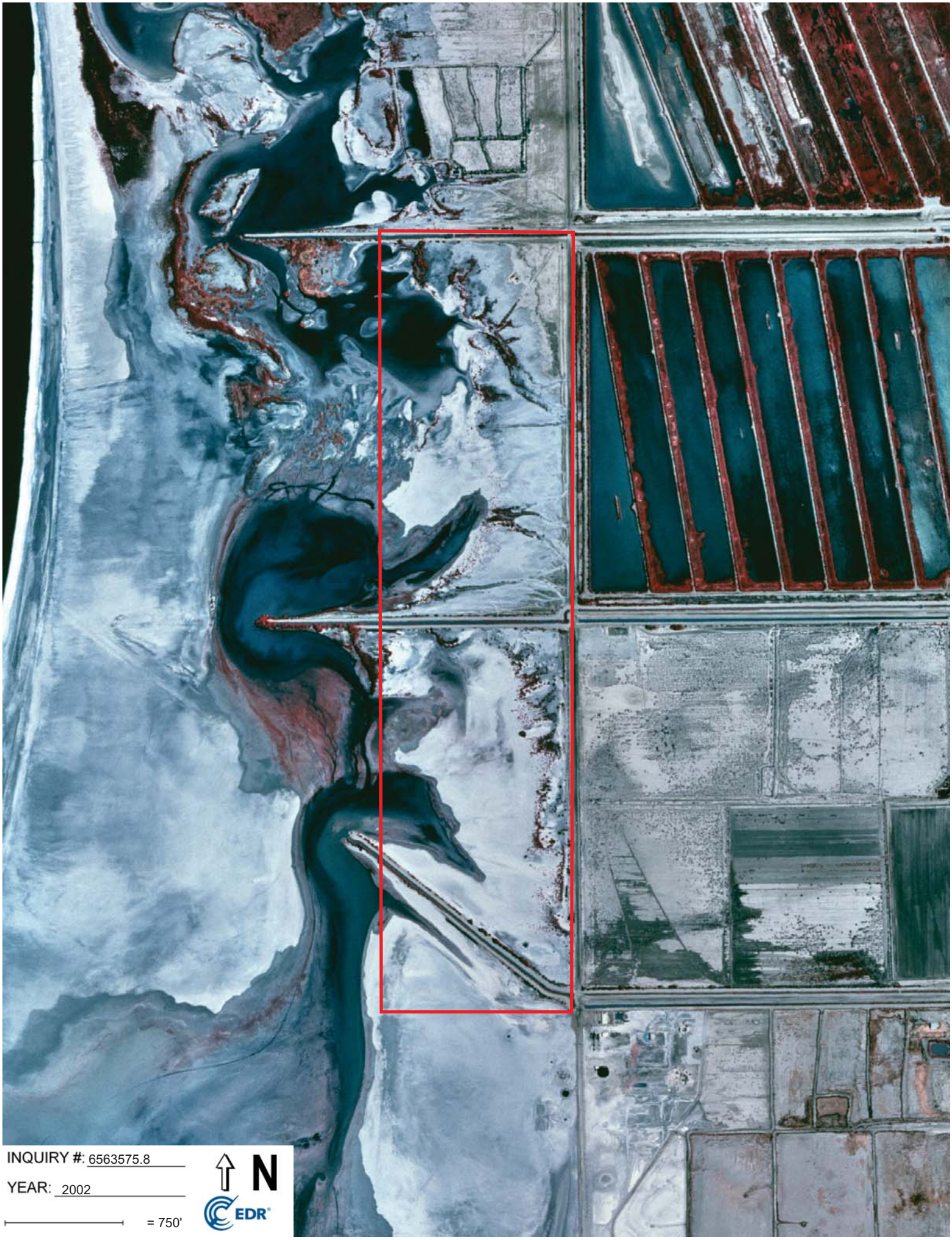
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EDR


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YEAR: 2002

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EDR



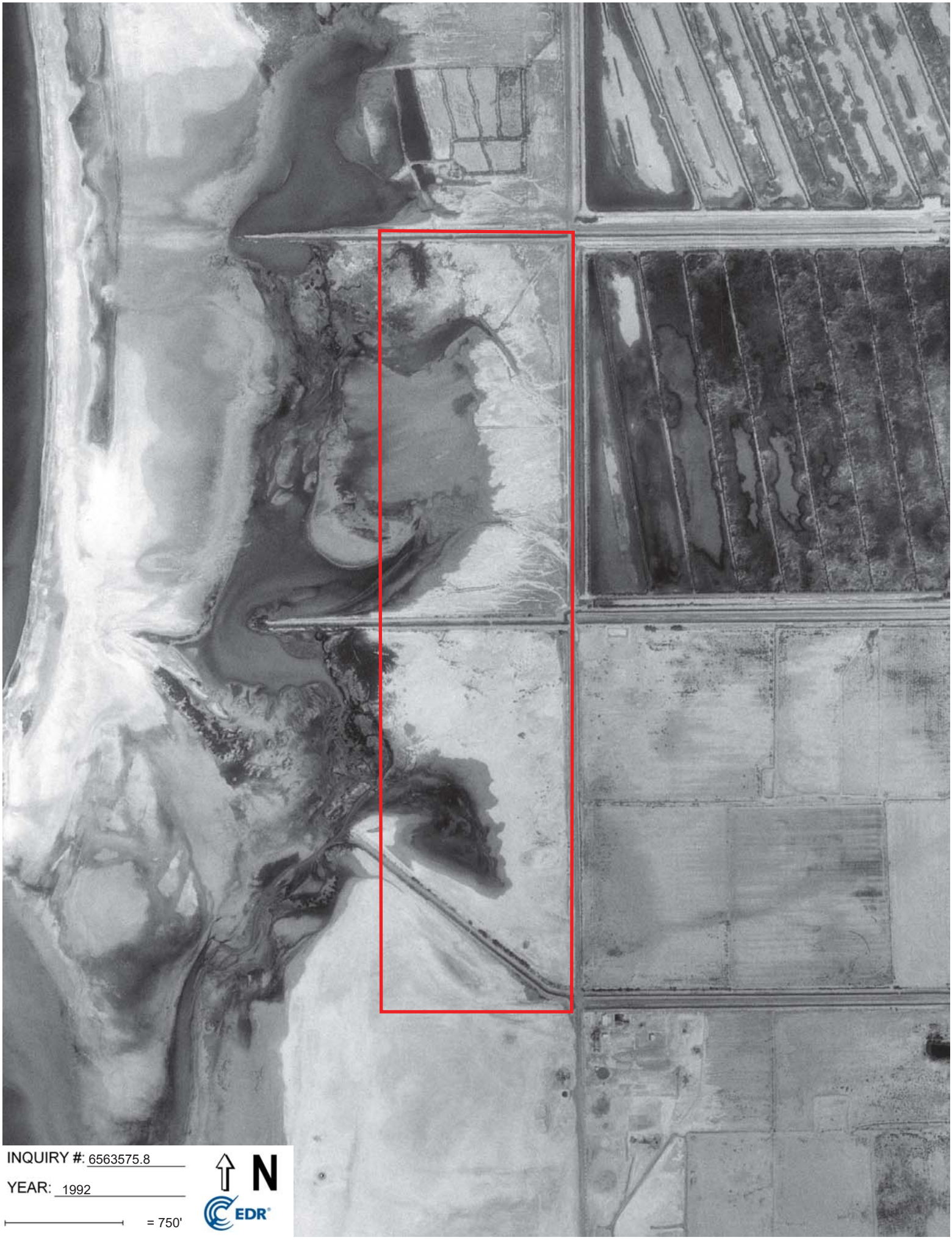
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EDR



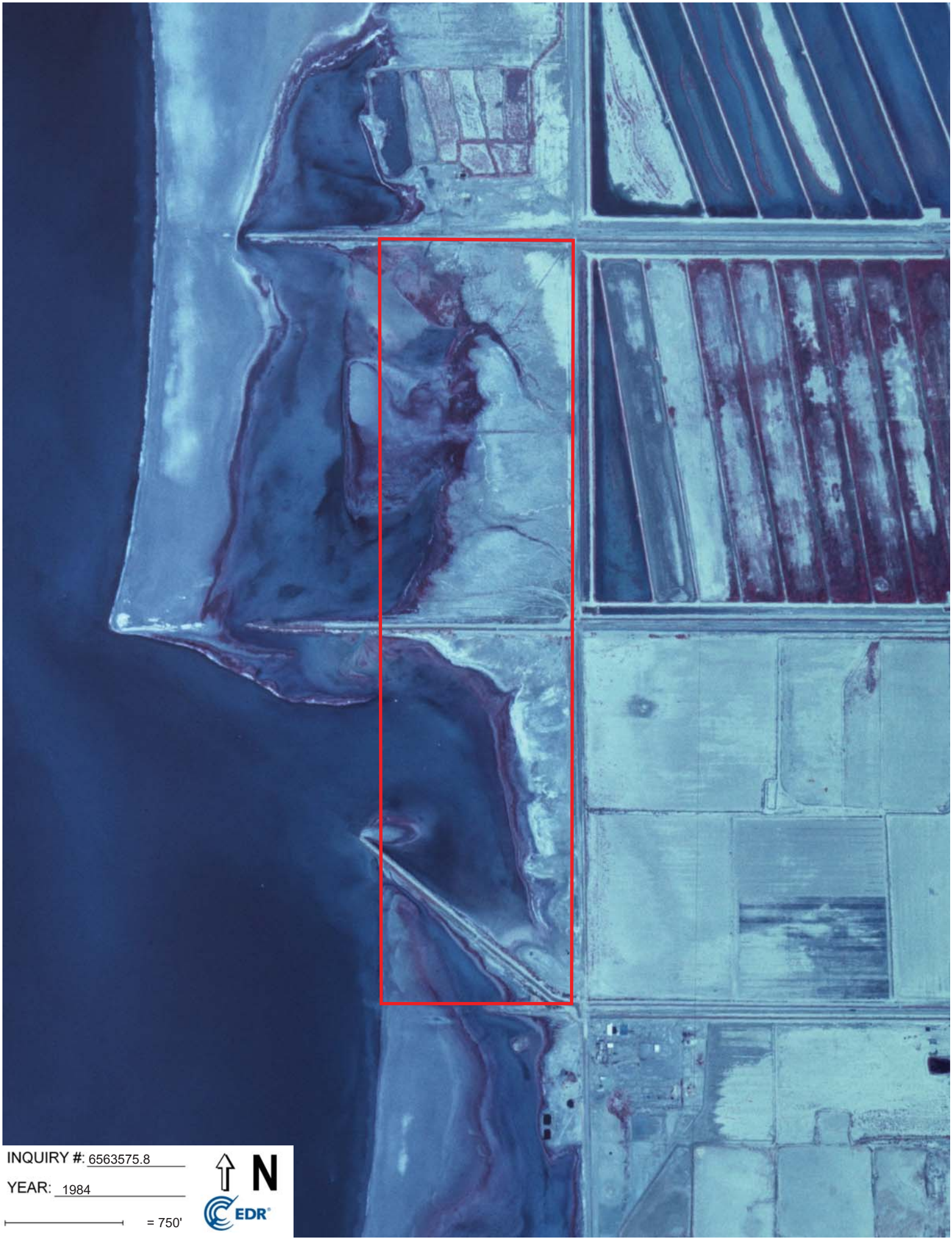
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YEAR: 1992

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EDR



INQUIRY #: 6563575.8

YEAR: 1984

= 750'

N

EDR


INQUIRY #: 6563586.8
YEAR: 1984
= 750'
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EDR


INQUIRY #: 6563575.8
YEAR: 1976
= 750'
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EDR



INQUIRY #: 6563586.8

YEAR: 1976

= 750'

N

EDR


INQUIRY #: 6563586.8
YEAR: 1953
= 750'
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EDR



INQUIRY #: 6563575.8

YEAR: 1949

= 750'

N

EDR



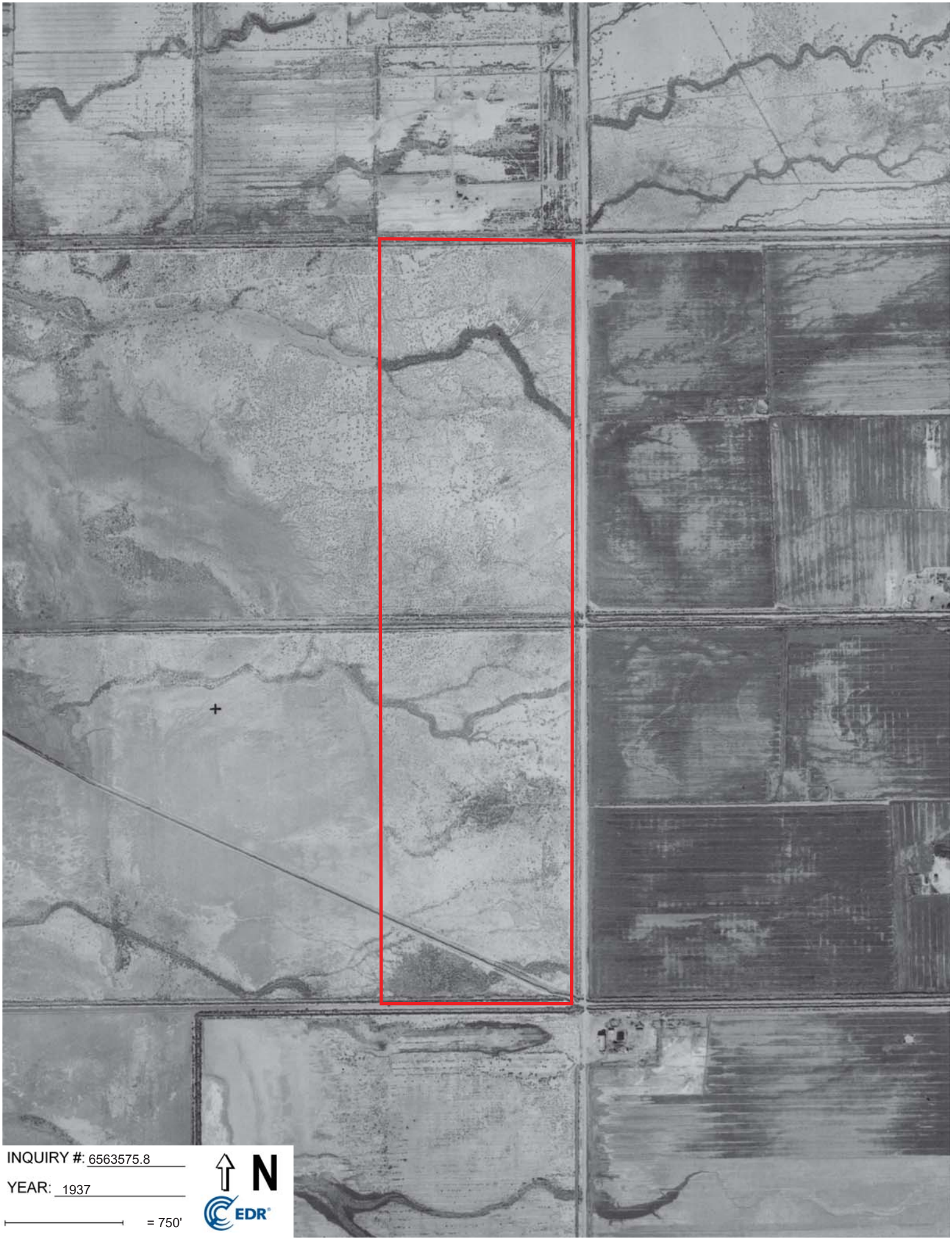
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YEAR: 1949

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EDR



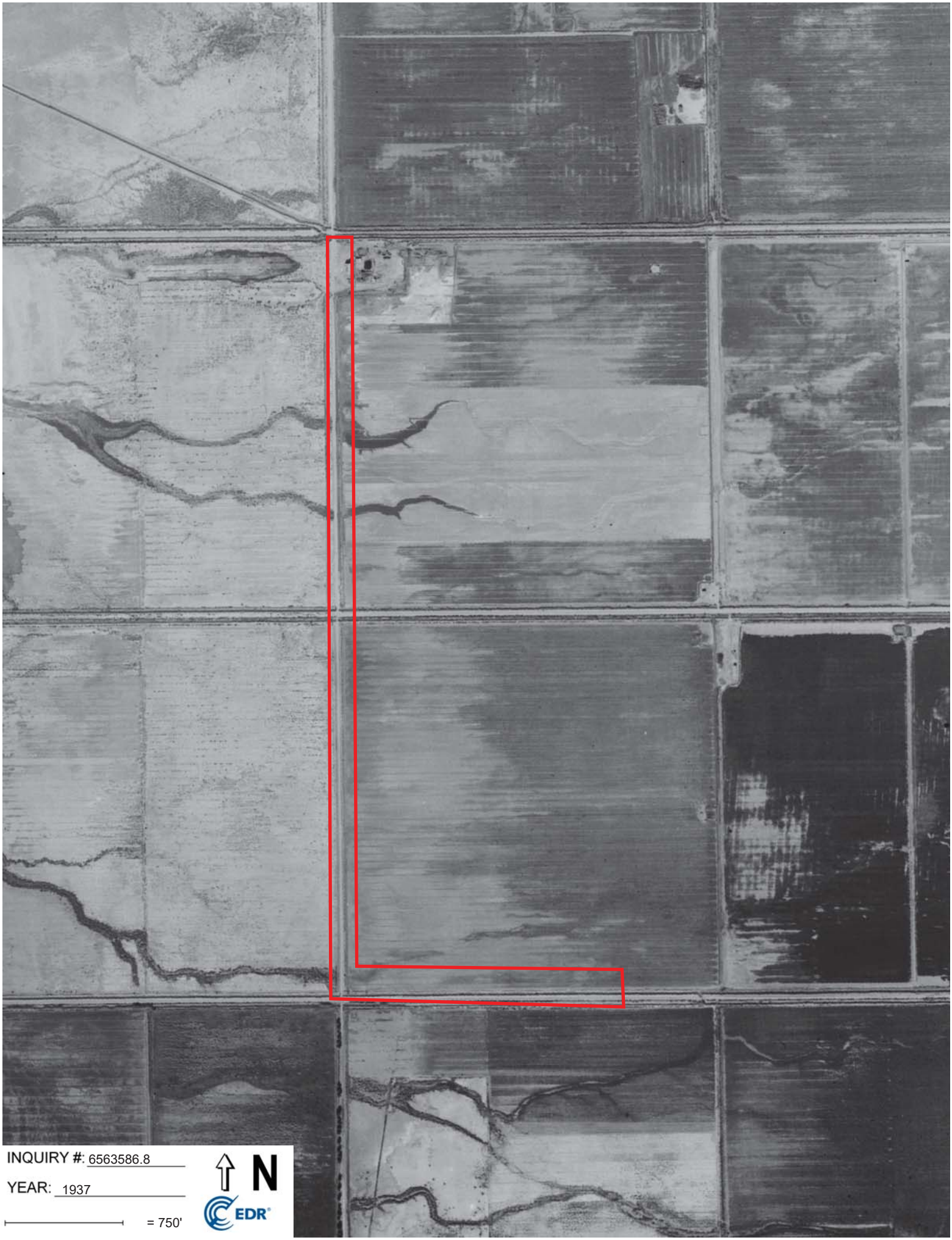
INQUIRY #: 6563575.8

YEAR: 1937

= 750'

N

EDR



INQUIRY #: 6563586.8

YEAR: 1937

= 750'

N

EDR

APPENDIX D

CTR Area

SWC Noffsinger Road and Wister Road

Niland, CA 92257

Inquiry Number: 6563575.4

July 02, 2021

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

07/02/21

Site Name:

CTR Area
SWC Noffsinger Road and Wis
Niland, CA 92257
EDR Inquiry # 6563575.4

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

P.O.# GS2116

Project: Hells Kitchen Geothermal

Coordinates:

Latitude:	33.2275 33° 13' 39" North
Longitude:	-115.5817 -115° 34' 54" West
UTM Zone:	Zone 11 North
UTM X Meters:	632156.04
UTM Y Meters:	3677404.49
Elevation:	-224.00' below sea level

Maps Provided:

2012
1995
1976
1956
1947
1944, 1945
1943

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Wister

7.5-minute, 24000



Niland

7.5-minute, 24000

1995 Source Sheets



Niland

7.5-minute, 24000
Aerial Photo Revised 1992



Wister

7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets



Niland

7.5-minute, 24000
Aerial Photo Revised 1953



Wister

7.5-minute, 24000
Aerial Photo Revised 1953

1956 Source Sheets



Wister

7.5-minute, 24000
Aerial Photo Revised 1953



Niland

7.5-minute, 24000
Aerial Photo Revised 1953

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1947 Source Sheets



CALIPATRIA

15-minute, 50000



FRINK

15-minute, 50000

1944, 1945 Source Sheets



Frink

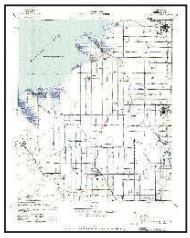
15-minute, 62500
Aerial Photo Revised 1940



Calipatria

15-minute, 62500
Aerial Photo Revised 1940

1943 Source Sheets

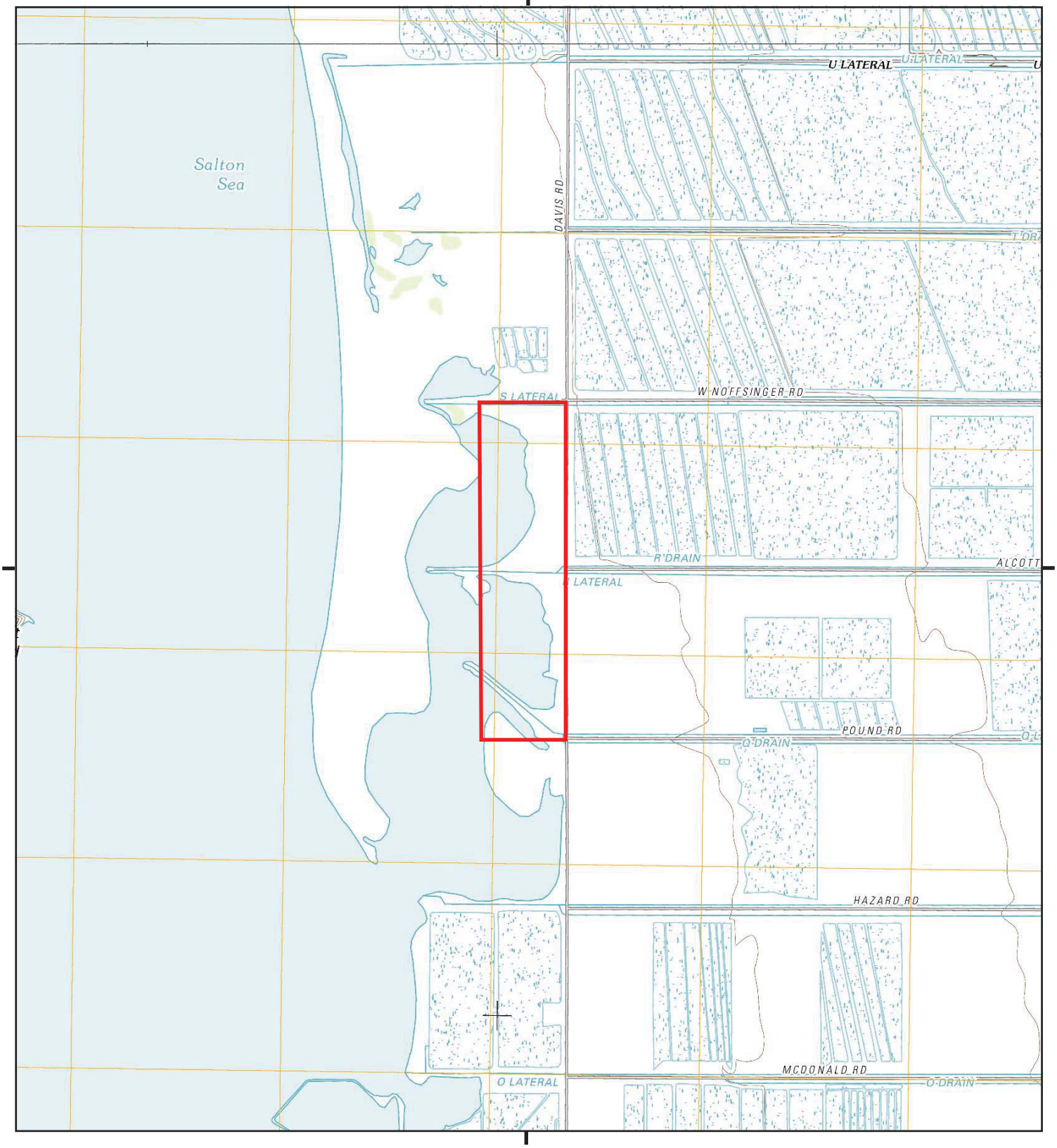


CALIPATRIA

15-minute, 62500

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

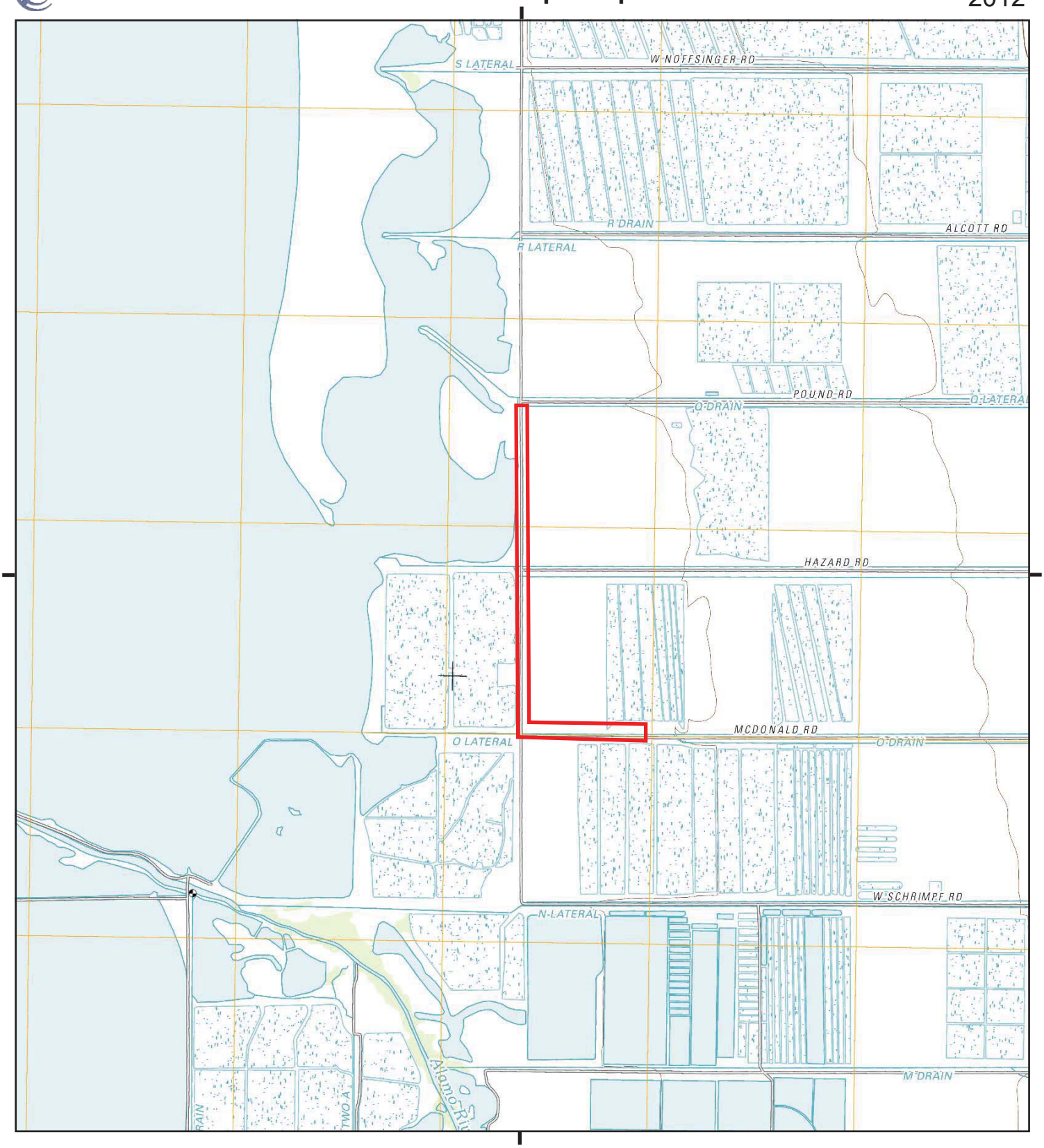
TP, Niland, 2012, 7.5-minute
N, Wister, 2012, 7.5-minute

SITE NAME: CTR Area
ADDRESS: SWC Noffsinger Road and Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

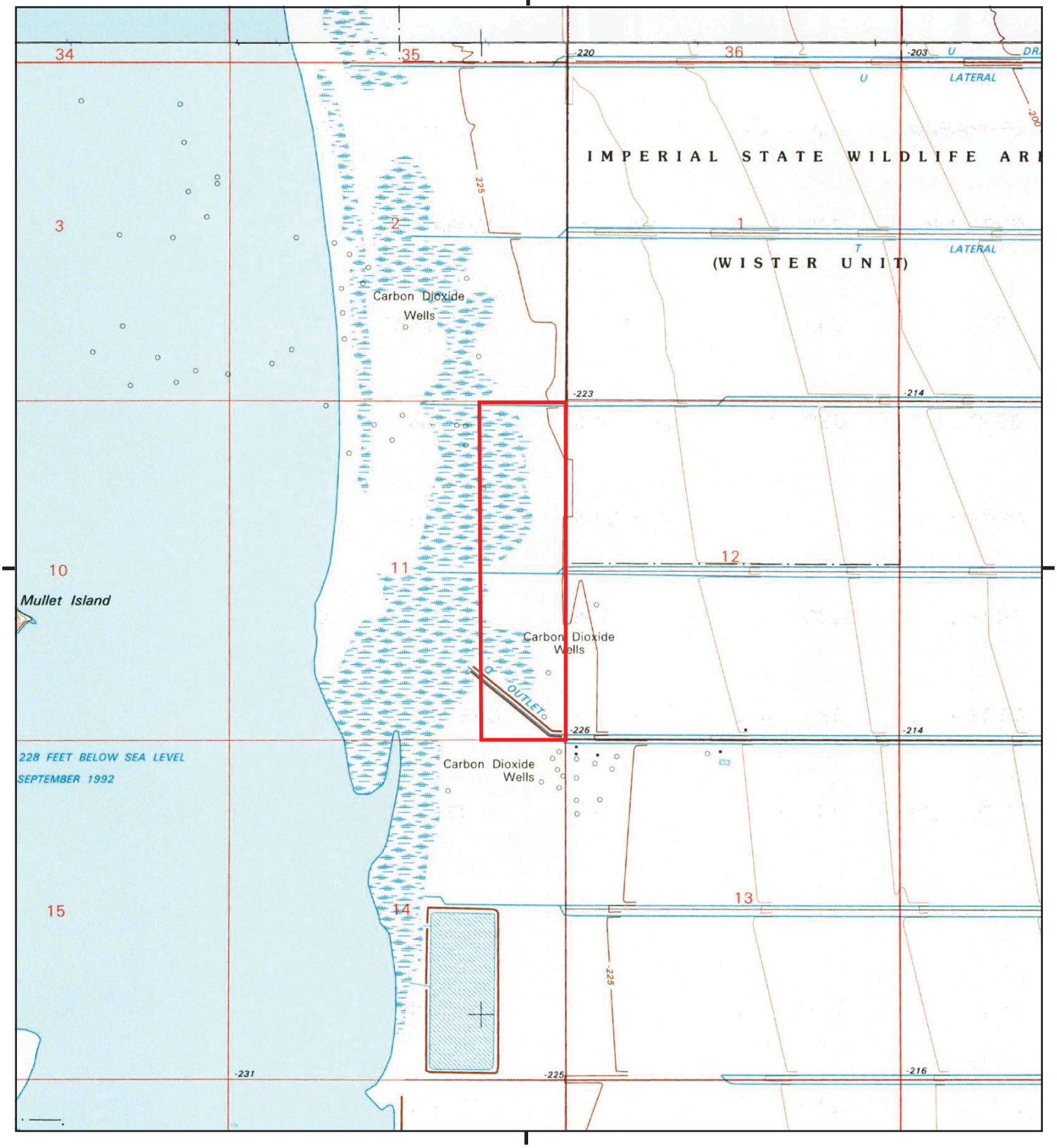
TP, Niland, 2012, 7.5-minute

SITE NAME: CTR Gen-Tie Line
ADDRESS: Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

Historical Topo Map

1995



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

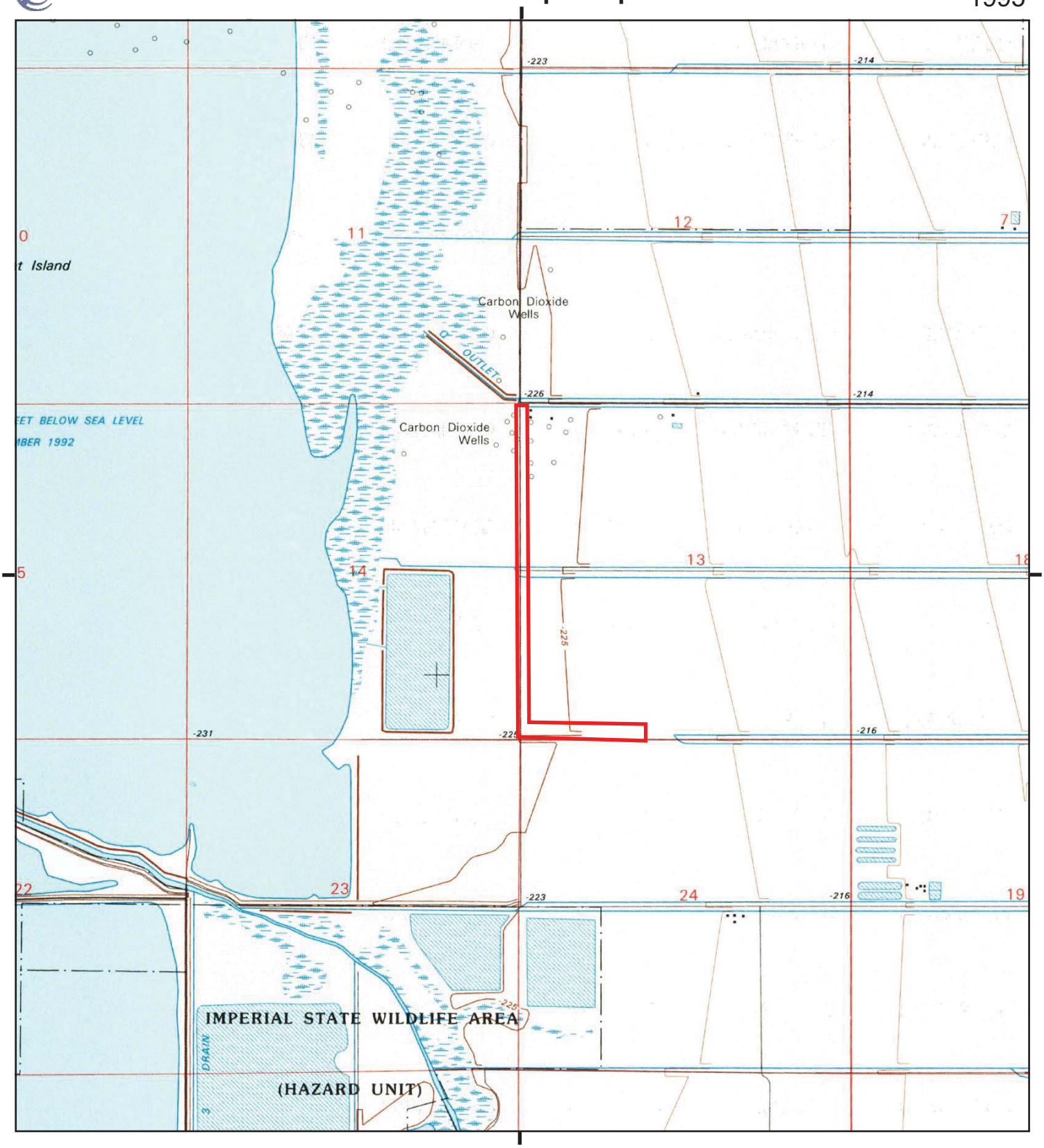
TP, Niland, 1995, 7.5-minute
N, Wister, 1995, 7.5-minute

SITE NAME: CTR Area
ADDRESS: SWC Noffsinger Road and Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

Historical Topo Map

1995



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

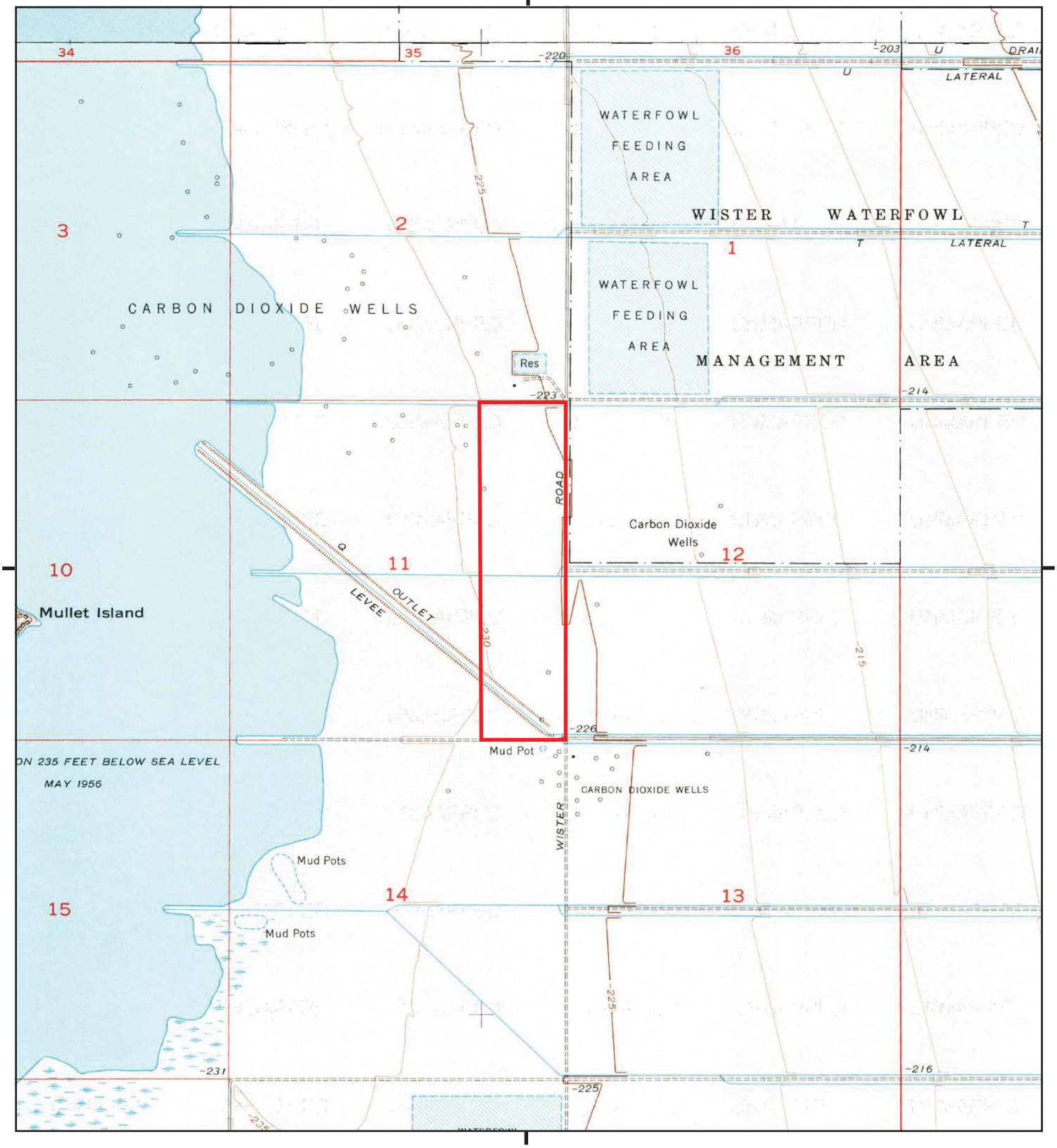
TP, Niland, 1995, 7.5-minute

SITE NAME: CTR Gen-Tie Line
ADDRESS: Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

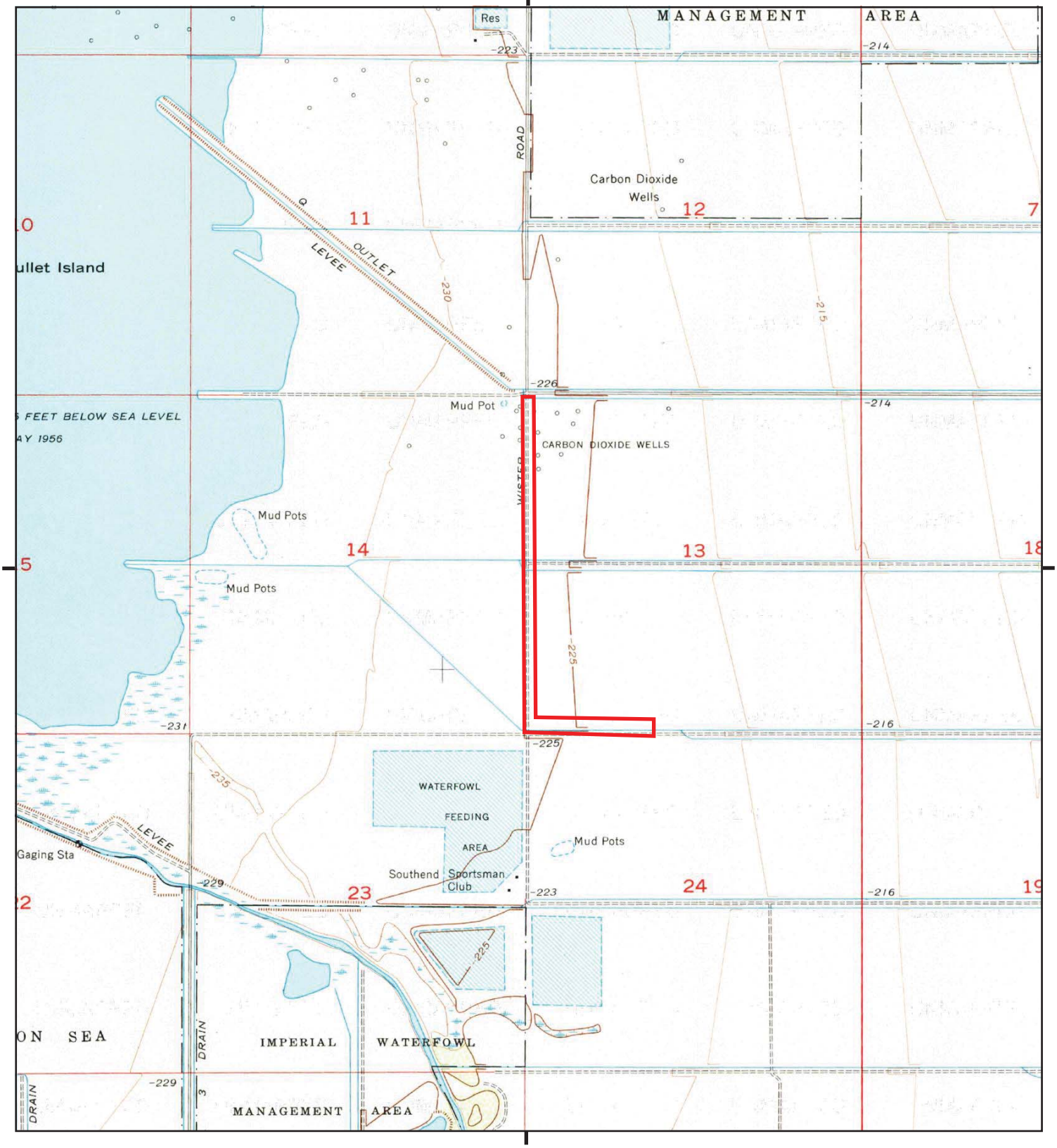
TP, Niland, 1976, 7.5-minute
N, Wister, 1976, 7.5-minute

SITE NAME: CTR Area
ADDRESS: SWC Noffsinger Road and Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

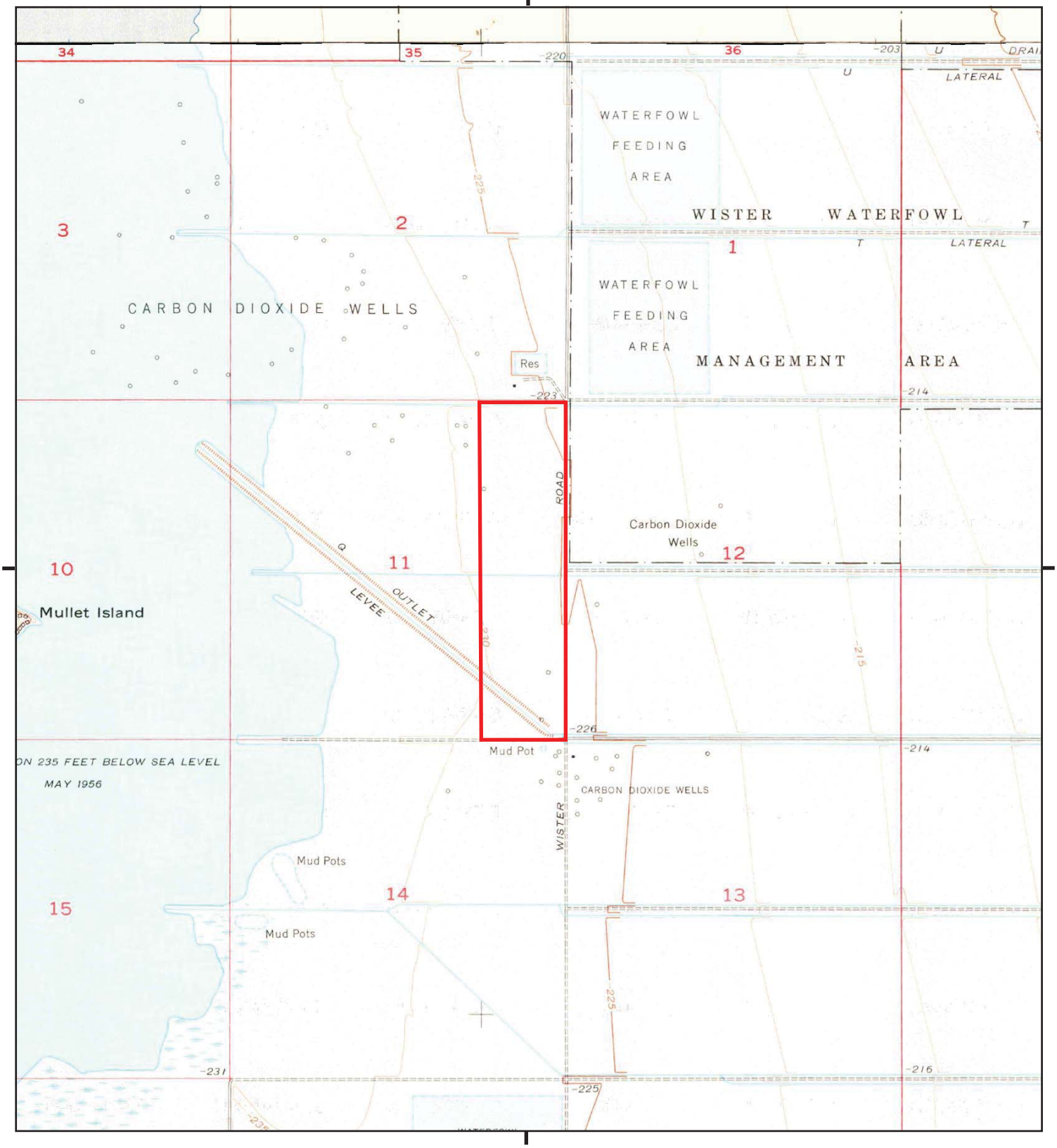
TP, Niland, 1976, 7.5-minute

SITE NAME: CTR Gen-Tie Line
ADDRESS: Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

Historical Topo Map

1956



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

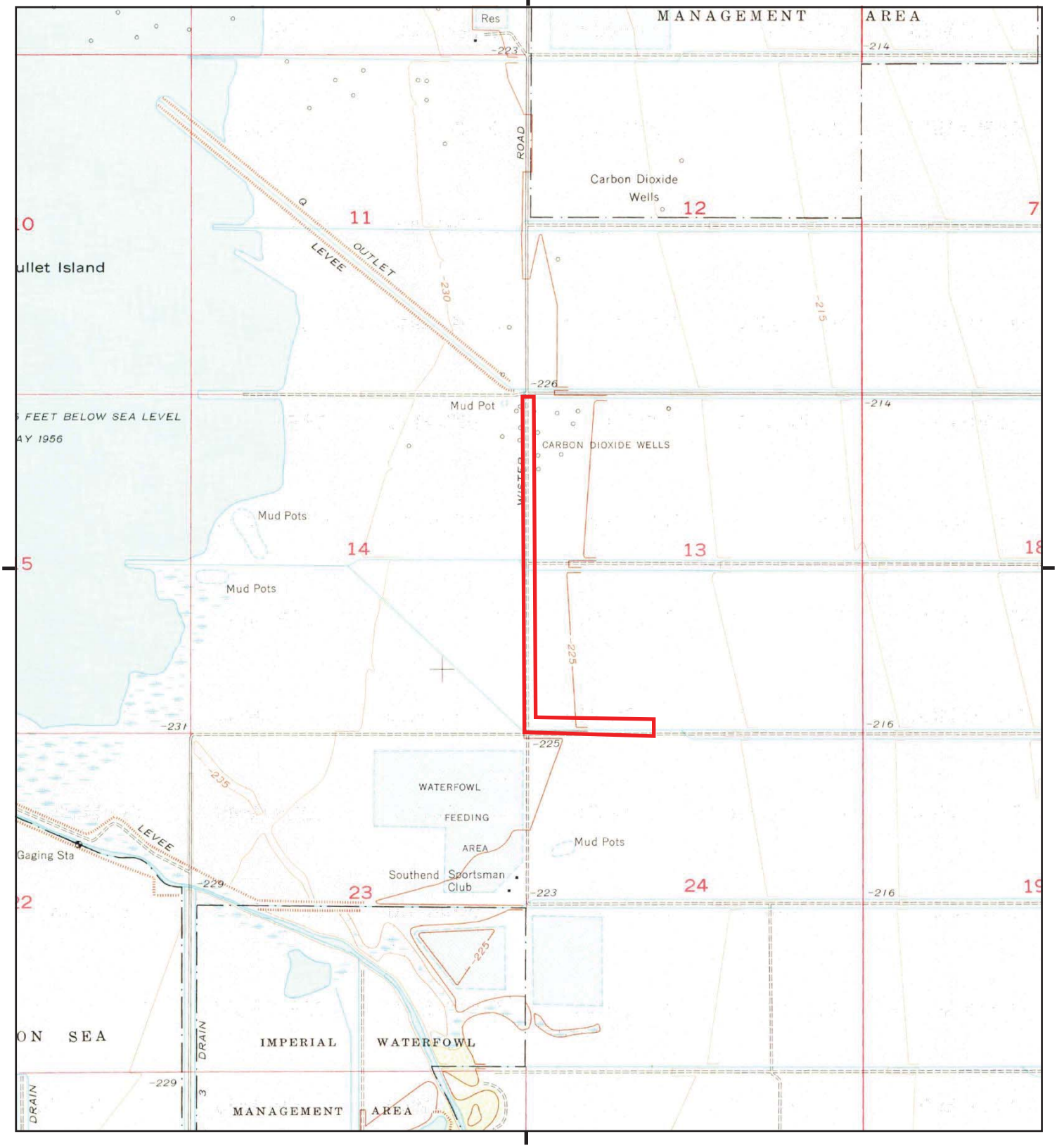
TP, Niland, 1956, 7.5-minute
N, Wister, 1956, 7.5-minute

SITE NAME: CTR Area
ADDRESS: SWC Noffsinger Road and Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

Historical Topo Map

1956



This report includes information from the following map sheet(s).

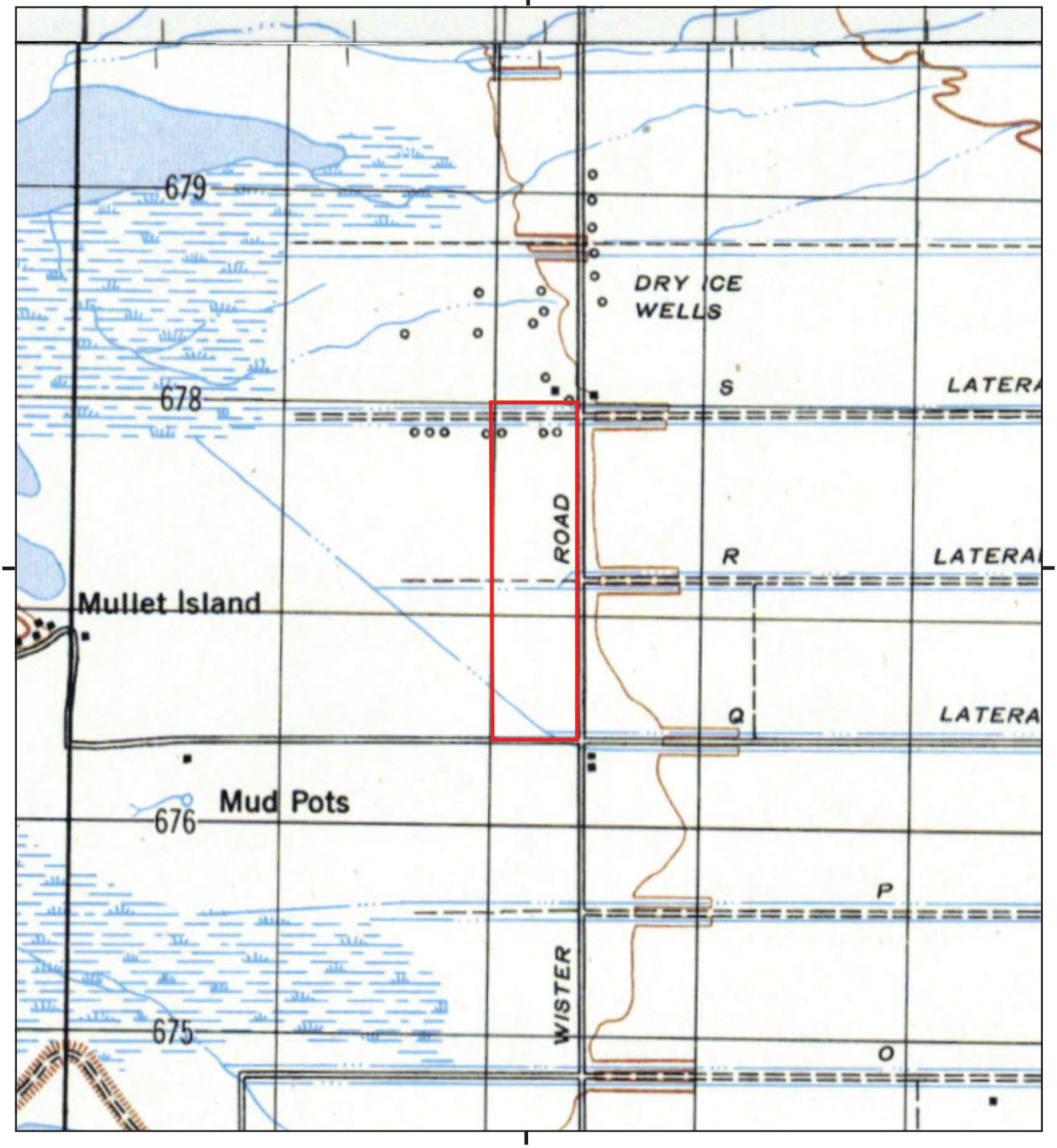
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Niland, 1956, 7.5-minute

SITE NAME: CTR Gen-Tie Line
ADDRESS: Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N



This report includes information from the following map sheet(s).

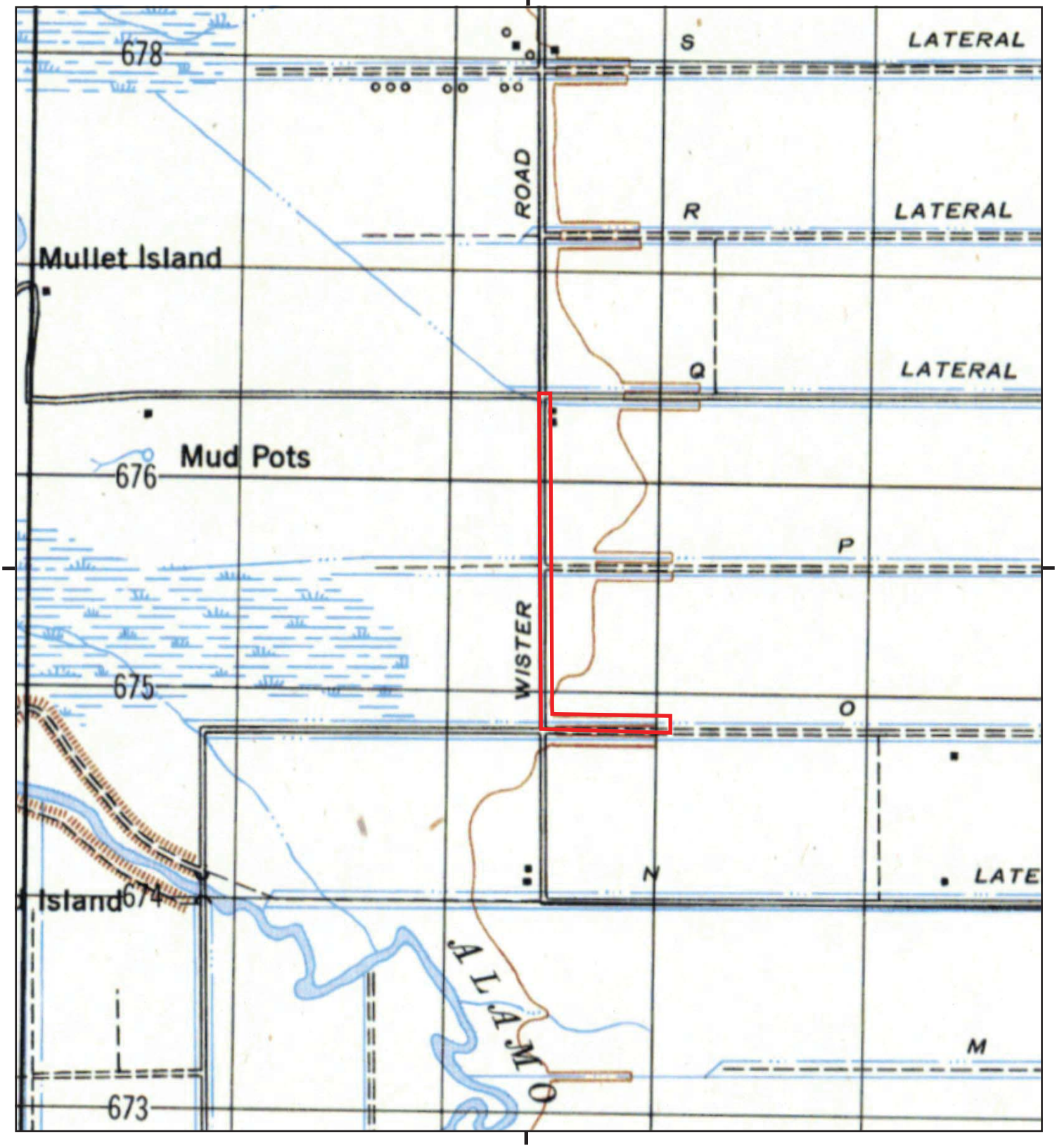
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, CALIPATRIA, 1947, 15-minute
N, FRINK, 1947, 15-minute

SITE NAME: CTR Area
ADDRESS: SWC Noffsinger Road and Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N



This report includes information from the following map sheet(s).

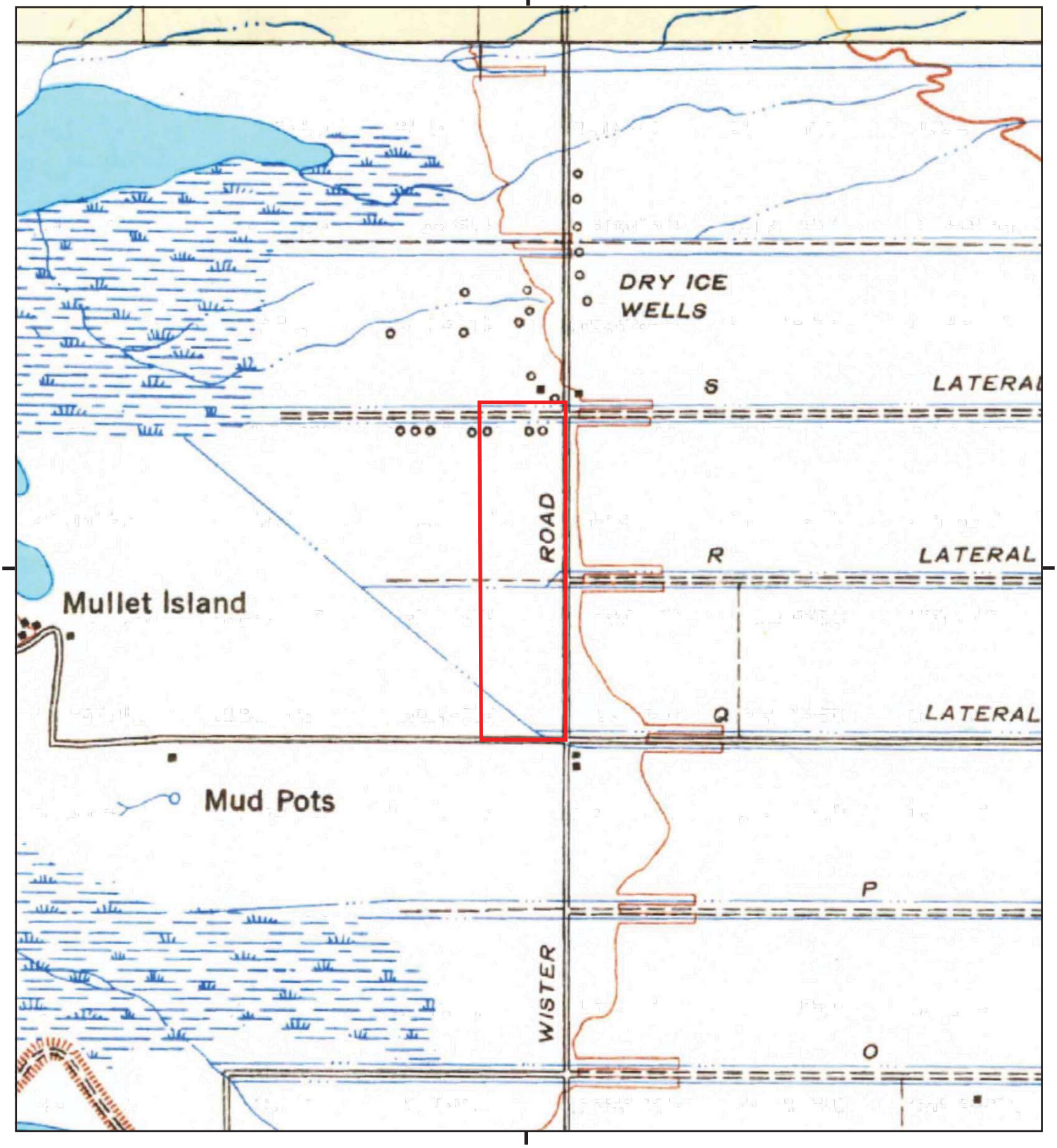
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, CALIPATRIA, 1947, 15-minute

SITE NAME: CTR Gen-Tie Line
ADDRESS: Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N



This report includes information from the following map sheet(s).

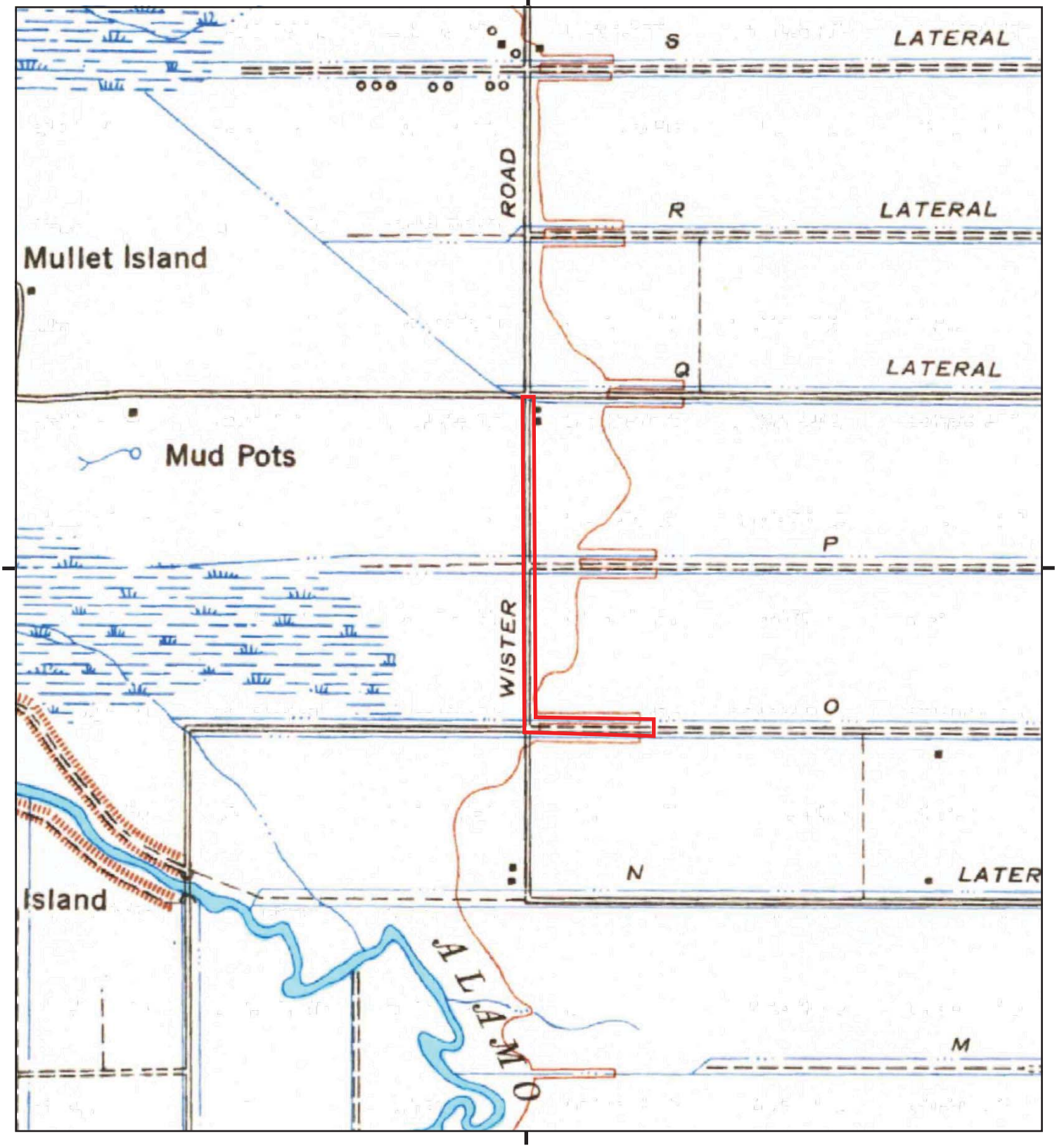
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Calipatria, 1945, 15-minute
N, Frink, 1944, 15-minute

SITE NAME: CTR Area
ADDRESS: SWC Noffsinger Road and Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N



This report includes information from the following map sheet(s).

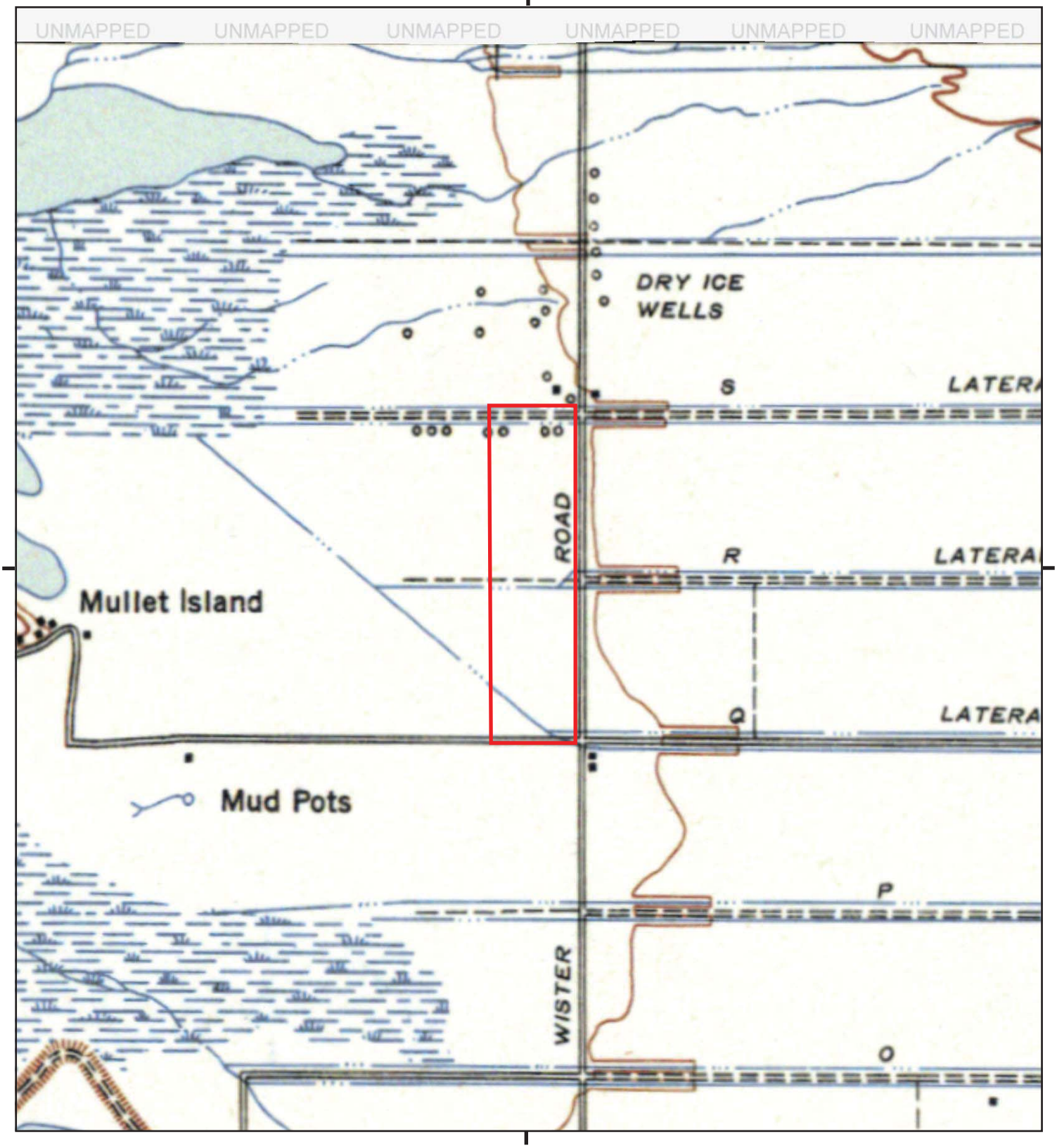
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Calipatria, 1945, 15-minute

SITE NAME: CTR Gen-Tie Line
ADDRESS: Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N



This report includes information from the following map sheet(s).

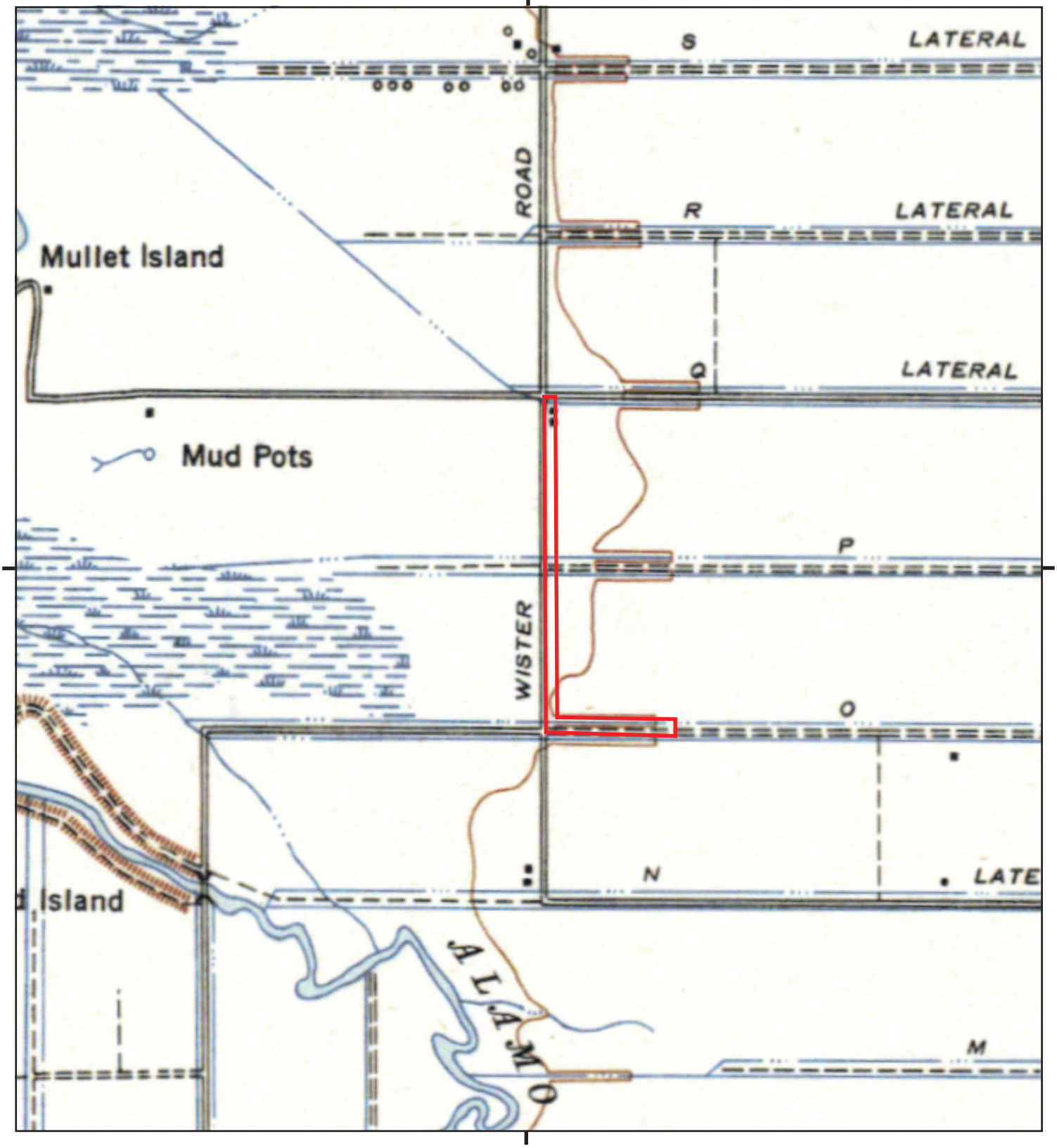
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, CALIPATRIA, 1943, 15-minute

SITE NAME: CTR Area
ADDRESS: SWC Noffsinger Road and Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, CALIPATRIA, 1943, 15-minute

SITE NAME: CTR Gen-Tie Line
ADDRESS: Wister Road
Niland, CA 92257
CLIENT: GS Lyon Consultants

N

APPENDIX E

CTR Area

SWC Noffsinger Road and Wister Road

Niland, CA 92257

Inquiry Number: 6563575.3

July 02, 2021

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

07/02/21

Site Name:

CTR Area
SWC Noffsinger Road and Wis
Niland, CA 92257
EDR Inquiry # 6563575.3

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 18D7-4076-B92B

PO # GS2116

Project Hells Kitchen Geothermal

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 18D7-4076-B92B

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX F

CTR Area
SWC Noffsinger Road and Wister Road
Niland, CA 92257

Inquiry Number: 6563575.2s
July 02, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	10
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-8
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SWC NOFFSINGER ROAD AND WISTER ROAD
NILAND, CA 92257

COORDINATES

Latitude (North):	33.2275000 - 33° 13' 39.00''
Longitude (West):	115.5817000 - 115° 34' 54.12''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	632158.9
UTM Y (Meters):	3677212.5
Elevation:	224 ft. below sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5639770 NILAND, CA
Version Date:	2012
North Map:	5639812 WISTER, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
SWC NOFFSINGER ROAD AND WISTER ROAD
NILAND, CA 92257

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory

DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---- Delisted National Clandestine Laboratory Register
HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
CERS HAZ WASTE ---- CERS HAZ WASTE
US CDL ---- National Clandestine Laboratory Register
PFAS ---- PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CERS TANKS ---- California Environmental Reporting System (CERS) Tanks
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

EXECUTIVE SUMMARY

MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
HWTS	Hazardous Waste Tracking System
MINES MRDS	Mineral Resources Data System

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

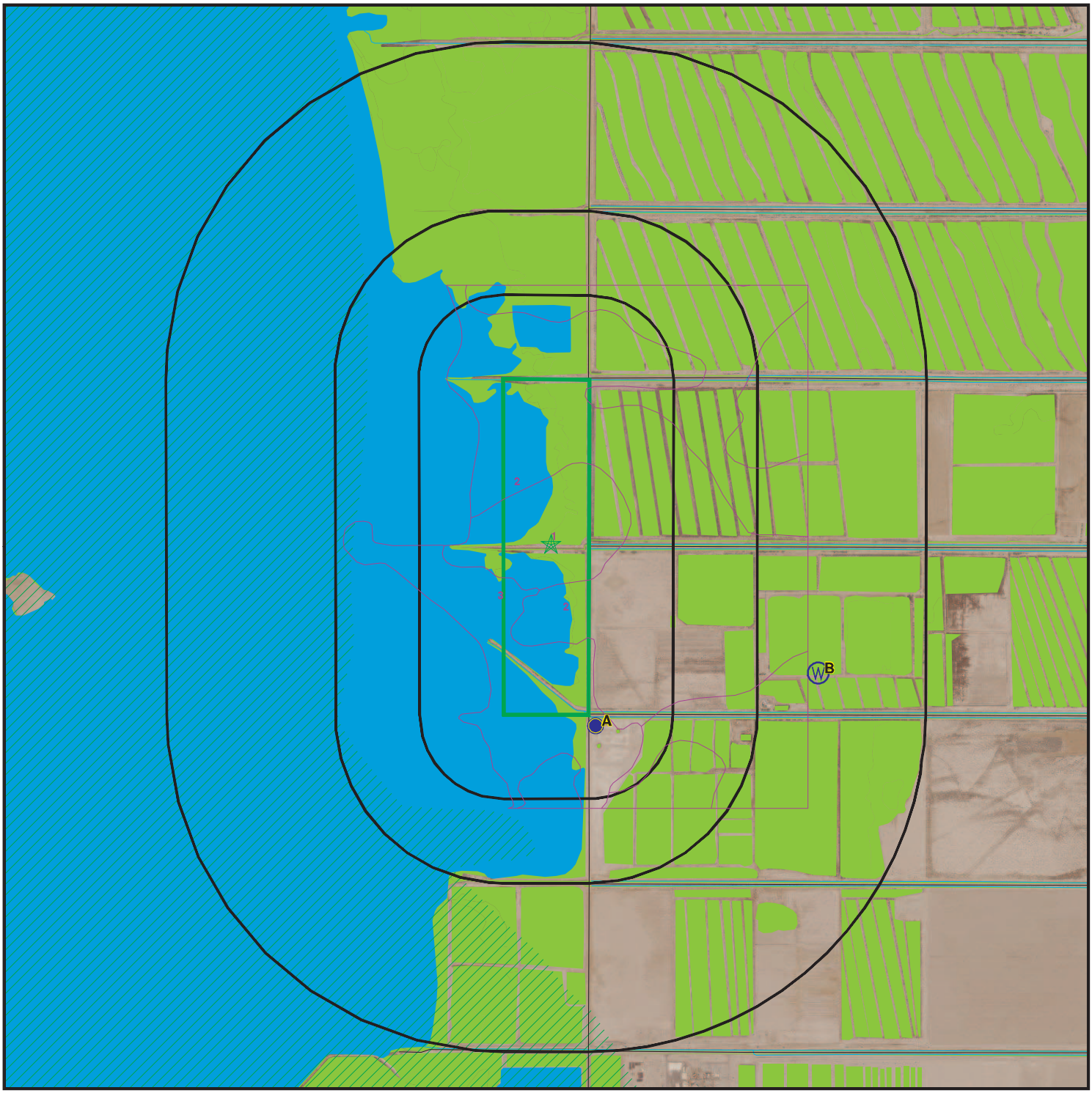
Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6563575.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

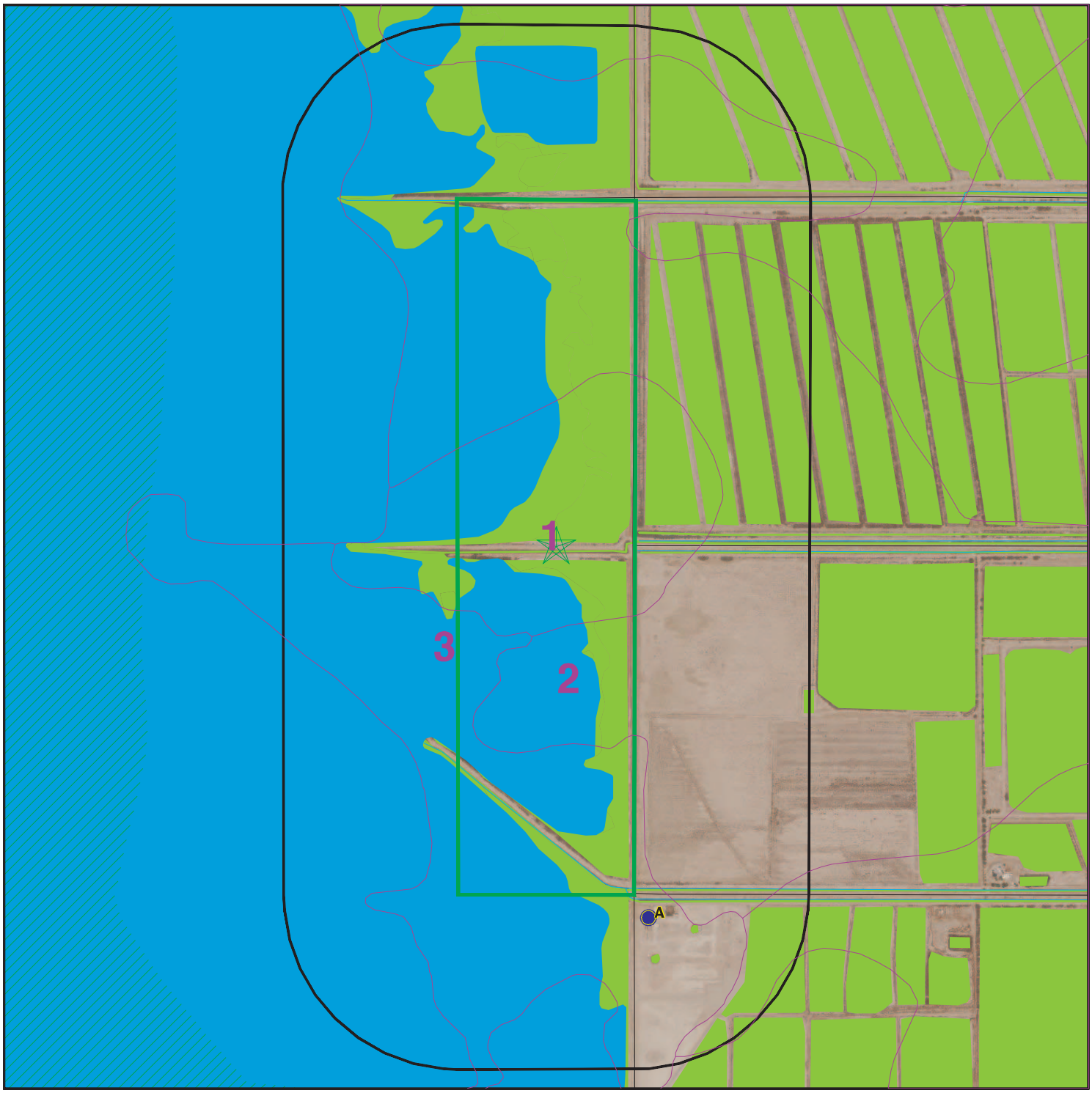
Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	CTR Area	CLIENT:	GS Lyon Consultants
ADDRESS:	SWC Noffsinger Road and Wister Road Niland CA 92257	CONTACT:	Steven Williams
LAT/LONG:	33.2275 / 115.5817	INQUIRY #:	6563575.2s
		DATE:	July 02, 2021 7:13 pm

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DETAIL MAP - 6563575.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/8 1/4 1/2 Miles

- Indian Reservations BIA
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	CTR Area	CLIENT:	GS Lyon Consultants
ADDRESS:	SWC Noffsinger Road and Wister Road Niland CA 92257	CONTACT:	Steven Williams
		INQUIRY #:	6563575.2s
LAT/LONG:	33.2275 / 115.5817	DATE:	July 02, 2021 7:16 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 39

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 85

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 05/03/2021
Number of Days to Update: 83

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/05/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 04/01/2021
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/15/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/22/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/22/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 02/24/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 77

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 85
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50
Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 47

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/07/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/17/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 60

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/22/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/05/2021
Number of Days to Update: 50

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/11/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 61

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/07/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/13/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 68

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/06/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/28/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 05/27/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 14

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/25/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/14/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 33

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2021
Date Data Arrived at EDR: 04/06/2021
Date Made Active in Reports: 06/25/2021
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/13/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/17/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 79

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/26/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/25/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 83

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/04/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 77

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/09/2021
Number of Days to Update: 79

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/12/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 82

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Annually

ICE: ICE
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/07/2021
Number of Days to Update: 79
Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 82
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/05/2021
Date Data Arrived at EDR: 04/06/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 78
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 05/04/2021
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 77
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/07/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/12/2021
Number of Days to Update: 73
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 05/19/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/09/2021
Date Made Active in Reports: 04/20/2021
Number of Days to Update: 11

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 03/17/2021
Date Data Arrived at EDR: 03/18/2021
Date Made Active in Reports: 03/25/2021
Number of Days to Update: 7

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/24/2020
Number of Days to Update: 8

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/16/2021
Number of Days to Update: 80

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 12/17/2020
Date Data Arrived at EDR: 01/28/2021
Date Made Active in Reports: 04/16/2021
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/14/2021
Date Data Arrived at EDR: 01/15/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 80

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 2

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/10/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/29/2020
Date Data Arrived at EDR: 10/30/2020
Date Made Active in Reports: 01/15/2021
Number of Days to Update: 77

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 01/28/2021
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List

Cupa facility list

Date of Government Version: 02/10/2021
Date Data Arrived at EDR: 02/12/2021
Date Made Active in Reports: 03/11/2021
Number of Days to Update: 27

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/07/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List

Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/12/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/13/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 81

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/07/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 04/16/2021
Date Made Active in Reports: 04/21/2021
Number of Days to Update: 5

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 11

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 01/12/2021
Date Made Active in Reports: 03/26/2021
Number of Days to Update: 73
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/07/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 09/11/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 77
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/24/2021
Date Data Arrived at EDR: 04/07/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 9

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 06/02/2021
Next Scheduled EDR Contact: 09/06/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/23/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 1

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

NAPA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/03/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/02/2021
Date Made Active in Reports: 04/20/2021
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 6
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/10/2021
Number of Days to Update: 55
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/10/2021
Number of Days to Update: 55
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/07/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/31/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/25/2021
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 04/29/2021
Date Made Active in Reports: 05/03/2021
Number of Days to Update: 4

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/19/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 06/07/2021
Number of Days to Update: 19

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/03/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/21/2021
Number of Days to Update: 79

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 3
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/06/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/02/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/24/2021
Date Data Arrived at EDR: 02/26/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 82
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/25/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 77

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 09/12/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 7

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/28/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 04/06/2021
Number of Days to Update: 82

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/28/2020
Date Data Arrived at EDR: 01/29/2021
Date Made Active in Reports: 04/22/2021
Number of Days to Update: 83

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/29/2021
Date Data Arrived at EDR: 04/21/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 2

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/26/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/21/2021
Date Data Arrived at EDR: 04/22/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 20
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/24/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 10/05/2020
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 82
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/13/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CTR AREA
SWC NOFFSINGER ROAD AND WISTER ROAD
NILAND, CA 92257

TARGET PROPERTY COORDINATES

Latitude (North):	33.2275 - 33° 13' 39.00''
Longitude (West):	115.5817 - 115° 34' 54.12''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	632158.9
UTM Y (Meters):	3677212.5
Elevation:	224 ft. below sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5639770 NILAND, CA
Version Date:	2012
North Map:	5639812 WISTER, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

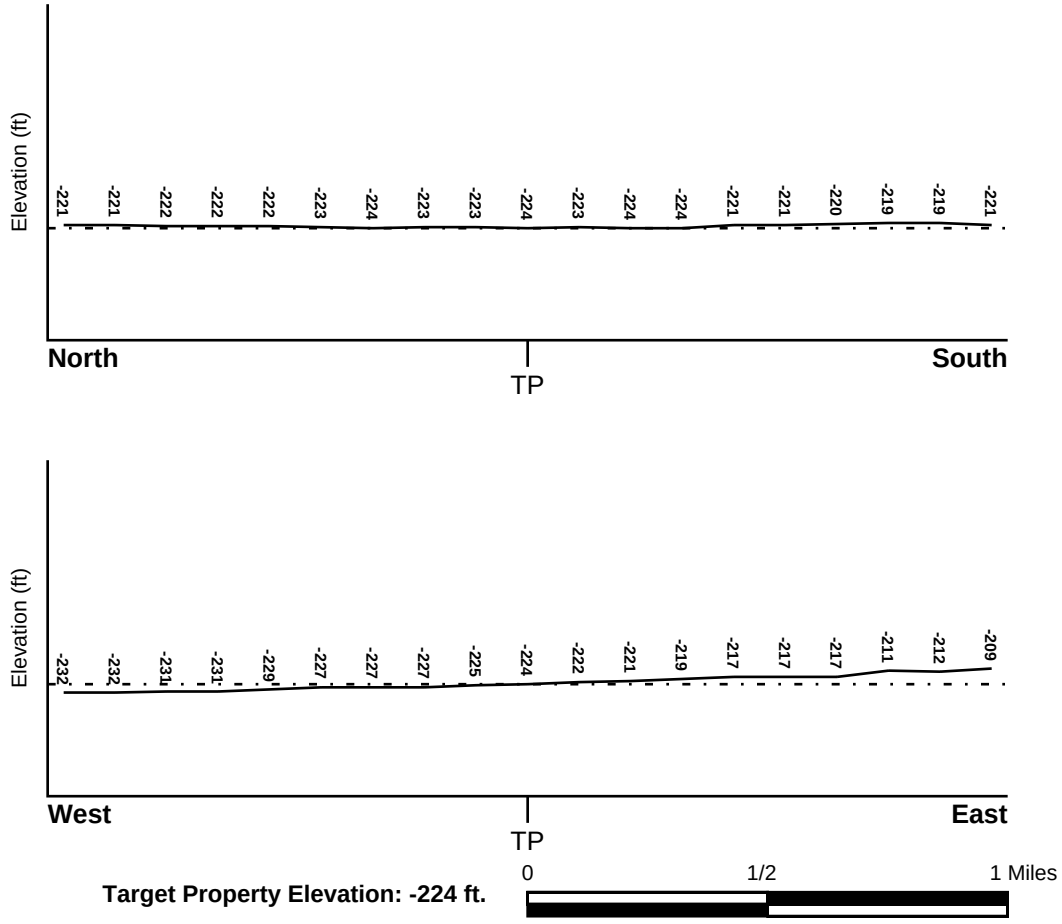
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06025C0725C	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NILAND	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

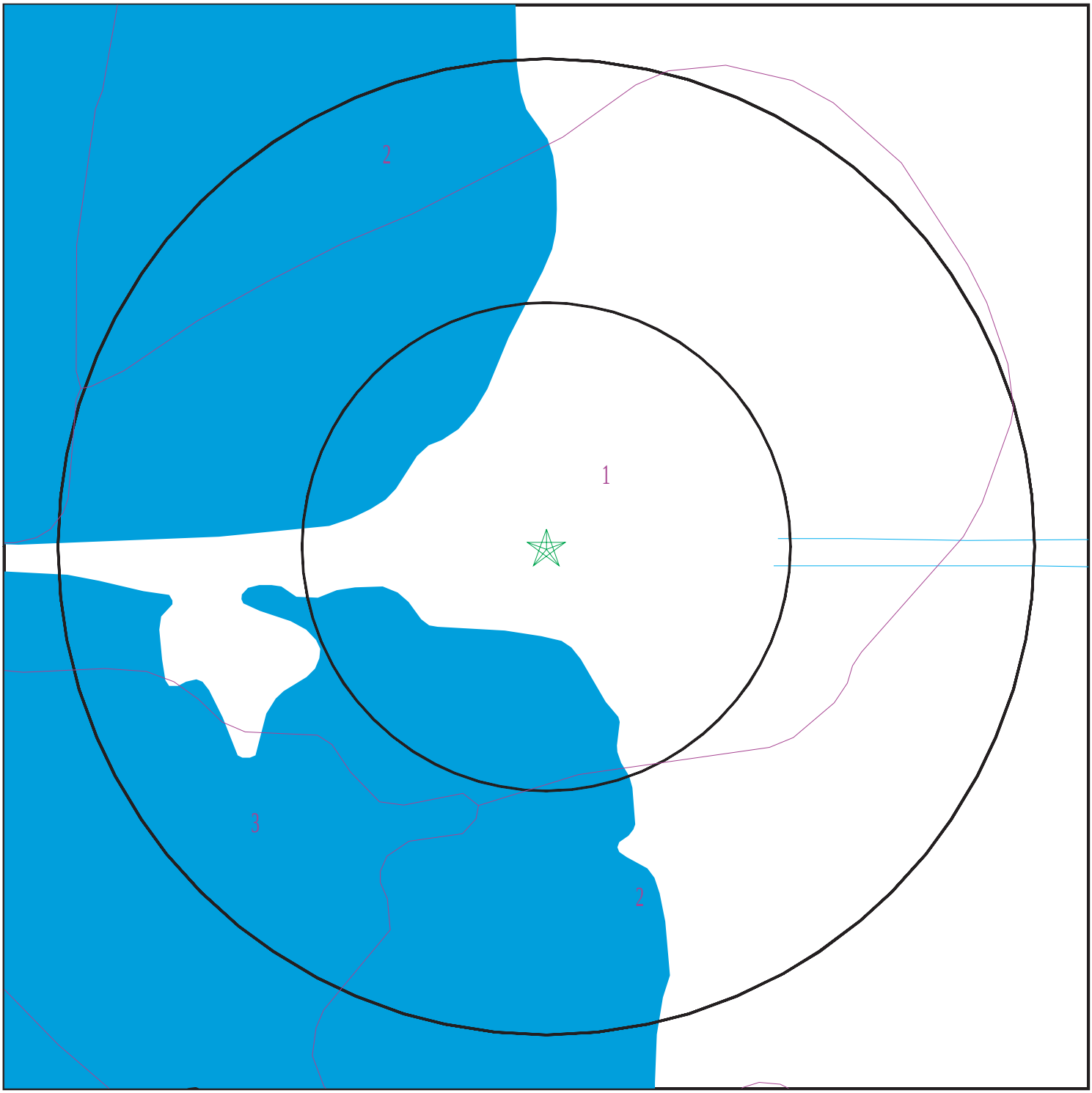
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6563575.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	CTR Area	CLIENT:	GS Lyon Consultants
ADDRESS:	SWC Noffsinger Road and Wister Road Niland CA 92257	CONTACT:	Steven Williams
		INQUIRY #:	6563575.2s
LAT/LONG:	33.2275 / 115.5817	DATE:	July 02, 2021 7:17 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Imperial

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 122 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	11 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Imperial

Soil Surface Texture: silty clay

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 122 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	11 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name: Fluvaquents

Soil Surface Texture:

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches		Not reported	Not reported	Max: Min:	Max: 9.6 Min: 8.4

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	USGS40000130659	1/2 - 1 Mile SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

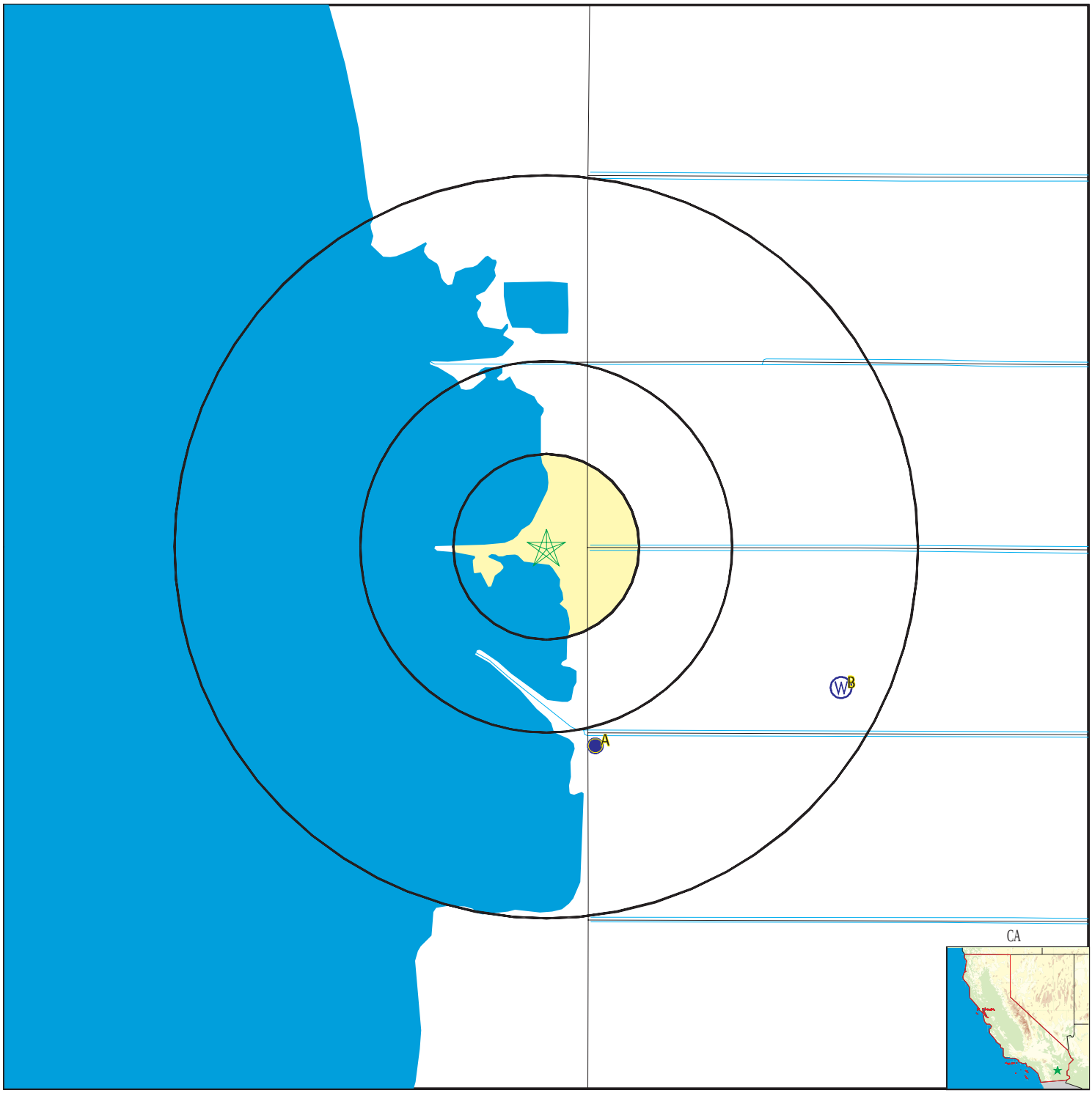
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	CAUSGSN00001650	1/2 - 1 Mile SSE
B3	CADWR0000037754	1/2 - 1 Mile ESE
B4	CADWR0000002156	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 6563575.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

No contour lines were detected within this map area.

SITE NAME: CTR Area	CLIENT: GS Lyon Consultants
ADDRESS: SWC Noffsinger Road and Wister Road Niland CA 92257	CONTACT: Steven Williams INQUIRY #: 6563575.2s
LAT/LONG: 33.2275 / 115.5817	DATE: July 02, 2021 7:16 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
SSE **FED USGS** **USGS40000130659**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	011S013E13D002S	Type:	Well
Description:	Not Reported	HUC:	18100200
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

A2
SSE **CA WELLS** **CAUSGSN00001650**
1/2 - 1 Mile
Higher

Well ID:	USGS-331311115344301	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-331311115344301	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-331311115344301&store_num=		
GeoTracker Data:	Not Reported		

B3
ESE **CA WELLS** **CADWR0000037754**
1/2 - 1 Mile
Higher

Well ID:	11S13E13D002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	11S13E13D002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=11S13E13D002S&store_num=		
GeoTracker Data:	Not Reported		

B4
ESE **CA WELLS** **CADWR0000002156**
1/2 - 1 Mile
Higher

Well ID:	11S13E13D001SS	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	11S13E13D001SS	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=11S13E13D001SS&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.450 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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CTR Gen-Tie Line
Wister Road
Niland, CA 92257

Inquiry Number: 6563586.2s
July 02, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	10
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-11
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

WISTER ROAD
NILAND, CA 92257

COORDINATES

Latitude (North):	33.2127000 - 33° 12' 45.72''
Longitude (West):	115.5797000 - 115° 34' 46.92''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	632367.6
UTM Y (Meters):	3675574.2
Elevation:	221 ft. below sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5639770 NILAND, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
WISTER ROAD
NILAND, CA 92257

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	HUDSON RANCH I GEOTH	7622 DAVIS	FINDS	Higher	1 ft.

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory

DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
CDL ---------- Clandestine Drug Labs
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CERS HAZ WASTE ---------- CERS HAZ WASTE
US CDL ---------- National Clandestine Laboratory Register
PFAS ---------- PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST ---------- SWEEPS UST Listing
HIST UST ---------- Hazardous Substance Storage Container Database
CERS TANKS ---------- California Environmental Reporting System (CERS) Tanks
CA FID UST ---------- Facility Inventory Database

Local Land Records

LIENS ---------- Environmental Liens Listing
LIENS 2 ---------- CERCLA Lien Information
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
CHMIRS ---------- California Hazardous Material Incident Report System
LDS ---------- Land Disposal Sites Listing
MCS ---------- Military Cleanup Sites Listing
SPILLS 90 ---------- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---------- RCRA - Non Generators / No Longer Regulated
FUDS ---------- Formerly Used Defense Sites
DOD ---------- Department of Defense Sites
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---------- Financial Assurance Information
EPA WATCH LIST ---------- EPA WATCH LIST
2020 COR ACTION ---------- 2020 Corrective Action Program List
TSCA ---------- Toxic Substances Control Act
TRIS ---------- Toxic Chemical Release Inventory System
SSTS ---------- Section 7 Tracking Systems
ROD ---------- Records Of Decision
RMP ---------- Risk Management Plans
RAATS ---------- RCRA Administrative Action Tracking System
PRP ---------- Potentially Responsible Parties
PADS ---------- PCB Activity Database System
ICIS ---------- Integrated Compliance Information System
FTTS ---------- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

MLTS Material Licensing Tracking System
COAL ASH DOE Steam-Electric Plant Operation Data
COAL ASH EPA Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER PCB Transformer Registration Database
RADINFO Radiation Information Database
HIST FTTS FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS Incident and Accident Data
CONSENT Superfund (CERCLA) Consent Decrees
INDIAN RESERV Indian Reservations
FUSRAP Formerly Utilized Sites Remedial Action Program
UMTRA Uranium Mill Tailings Sites
LEAD SMELTERS Lead Smelter Sites
US AIRS Aerometric Information Retrieval System Facility Subsystem
US MINES Mines Master Index File
ABANDONED MINES Abandoned Mines
DOCKET HWC Hazardous Waste Compliance Docket Listing
UXO Unexploded Ordnance Sites
ECHO Enforcement & Compliance History Information
FUELS PROGRAM EPA Fuels Program Registered Listing
CA BOND EXP. PLAN Bond Expenditure Plan
Cortese "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings CUPA Resources List
DRYCLEANERS Cleaner Facilities
EMI Emissions Inventory Data
ENF Enforcement Action Listing
Financial Assurance Financial Assurance Information Listing
HAZNET Facility and Manifest Data
ICE ICE
HIST CORTESE Hazardous Waste & Substance Site List
HWP EnviroStor Permitted Facilities Listing
HWT Registered Hazardous Waste Transporter Database
MINES Mines Site Location Listing
MWMP Medical Waste Management Program Listing
NPDES NPDES Permits Listing
PEST LIC Pesticide Regulation Licenses Listing
PROC Certified Processors Database
Notify 65 Proposition 65 Records
UIC UIC Listing
UIC GEO UIC GEO (GEOTRACKER)
WASTEWATER PITS Oil Wastewater Pits Listing
WDS Waste Discharge System
WIP Well Investigation Program Case List
MILITARY PRIV SITES MILITARY PRIV SITES (GEOTRACKER)
PROJECT PROJECT (GEOTRACKER)
WDR Waste Discharge Requirements Listing
CIWQS California Integrated Water Quality System
CERS CERS
NON-CASE INFO NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ Well Stimulation Project (GEOTRACKER)
HWTS Hazardous Waste Tracking System
MINES MRDS Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

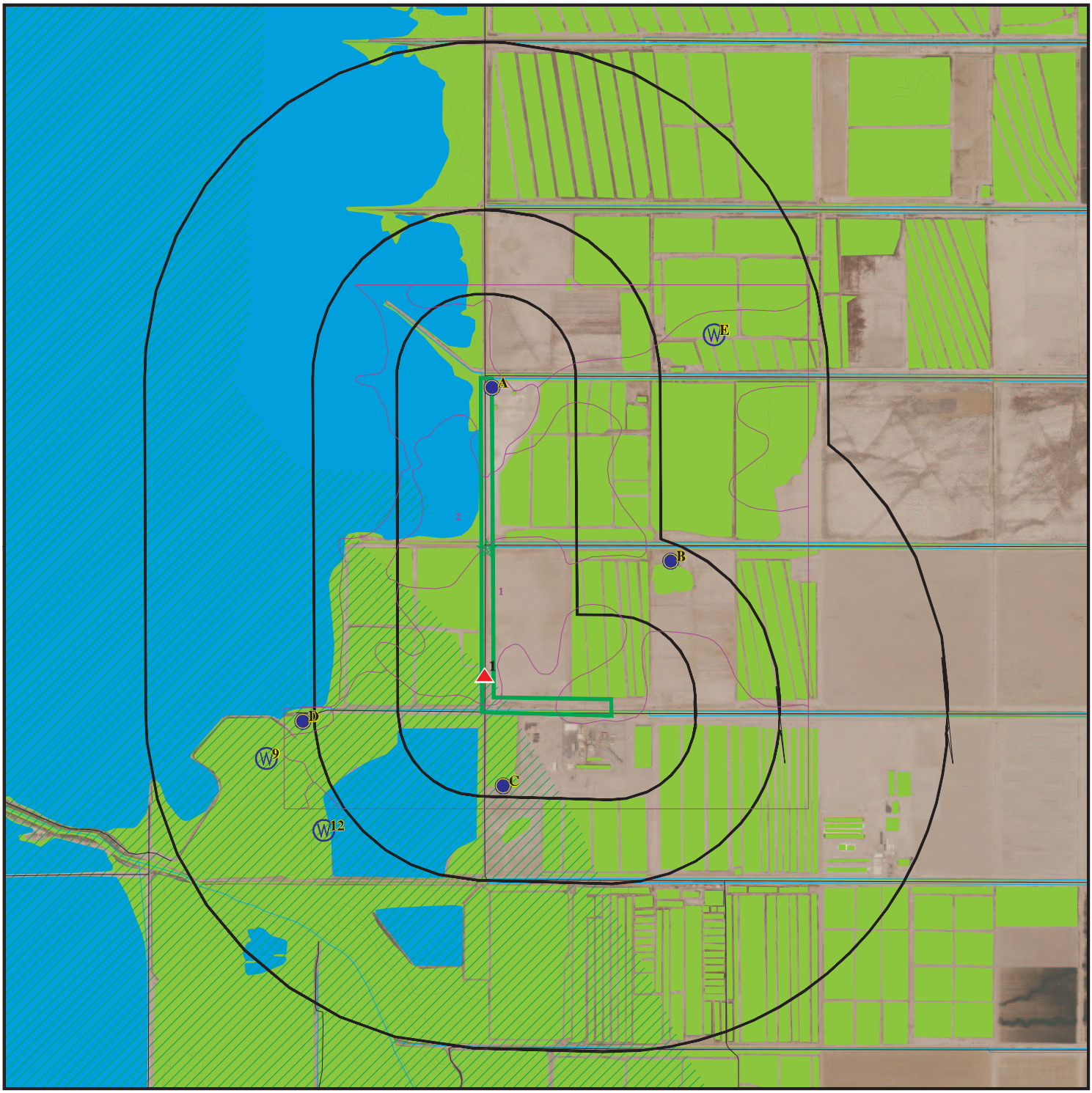
A review of the FINDS list, as provided by EDR, and dated 02/03/2021 has revealed that there is 1 FINDS site within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HUDSON RANCH I GEOTH Registry ID:: 110065402166	7622 DAVIS	0 - 1/8 (0.000 mi.)	1	9

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6563586.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

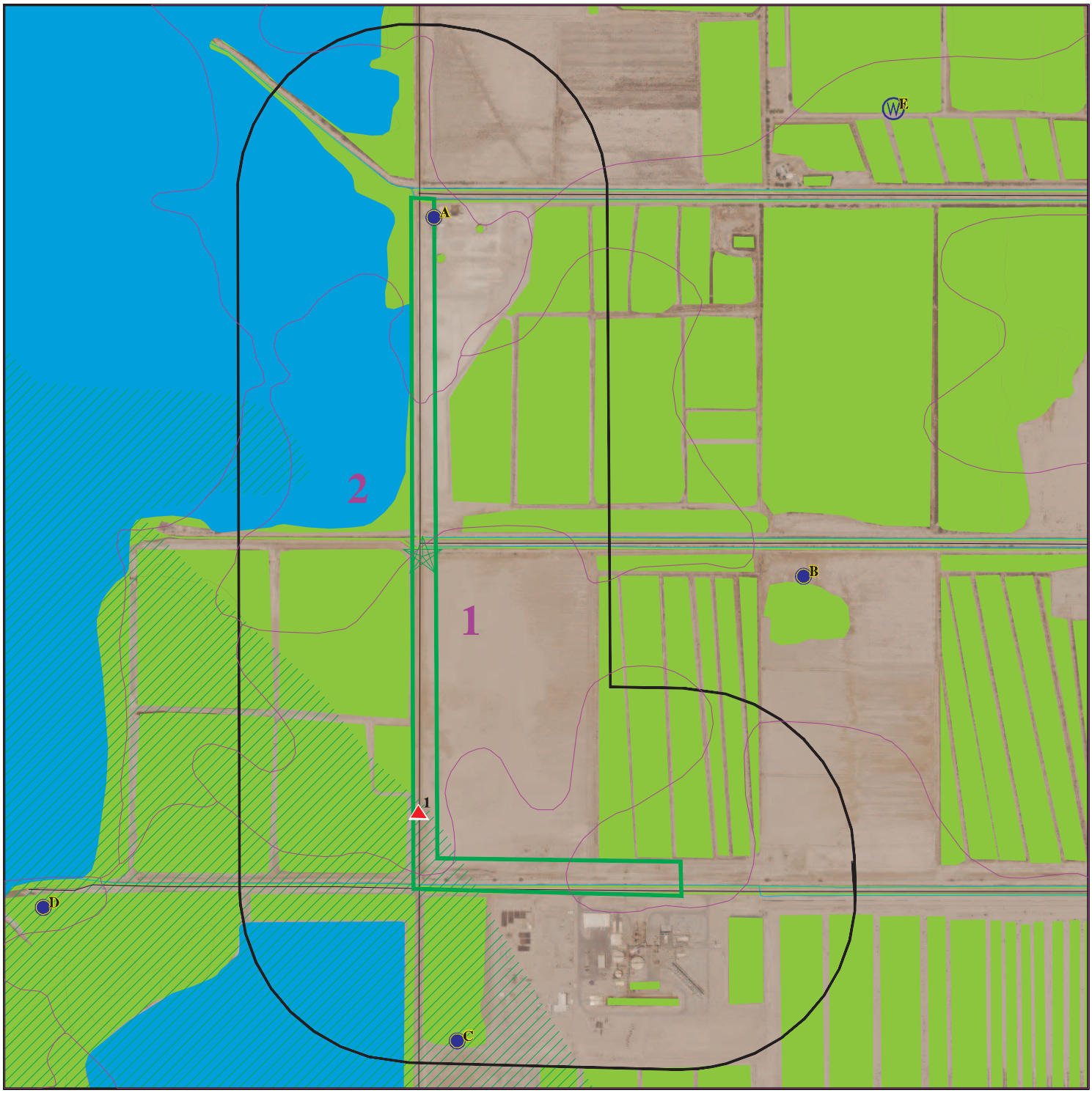
Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	CTR Gen-Tie Line	CLIENT:	GS Lyon Consultants
ADDRESS:	Wister Road Niland CA 92257	CONTACT:	Steven Williams
		INQUIRY #:	6563586.2s
LAT/LONG:	33.2127 / 115.5797	DATE:	July 02, 2021 7:12 pm

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DETAIL MAP - 6563586.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	CTR Gen-Tie Line	CLIENT:	GS Lyon Consultants
ADDRESS:	Wister Road Niland CA 92257	CONTACT:	Steven Williams
		INQUIRY #:	6563586.2s
LAT/LONG:	33.2127 / 115.5797	DATE:	July 02, 2021 7:15 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		1	NR	NR	NR	NR	1
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	1	0	0	0	0	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
< 1/8
1 ft.

HUDSON RANCH I GEOTHERMAL DRILLING **FINDS** **1023251540**
7622 DAVIS **N/A**
CALIPATRIA, CA 92233

Relative: Higher

Actual: -220 ft.

FINDS:
Registry ID: 110065402166

Click Here:

Environmental Interest/Information System:
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 39

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 85

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 05/03/2021
Number of Days to Update: 83

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/05/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 04/01/2021
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/15/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/22/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/22/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 02/24/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 77

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 85
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50
Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 47

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/07/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/17/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 60

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/22/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/05/2021
Number of Days to Update: 50

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/11/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 61

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/07/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/13/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 68

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/06/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/28/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 05/27/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 14

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/25/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/14/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 33

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2021
Date Data Arrived at EDR: 04/06/2021
Date Made Active in Reports: 06/25/2021
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/13/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/17/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 79

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/26/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/25/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 83

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/04/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 77

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/09/2021
Number of Days to Update: 79

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/12/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 82

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Annually

ICE: ICE
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/07/2021
Number of Days to Update: 79
Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 82
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/05/2021
Date Data Arrived at EDR: 04/06/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 78
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 05/04/2021
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 77
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/07/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/12/2021
Number of Days to Update: 73
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 05/19/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/09/2021
Date Made Active in Reports: 04/20/2021
Number of Days to Update: 11

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 03/17/2021
Date Data Arrived at EDR: 03/18/2021
Date Made Active in Reports: 03/25/2021
Number of Days to Update: 7

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/24/2020
Number of Days to Update: 8

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/16/2021
Number of Days to Update: 80

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 12/17/2020
Date Data Arrived at EDR: 01/28/2021
Date Made Active in Reports: 04/16/2021
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/14/2021
Date Data Arrived at EDR: 01/15/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 80

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 2

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/10/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/29/2020
Date Data Arrived at EDR: 10/30/2020
Date Made Active in Reports: 01/15/2021
Number of Days to Update: 77

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 01/28/2021
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List

Cupa facility list

Date of Government Version: 02/10/2021
Date Data Arrived at EDR: 02/12/2021
Date Made Active in Reports: 03/11/2021
Number of Days to Update: 27

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/07/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List

Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/12/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/13/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 81

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/07/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 04/16/2021
Date Made Active in Reports: 04/21/2021
Number of Days to Update: 5

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 11

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 01/12/2021
Date Made Active in Reports: 03/26/2021
Number of Days to Update: 73
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/07/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 09/11/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 77
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/24/2021
Date Data Arrived at EDR: 04/07/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 9

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 06/02/2021
Next Scheduled EDR Contact: 09/06/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/23/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 1

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

NAPA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/03/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/02/2021
Date Made Active in Reports: 04/20/2021
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 6
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/10/2021
Number of Days to Update: 55
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/10/2021
Number of Days to Update: 55
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/07/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/31/2021
Next Scheduled EDR Contact: 07/12/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/25/2021
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 04/29/2021
Date Made Active in Reports: 05/03/2021
Number of Days to Update: 4

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/19/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 06/07/2021
Number of Days to Update: 19

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/03/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/21/2021
Number of Days to Update: 79

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 3
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/06/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/02/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/24/2021
Date Data Arrived at EDR: 02/26/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 82
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/25/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 77

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 09/12/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 7

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/28/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 04/06/2021
Number of Days to Update: 82

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/28/2020
Date Data Arrived at EDR: 01/29/2021
Date Made Active in Reports: 04/22/2021
Number of Days to Update: 83

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/29/2021
Date Data Arrived at EDR: 04/21/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 2

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/26/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/21/2021
Date Data Arrived at EDR: 04/22/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 20
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/24/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 10/05/2020
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 82
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/13/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CTR GEN-TIE LINE
WISTER ROAD
NILAND, CA 92257

TARGET PROPERTY COORDINATES

Latitude (North):	33.2127 - 33° 12' 45.72''
Longitude (West):	115.5797 - 115° 34' 46.92''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	632367.6
UTM Y (Meters):	3675574.2
Elevation:	221 ft. below sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5639770 NILAND, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

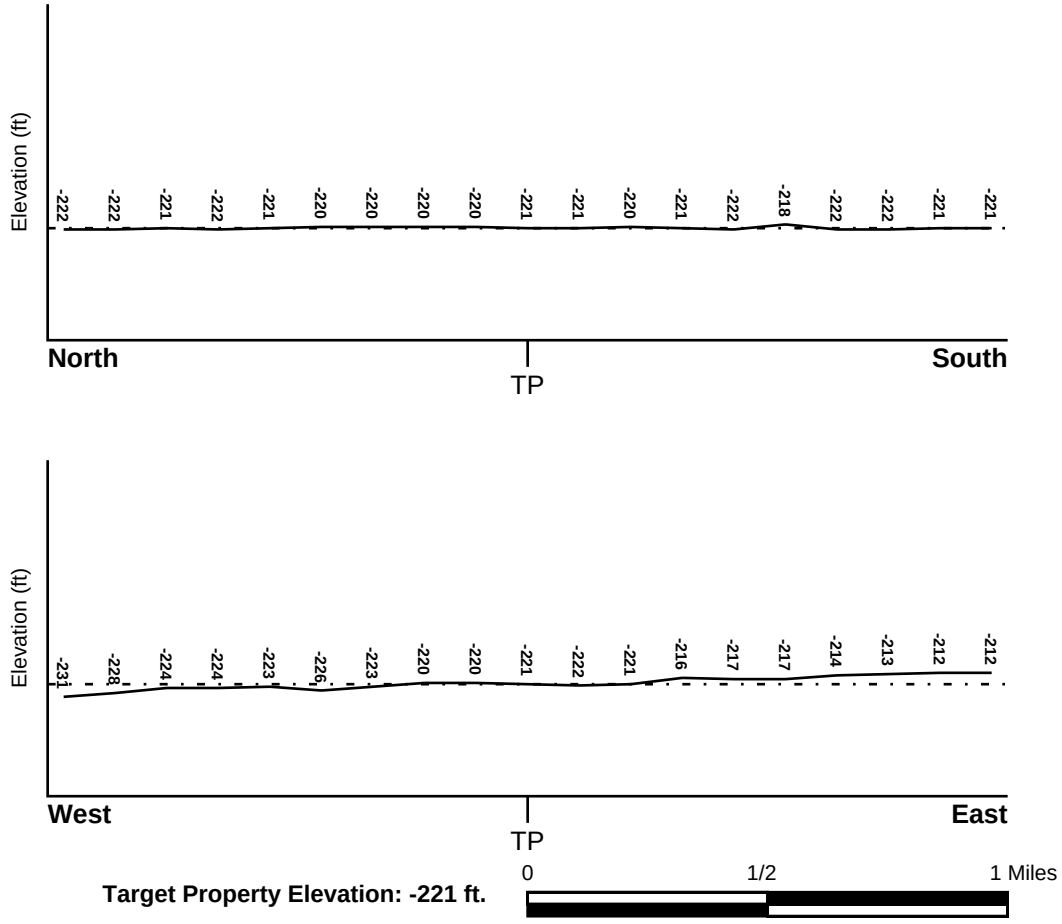
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: -221 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06025C0725C	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NILAND	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

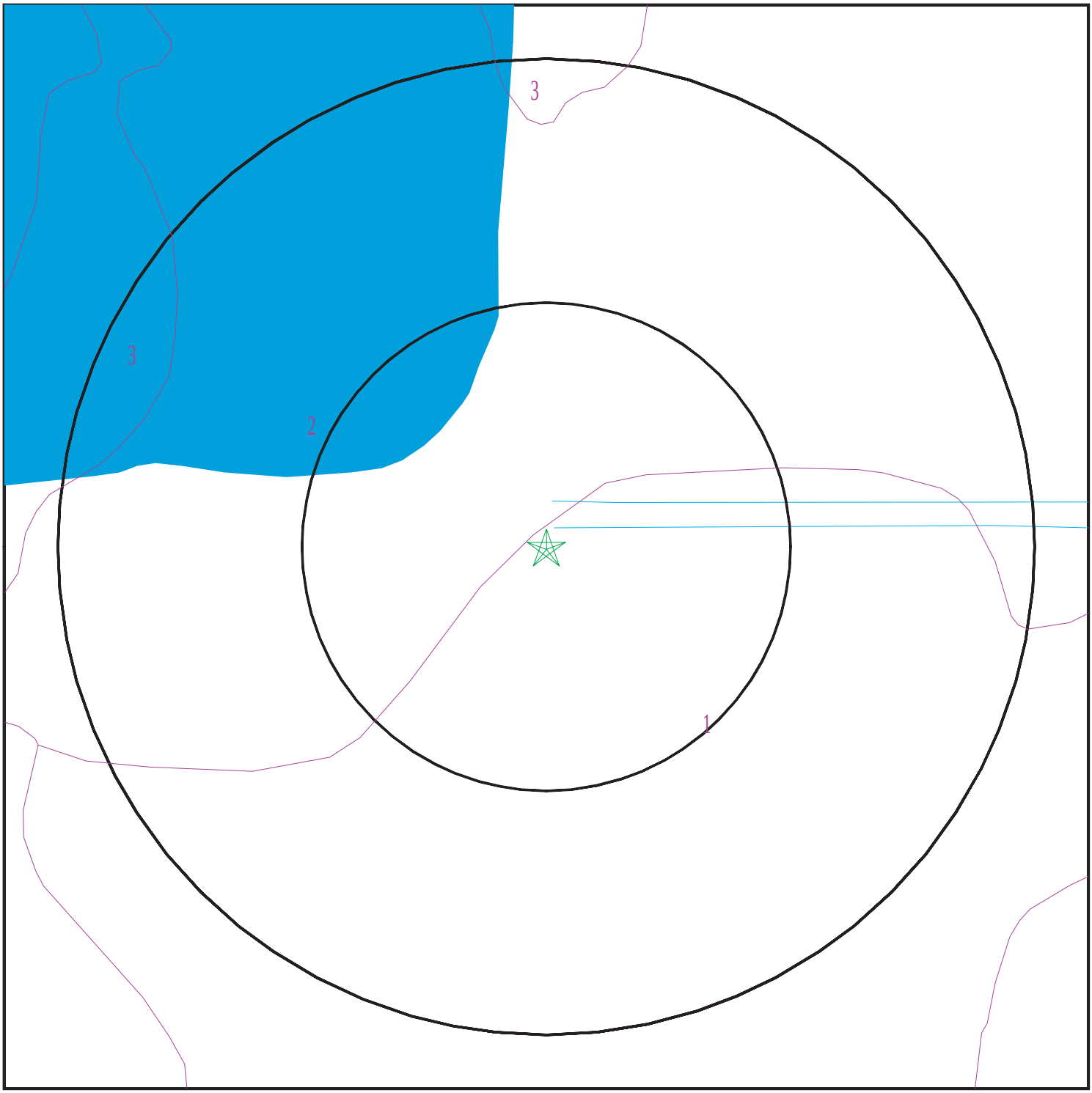
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6563586.2s



Target Property
SSURGO Soil
Water

SITE NAME:	CTR Gen-Tie Line	CLIENT:	GS Lyon Consultants
ADDRESS:	Wister Road Niland CA 92257	CONTACT:	Steven Williams
LAT/LONG:	33.2127 / 115.5797	INQUIRY #:	6563586.2s
		DATE:	July 02, 2021 7:16 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Imperial

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 122 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	11 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Imperial

Soil Surface Texture: silty clay

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 122 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	11 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name: Fluvaquents

Soil Surface Texture:

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	59 inches		Not reported	Not reported	Max: Min:	Max: 9.6 Min: 8.4

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	USGS40000130659	1/4 - 1/2 Mile North
B3	USGS40000130533	1/2 - 1 Mile East
C5	USGS40000130423	1/2 - 1 Mile South
D8	USGS40000130446	1/2 - 1 Mile SW
12	USGS40000130411	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

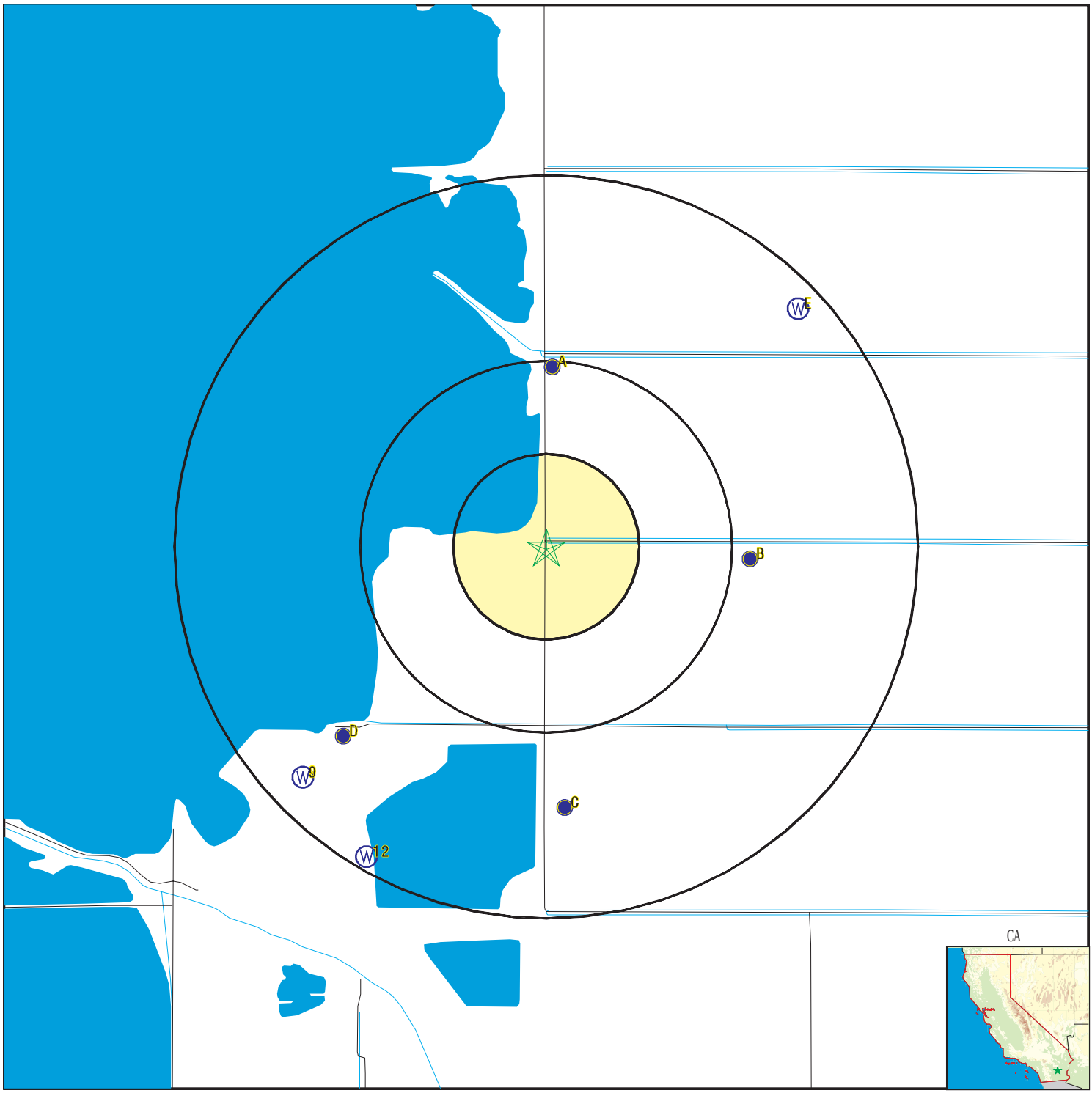
MAP ID	WELL ID	LOCATION FROM TP
A1	CAUSGSN00001650	1/4 - 1/2 Mile North

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B4	CAUSGSN00015867	1/2 - 1 Mile East
C6	CAUSGSN00003479	1/2 - 1 Mile South
D7	CAUSGSN00008962	1/2 - 1 Mile SW
9	CADWR0000013560	1/2 - 1 Mile SW
E10	CADWR0000002156	1/2 - 1 Mile NE
E11	CADWR0000037754	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 6563586.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

No contour lines were detected within this map area.

SITE NAME: CTR Gen-Tie Line	CLIENT: GS Lyon Consultants
ADDRESS: Wister Road	CONTACT: Steven Williams
Niland CA 92257	INQUIRY #: 6563586.2s
LAT/LONG: 33.2127 / 115.5797	DATE: July 02, 2021 7:15 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAUSGSN00001650**

Well ID:	USGS-331311115344301	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-331311115344301	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-331311115344301&store_num=		
GeoTracker Data:	Not Reported		

A2
North
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000130659**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	011S013E13D002S	Type:	Well
Description:	Not Reported	HUC:	18100200
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

B3
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000130533**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	011S013E13K001S	Type:	Well
Description:	Not Reported	HUC:	18100200
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

B4
East
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00015867**

Well ID:	USGS-331244115341001	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-331244115341001	GAMA PFAS Testing:	Not Reported

Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-331244115341001&store_num=
GeoTracker Data: Not Reported

C5
South
1/2 - 1 Mile
Higher

FED USGS **USGS40000130423**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	011S013E24D001S	Type:	Well
Description:	Not Reported	HUC:	18100200
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

C6
South
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00003479**

Well ID:	USGS-331209115344101	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-331209115344101	GAMA PFAS Testing:	Not Reported

Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-331209115344101&store_num=
GeoTracker Data: Not Reported

D7
SW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00008962**

Well ID:	USGS-331219115351801	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-331219115351801	GAMA PFAS Testing:	Not Reported

Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-331219115351801&store_num=
GeoTracker Data: Not Reported

D8
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000130446**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	011S013E23C001S	Type:	Well
Description:	Not Reported	HUC:	18100200

Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

9
SW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000013560**

Well ID:	11S13E22H001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	11S13E22H001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=11S13E22H001S&store_num=		
GeoTracker Data:	Not Reported		

E10
NE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000002156**

Well ID:	11S13E13D001SS	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	11S13E13D001SS	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=11S13E13D001SS&store_num=		
GeoTracker Data:	Not Reported		

E11
NE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000037754**

Well ID:	11S13E13D002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	11S13E13D002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=11S13E13D002S&store_num=		
GeoTracker Data:	Not Reported		

12
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000130411**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	011S013E23G001S	Type:	Well
Description:	Not Reported	HUC:	18100200
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.450 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

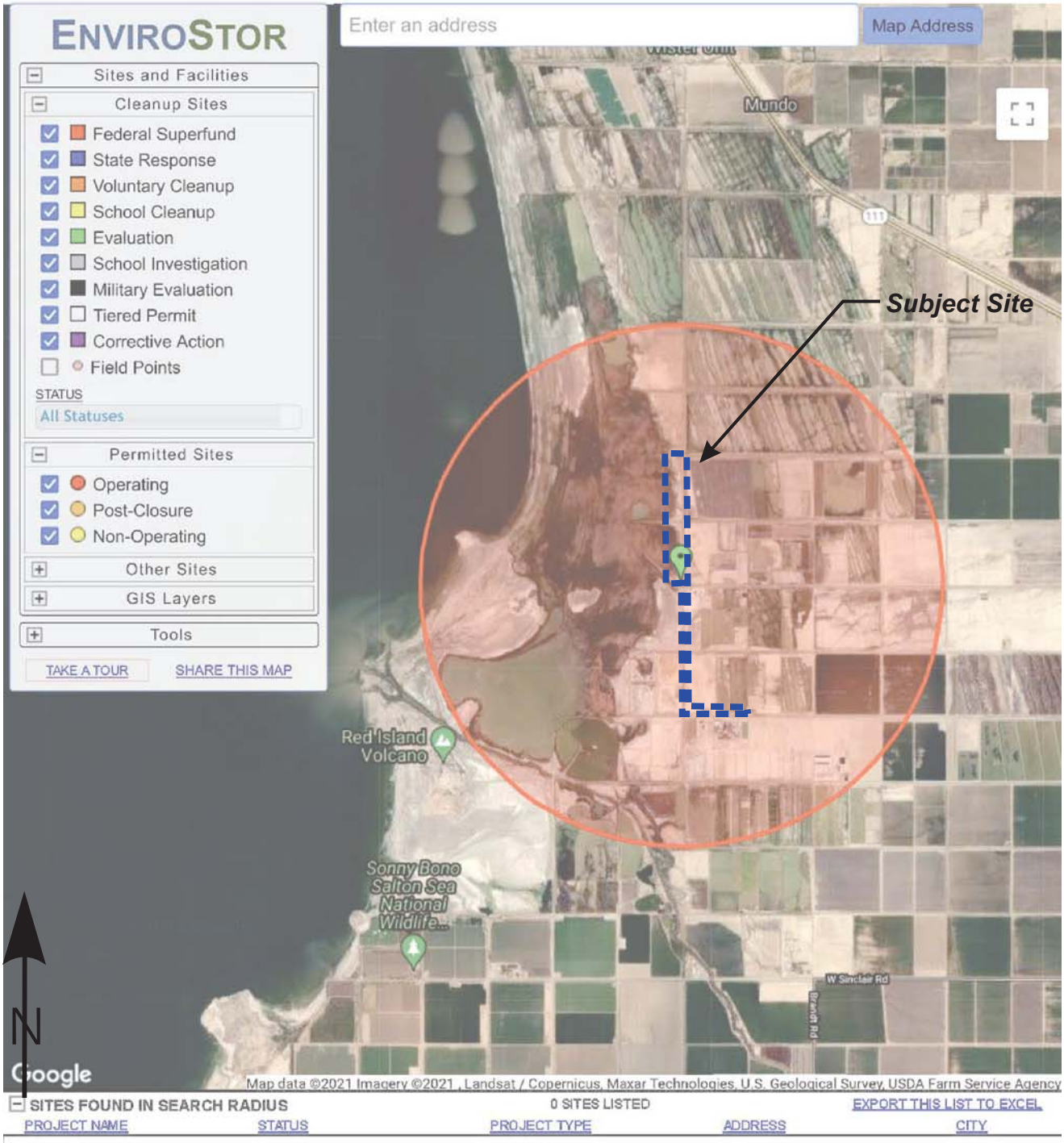
Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

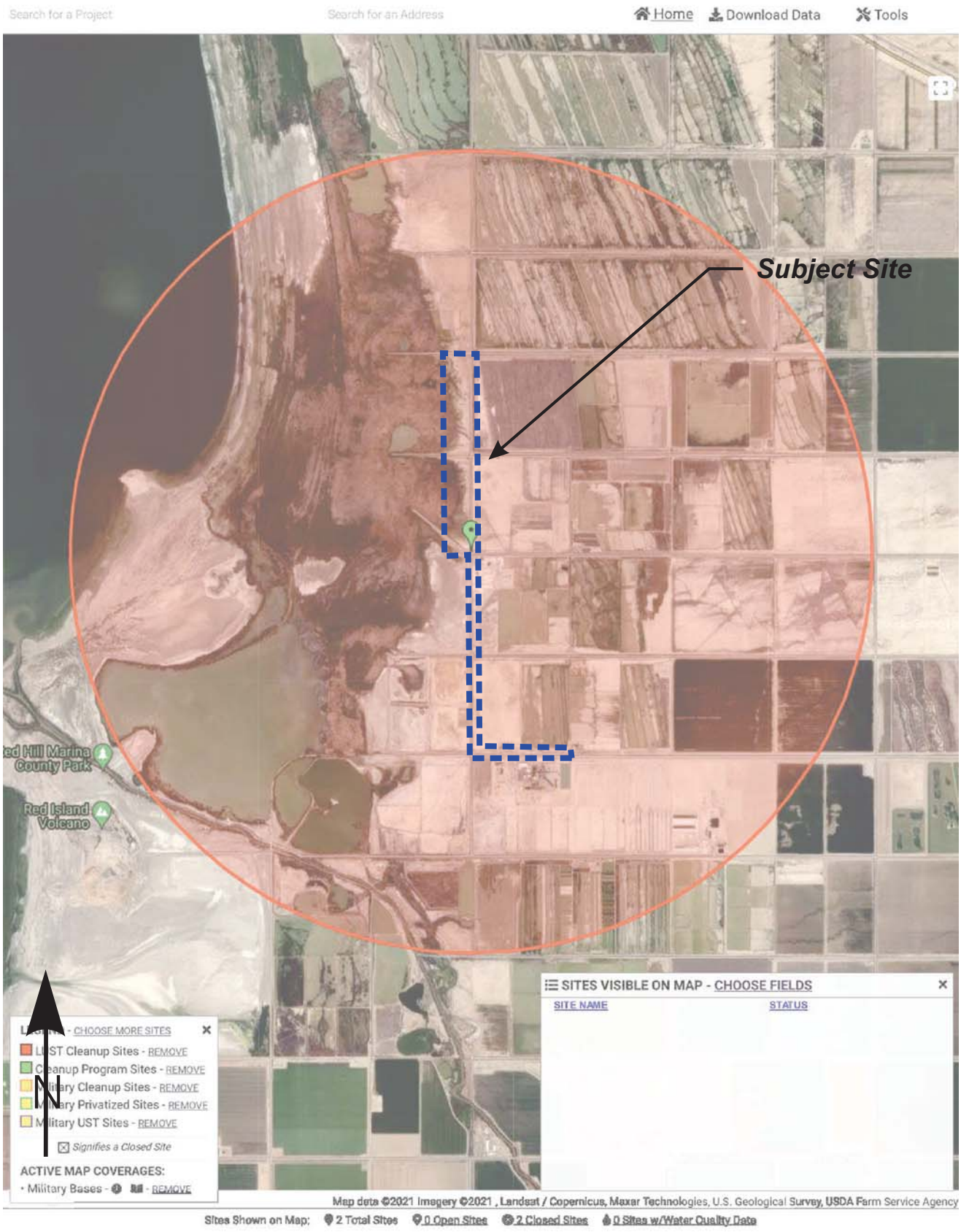
STREET AND ADDRESS INFORMATION

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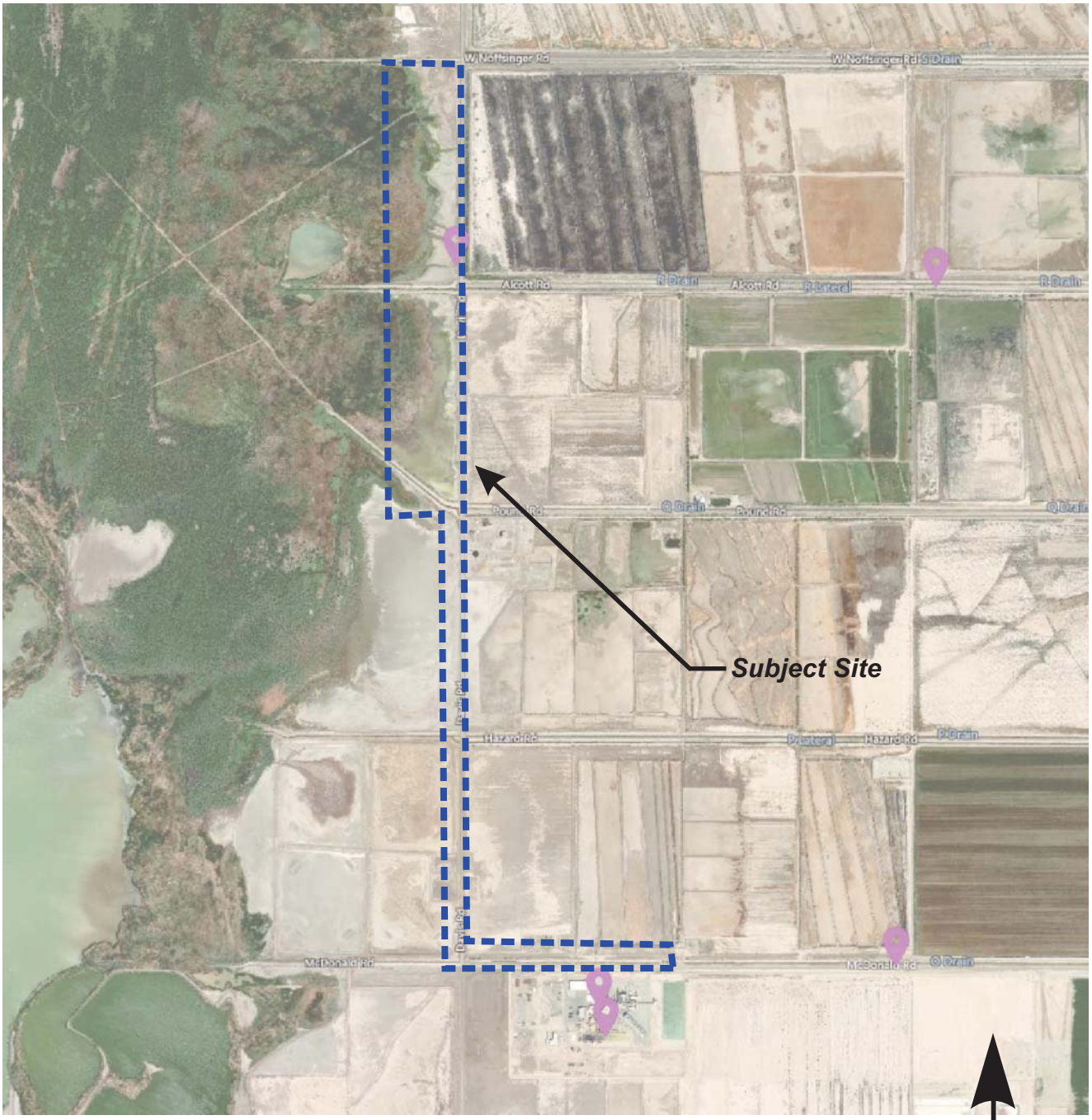
APPENDIX G



GS Lyon Project No.: GS2116	Envirostor Map	Plate 5



GS Lyon Project No.: GS2116	Geotracker Map	Plate 6



GS Lyon

Project No.: GS2116

CalEPA Map

Plate 7

Site Report
Hells Kitchen Exploratory Well1

7581 GARST ROAD
CALIPATRIA, CA 92233



County	Imperial County
CalEnviroscreen 3.0 Percentile Range	81-85%

Alternate IDs

Facilities Explorer ID	561545	**SMARTS WDID**	7 13W004410

Regulatory Programs

Description	Source System	Program Id	Start Date	End Date
Construction Storm Water	Storm Water Multiple Application and Report Tracking System (SMARTS)	877323	12/04/2019	

Site Contacts

Name	Title	Phone	Address
Hells Kitchen Geothermal	Operator		447 West Aten RoadSuite G Imperial, CA 92251

Site Report

Hudson Ranch I Geothermal Development

409 MCDONALD
CALIPATRIA, CA 92233



County	Imperial County
CalEnviroscreen 3.0 Percentile Range	81-85%

Alternate IDs

Facilities Explorer ID	123443

Regulatory Programs

Description	Source System	Program Id	Start Date	End Date
Land Disposal	California Integrated Water Quality System	727093	06/20/2013	

Site Contacts

Name	Title	Phone	Address
Hudson Ranch Power I LLC			

Site Report
Hudson Ranch Power I LLC

409 W. MCDONALD ROAD
CALIPATRIA, CA 92233



County	Imperial County
CalEnviroscreen 3.0 Percentile Range	81-85%

SIC Codes

4911	Electric services

NAICS Codes

221116	Geothermal Electric Power Generation

Alternate IDs

FRS	110043985239	**Dun & Bradstreet Number**	830666223
Facilities Explorer ID	37241	**EPA Identifier**	CAR000221614

Regulatory Programs

Description	Source System	Program Id	Start Date	End Date
Hazardous Waste Generator	California Environmental Reporting System	10136887	07/10/2013	
Aboveground Petroleum Storage	California Environmental Reporting System	10136887	07/10/2013	
Chemical Storage Facilities	California Environmental Reporting System	10136887	07/10/2013	

Site Contacts

Name	Title	Phone	Address

Name	Title	Phone	Address
Hudson Ranch Energy Services		(760) 348-2619	
Hudson Ranch Power I LLC			
Imperial CUPA - DTSC		(760) 352-0381	627 Wake Avenue El Centro, CA 92243
Jurg Heuberger	SVP Permitting & Compliance		409 W. McDonald Rd. Calipatria, CA 92231
Mailing Address			409 W McDonald Rd. Calipatria, CA 92231
MIP V TIERRA HOLDINGS		(212) 231-1390	125 W 55th St. New York, NY 10019
MIP V TIERRA HOLDINGS, LLC		(212) 231-1390	125 W 55th St New York, NY 10019

Site Report

John L. Featherstone (Hudson Ranch I) Geothermal Power Plant

409 MCDONALD ROAD
CALIPATRIA, CA 92233



County	Imperial County
CalEnviroscreen 3.0 Percentile Range	81-85%

Alternate IDs

Facilities Explorer ID	360069	**Regional Water Board Case Number**	7A130118001

Regulatory Programs

Description	Source System	Program Id	Start Date	End Date
Land Disposal Site	GeoTracker	T10000007845	10/27/2015	

Site Contacts

Name	Title	Phone	Address
ZAKARY OWENS - COLORADO RIVER BASIN RWQCB (REGION 7)			73-720 FRED WARING DR. STE 100 PALM DESERT, CA

APPENDIX H

CTR Area
SWC Noffsinger Road and Wister Road
Niland, CA 92257

Inquiry Number: 6563575.5
July 09, 2021

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

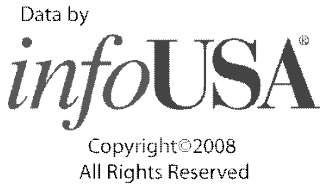
DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☑	☐	EDR Digital Archive
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1988	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

SWC Noffsinger Road and Wister Road
Niland, CA 92257

Year	*CD Image*	*Source*	
E NOFFSINGER			
2014	pg A2	EDR Digital Archive	
E NOFFSINGER RD			
2017	pg A1	EDR Digital Archive	
2014	pg A3	EDR Digital Archive	
2010	pg A6	EDR Digital Archive	
2005	pg A10	EDR Digital Archive	
2000	pg A12	EDR Digital Archive	
1995	pg A14	EDR Digital Archive	
1992	pg A16	EDR Digital Archive	
1988	-	Haines Criss-Cross Directory	Street not listed in Source
E NOFFSMGER RD			
2010	pg A7	EDR Digital Archive	
NOFFSINGER RD			
2014	pg A4	EDR Digital Archive	
2010	pg A8	EDR Digital Archive	
NOFFSINGER RD E			
1992	pg A17	EDR Digital Archive	
W NOFFSINGER			
2014	pg A5	EDR Digital Archive	

FINDINGS

Year	*CD Image*	*Source*	
W NOFFSINGER RD			
2017	-	EDR Digital Archive	Street not listed in Source
2010	pg A9	EDR Digital Archive	
2005	pg A11	EDR Digital Archive	
2000	pg A13	EDR Digital Archive	
1995	pg A15	EDR Digital Archive	
1992	pg A18	EDR Digital Archive	
1988	-	Haines Criss-Cross Directory	Street not listed in Source
WISTER RD			
2017	-	EDR Digital Archive	Street not listed in Source
2014	-	EDR Digital Archive	Street not listed in Source
2010	-	EDR Digital Archive	Street not listed in Source
2005	-	EDR Digital Archive	Street not listed in Source
2000	-	EDR Digital Archive	Street not listed in Source
1995	-	EDR Digital Archive	Street not listed in Source
1992	-	EDR Digital Archive	Street not listed in Source
1988	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER RD 2017

404 SANTA FE PACIFIC PIPE LINES INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER 2014

102 RENDON, ROSALBA

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER RD 2014

264	MERINO, ROBERT
304	OCHOA, CONCEPCION
404	SANTA FE PACIFIC PIPE LINES INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

NOFFSINGER RD 2014

21 MENDEZ, GLORIA C

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W NOFFSINGER 2014

19 CARPENTER, DALE W

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER RD 2010

304 OCHOA, TOMAS
396 MEJIA, MAXIMO C

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSMGER RD 2010

264 MERINO, ROBERT

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

NOFFSINGER RD 2010

21 MENDEZ, GLORIA C

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W NOFFSINGER RD 2010

19 WEBSTER, BARBARA L

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER RD 2005

396 MEJIA, MAXIMO

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W NOFFSINGER RD 2005

19 WEBSTER, LEROY A
21 MENDEZ, GLORIA C

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER RD 2000

102	SINGH, JUNE
264	MERINO, ROBERT
270	PADILLA, ELOISA
304	MIRANDA, JOSE G
404	SANTA FE PACIFIC PIPE LINES INCORPORATED
	SOUTHERN PAC PIPE LINES INCORPORATED

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W NOFFSINGER RD 2000

19 WEBSTER, L A
270 MENDOZA, CARLOS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER RD 1995

112	GUEBARA, MIKE
254	ESTRADA, C
264	MERINO, ROBERT
270	PADILLA, ELOISA

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W NOFFSINGER RD 1995

19	WEBSTER, L A
20	NIKON, JOHN
21	GOIN, MARY E
270	MENDOZA, CARLOS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

E NOFFSINGER RD 1992

112	GUEBARA, MIKE
254	ESTRADA, C
264	MERINO, ROBERT

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

NOFFSINGER RD E 1992

404 SOUTHRN PAC PPE LNE

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W NOFFSINGER RD 1992

20	CHAVEZ, ZENAIDA
21	GOIN, MARY E
266	MEDINA, LUISA

APPENDIX I

780 N. 4th Street
El Centro, CA 92243
(760) 337-1100

Phase I Environmental Site Assessment (ESA)
User Questionnaire

1) Environmental liens that are filed or recorded against the *property*.
Did a search of *recorded land title records* (or judicial records where appropriate) identify any environmental liens filed or recorded against the *property* under federal, tribal, state, or local law?
Answer: No

2) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property*.
Did a search of *recorded land title records* (or judicial records where appropriate) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the property and/or have been filed or recorded against the *property* under federal, tribal, state or local law?
Answer: No

3) Specialized knowledge or experience of the person seeking to qualify for the LLP.
Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?
Answer: Yes

4) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
Does the purchase price being paid for this *property* reasonable reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?
Answer: We do not believe the property is contaminated and we believe the purchase price of the property will be fair market value.

5) Commonly known or *reasonably ascertainable* information about the *property*.
Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example,

a. Do you know the past uses of the *property*?

i. Answer: Has been vacant for many years.

b. Do you know of specific chemicals or oils that are present or once were present at the *property*?
   i. Answer: No

c. Do you know of spills or other chemical releases that have taken place at the *property*?
   i. Answer: No

d. Do you know of any environmental cleanups that have taken place at the *property*?
   i. Answer: No

6) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

Answer: No, there are no obvious indicators of releases at the property other than agricultural runoff from manmade irrigation drains. There is no evidence of illegal dumping of solid waste or hazardous waste. There is no evidence the site has been previously developed and would have leaking underground storage tanks or other subsurface materials, as this area is zoned for agriculture and primarily used for development of the underground geothermal resource.

Additional Information

1) Reason why Phase I ESA is required:

For the purposes of submitting an application for a Conditional Use Permit from Imperial County for development approvals.

2) Type of Property:

		Type of Transaction:	
Commercial	☐	Purchase	☐
Industrial	☐	Financing	☐
Residential	☐	Sale	☐
Vacant/Undeveloped	☐	Lease	☐
Other Agriculture / Undeveloped		Other _____	

3) Complete and correct address for the property:

Answer: We do not have an address, just legal description of Sections 3, 10 and 11

The land referred to herein below is situated in the County of Imperial, State of California, and is described as follows:

Section 3, Township 11 South, Range 13 East, San Bernardino Base and Meridian, in the unincorporated area of the County of Imperial, State of California, according to the Official Plat thereof;

APN: 020-010-004

Section 10, Township 11 South, Range 13 East, San Bernardino Base and Meridian, in the unincorporated area of the County of Imperial, State of California, according to the Official Plat of said land filed in the District Land Office April 24, 1918;

Excepting therefrom the Southwest quarter of the Northwest quarter thereof.

APN: 020-010-015, 020-010-016, and 020-010-017

Section 11, Township 11 South, Range 13 East, San Bernardino Base and Meridian, in the unincorporated area of the County of Imperial, State of California, according to the Official Plat thereof;

APN: 020-010-012 and 020-010-013

4) Are there any existing environmental report, documents, correspondence, etc. available for review?
Answer: Yes, there is an existing Conditional Use Permit for Exploratory work in the area and technical reports and correspondence associated with that work. There are also technical reports in process for this specific project. Phase I ESA was prepared for the lease area in 2016.

User Name/Company: Controlled Thermal Resources

Address: 447 West Aten Road, Suite G, Imperial CA 92251

User Signature: _____Jim Turner, COO_____

Date: _____August 19, 2021_____

APPENDIX J

GS Lyon

Steven K. Williams, PG, CEG
Consulting Geologist

Education
M.S. Geology
University of Utah, 1993
B.S. Geology
University of Utah, 1989

Registration
Registered Geologist
Arizona 33759
California 6975
Certified Engineering Geologist
California 2261

Professional Experience

2000 – Present	Senior Engineering Geologist GS Lyon Consultants, Inc.
1994 - 2000	Staff Geologist GS Lyon Consultants, Inc.
1994	Field Geologist Bureau of Land Management
1991 - 1992	Exploration Geologist Kennecott Corporation

Summary of Experience
Mr. Williams has 27 years of experience in performing Phase I Environmental Site Assessments throughout the Imperial and Coachella Valleys. The scope of work for these projects typically include a site reconnaissance, review of historical and government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

Mr. Williams has also conducted Phase II Environmental Site Assessments for the evaluation of potential soil contamination by hydrocarbons, pesticides, and other hazardous materials. Mr. Williams has also conducted Preliminary Endangerment Assessments (PEAs) for school sites within the Imperial and Coachella Valleys.

Professional Affiliations
Geological Society of America, Member
Seismological Society of America, Member

Selected Project Experience

Residential
- El Centro Seniors Apartments, El Centro, CA
- Brawley Pioneers Apartments, Brawley, CA
- Calexico Family Apartments, Calexico, CA
- Bratton Subdivision, Imperial, CA
- Linda Vista Subdivision, El Centro, CA
- Mayfield Subdivision, Imperial, CA

Industrial
- Drew Solar Farm Phase I ESA, El Centro, CA
- Seville Solar Facility Phase I ESA, Imperial County, CA
- Dixieland East and West Solar Phase I ESA, Imperial County, CA
- Imperial Solar Energy Center South Phase I ESA, Imperial County, CA
- Imperial Solar Energy Center West Phase I ESA, Imperial County, CA
- Mt. Signal III Solar Facility Phase I ESA, Imperial County, CA
- Midway Solar Facility Phase I ESA, Calipatria, CA
- Iris Cluster Solar Facility Phase I ESA, Calexico, CA
- Vega Solar Facility Phase I ESA, Calexico, CA

Municipal/Commercial
- River Ranch Packing Facility, El Centro, CA
- Farm Fresh Cooling Facility, El Centro, CA
- El Centro Magistrate Court, El Centro, CA
- Bolthouse Farms Packing Facility, Holtville, CA
- Imperial Avenue Extension, El Centro, CA
- Taco Bell, Brawley, CA
- Taco Bell, Calexico, CA
- Calexico Crossroads Plaza, Calexico, CA
- Valley Plaza, El Centro, CA
- Gateway to the Americas Phase I ESA, Calexico, CA

School Sites
- Brawley Union High School, Brawley, CA
- La Paloma Middle School PEA, Brawley, CA
- Cross Elementary School Phase I ESA, Imperial, CA
- Oasis Elementary School PEA, Mecca, CA
- North Shore Elementary School Phase I ESA, Mecca, CA

Peter LaBrucherie, PE
Consulting Engineer

Education

B.S. Civil Engineering
California Polytechnic University, San Luis Obispo, 2011

M.S. Civil Engineering
California Polytechnic University, San Luis Obispo, 2012

Registration
Professional Engineer C84812, California

Professional Experience

2013 - Present	Project Engineer GS Lyon, Inc.
2012 - 2013	Project Engineer BNBuilders.

Summary of Experience
Mr. LaBrucherie has 7 years of experience performing Phase I Environmental Site Assessments in Imperial County. The scope of work for these assessments typically includes site reconnaissance, review of historical and government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

Selected Project Experience

Seville Solar Farm, Westmorland, CA
Conducted Phase I environmental site assessment for solar project located about 9 miles northwest of Westmorland, CA.

Drew Solar Farm, Imperial County, CA
Conducted Phase I environmental site assessment for 1000 acre solar project located about 9 miles southwest of El Centro, CA.

Clean Harbors Facility, Westmorland, CA
Conducted annual reports which included flood diversion, photo documentation and post closure for waste facility located about 5 miles west of Westmorland, CA.

Ching Properties, Brawley, CA
Conducted Phase I environmental site assessment for vacant property located in Brawley, CA.

Imperial Apartments, Imperial, CA
Conducted Phase I environmental site assessment for vacant property located in Imperial, CA. Property is being proposed for apartment complex.

1409 E. Alamo Road, Holtville, CA
Conducted Phase I environmental site assessment for property (mostly vacant with some unused shop buildings and abandoned residential home) located west of Holtville, CA.

BUSD School Site, Brawley, CA
Conducted Phase I environmental site assessment for school site proposal on a vacant property located in south Brawley, CA.

CR&R Direct Transfer, El Centro, CA
Conducted Phase I environmental site assessment for commercial property (large warehouse and office with large laydown area) located in El Centro, CA.

Villa Primavera Apartments, Calexico, CA
Conducted Phase I environmental site assessment for vacant property located in Calexico, CA.

Conceptual Storm Water Quality Analysis:

Hell's Kitchen PowerCo I and LithiumCo I Project

County of Imperial, California

June 7, 2022

Conditional Permit Use CUP #21-0020 and CUP #21-0021



Prepared for:

County of Imperial
Planning & Development Services Department
801 Main Street
El Centro, CA 92243

Prepared by:

Q3 Consulting
27042 Towne Centre Drive, Suite 110
Foothill Ranch, CA 92610

Table of Contents

1 Introduction 1-1
1.1 Project Overview 1-1
1.2 The Goals and Objectives 1-1
1.3 Hydrologic Setting 1-2
2 Storm Water Quality Framework 2-1
2.1 Basin Plan's Beneficial Uses 2-1
2.2 303(d) Impaired Waterbodies 2-1
2.3 Established TMDLs 2-2
2.4 Construction General Permit (CGP) 2-2
2.5 Phase II MS4 Permit 2-2
2.6 Industrial General Permit 2-2
2.7 Groundwater Resources 2-3
3 Storm Water Quality Assessment 3-1
3.1 Pollutants of Concern 3-1
3.2 Construction BMPs 3-2
3.2.1 Erosion Control BMPs 3-4
3.2.2 Sediment Control BMPs 3-4
3.2.3 Tracking Control BMPs 3-5
3.2.4 Non Storm Water BMPs 3-5
3.2.5 Materials and Waste Management BMPs 3-6
3.2.6 Monitoring Program 3-6
3.3 Post-Construction BMPs 3-7
3.3.1 Site Design BMPs 3-7
3.3.2 Source Control Measures 3-8
3.3.3 LID BMPs 3-9
3.3.4 Hydromodification Management BMPs 3-11
3.4 Industrial Post-Construction BMPs 3-1
3.5 Long-Term BMP Maintenance 3-1
4 CEQA Thresholds Of Significance 4-1
4.1 Environmental Impacts 4-1
5 References 5-1

Figures

Figure 1 - Vicinity Map 1-1
Figure 2 - Conceptual Water Quality Map with Post Construction BMPs 3-1

Tables

Table 1 – Beneficial Uses from Basin Plan 2-1
Table 2 – 303(d) Listed Impairments 2-1
Table 3 – Pollutant of Concern and 303(d) Impairments 3-1
Table 4 – Anticipated Pollutants from Construction Activities 3-2
Table 5 – Anticipated Project Site Design Measures 3-7

Table 6 – Anticipated Project Source Control Measures 3-8
Table 7 – WQCV Calculations per DMA 3-11
Table 8 – Retention Pond Sizing Calculations 3-11
Table 9 – Retention Basin Calculations 3-1

Technical Appendix

A. IGP Exemption For Geothermal Power Plants
B. NRCS Soil Resource Report for Hell's Kitchen Projects

1 INTRODUCTION

1.1 Project Overview

Hell's Kitchen PowerCo 1 LLC is proposing the Hell's Kitchen PowerCo 1 (HKP1), and Hell's Kitchen LithiumCo 1 LLC is proposing the Hell's Kitchen LithiumCo 1 (HKL1) (proposed Project) in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale.

The Project would be located within Imperial County, California, approximately 3.6 miles west from the town of Niland. The Project would be adjacent to Davis Road and south of Noffsinger Road, within CTR's geothermal lease area and on lands owned by Imperial Irrigation District (IID). The gen-tie line will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to the IID interconnection substation at Hudson Ranch. The gen-tie line will be located east of Davis Road and north of McDonald Road within IID's transmission right-of-way and within new right-of-way. The geothermal development area and lithium facilities would be within Sections 11 and 12 of Township 11 South, Range 13 East, San Bernardino Base Meridian, and the gen-tie/power line ROW corridor is located within Sections 12, 13, and 14 of Township 11 South, Range 13 East.

The Project is surrounded to the west by the IID-owned vacant land, to the north by vacant private land, to the east by State of California-owned wildlife areas, and vacant land owned by IID and the Hudson Ranch 1 facility to the south.

Specifically, the Project will consist of the following activities:

- construction and operation of a 49.9-MW geothermal power plant;
- construction of well pads with geothermal production and injection wells;
- construction of pipelines between HKP1 and HKL1 to facilitate the movement of brine between the facilities;
- construction and operation of a mineral-extraction facility to extract lithium hydroxide, silica, bulk sulfide, and polymetallic products from the geothermal brine;
- construction and operation of minerals handling and packaging facilities;
- construction of ingress and egress to the Project site from Davis Road;
- paving of Davis Road from McDonald Road to Noffsinger Road (approximately 2 miles);
- construction and operation of a 230-kV gen-tie line and collocated power line (approximately 2 miles south and 0.3 miles east); and
- construction of shared administrative facilities, offices, repair facilities, shipping and receiving facilities, and other infrastructure components.

The project location is illustrated on Figure 1-1.

1.2 The Goals and Objectives

The goal of this water quality assessment is to define the water quality framework, identify the pollutants of concern, and recommend water quality Best Management Practices (BMPs) during the construction phase and for the life of the project (post-construction). The assessment will be performed consistent with the California Environmental Quality Act (CEQA) Guidelines. The potential for storm water runoff infiltration into the underlying native soils will be conceptually evaluated.

Drainage Improvement requirements from the *Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (County of Imperial Department of Public Works, 2008) state that:

> *10. An airtight or screened oil/water separator or equivalent is required prior to permitting onsite lot drainage from entering any street right of way or public storm drain system for all industrial/commercial or multi residential uses. A maximum 6" drain lateral can be used to tie into existing adjacent street curb inlets with some exceptions. Approval from the Director of Public Works is required.*
>
> *11. The County is implementing a storm water quality program as required by the State Water Resources Control Board, which may modify or add to the requirements and guidelines presented elsewhere in this document.*
>
> *This can include ongoing monitoring of water quality of storm drain runoff, implementation of Best Management Practices (BMPs) to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitos or standing water.*

1.3 Hydrologic Setting

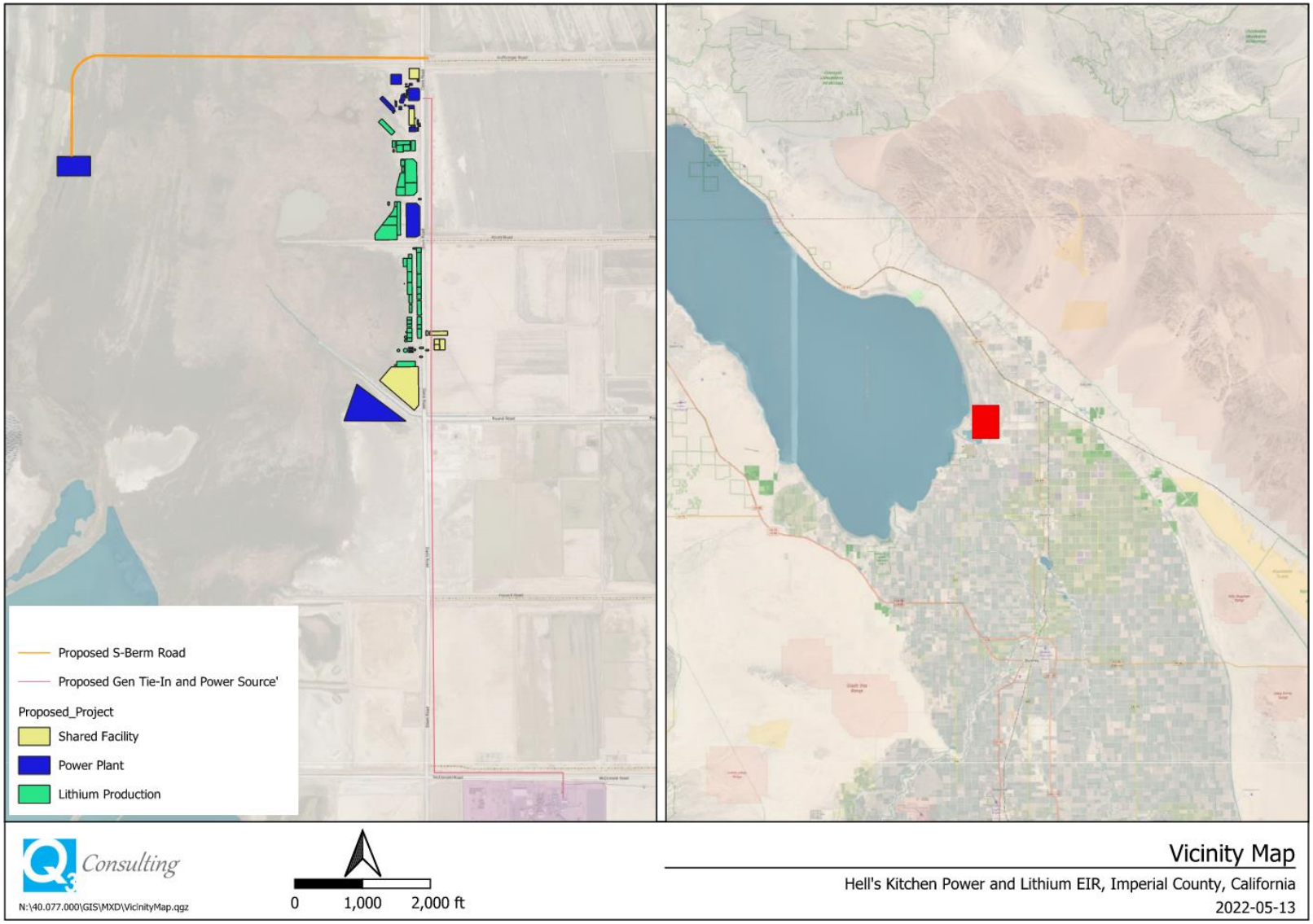
The project is located in the Frontal Salton Sea Hydrologic Area, in the Imperial Hydrologic Unit (#1810020413).

The Imperial Hydrologic Unit consists of the majority of the Imperial Valley, encompassing over 1.3 million acres of land. The watershed covers the southeast drainage area of the Salton Sea, and includes vast acreages of agricultural land; towns such as Frink, Niland, Pope, and Camp Dunlap, along with a large network of IID operated Canals and Drains. The watershed is atypical of most watersheds in California, as it currently and historically has been shaped by man-made forces. The watershed's primary watercourses, the Alamo River and the New River, flow northwesterly, from the Mexican border toward their final destination, the Salton Sea. The Salton Sea, a 376 square mile closed inland lake was created in 1905 through a routing mistake and subsequent flood on the Colorado River. The Sea has been fed primarily by agricultural runoff from the New and Alamo Rivers ever since.

The IID has constructed a network of Canals and Drains that are located along portions of the perimeter of the project. The IID Canals convey water to customers and the IID Drains collect and convey agricultural and storm water runoff (surface and subsurface). The project site is served by IID Canals that are on and adjacent to the project site. Except during extreme events, discharges from the site are not anticipated as all onsite storm water runoff will be fully retained. Emergency overflows from the retention basins will discharge to the Salton Sea, just outside of the limits of the 100-year floodplain as mapped by FEMA.

IID facilities, including the adjacent "P" Drain, "Q" Drain and "R" Laterals, do not accept flows from the project site. Existing graded berms prevent run-on from discharging into the IID facilities. These Drains discharge to the Salton Sea approximately one mile west of the project. Pending findings during final engineering, the project concept intends to retain the full 5 inches required by the Environmental Health Services (EHS) Department of the County of Imperial. During extreme storm events (rarer than the 100-year event), emergency overflows from the proposed onsite drainage swales could eventually reach the IID facilities.

Figure 1 - Vicinity Map



Reference: Hell's Kitchen CUP Application

2 STORM WATER QUALITY FRAMEWORK

2.1 Basin Plan's Beneficial Uses

A comprehensive review of the latest Water Quality Control Plan for the Colorado River Basin (Basin Plan) was conducted to identify the beneficial uses for the Project's Receiving Waters. As mandated by the Clean Water Act and the State's Porter-Cologne Water Quality Control Act, water quality standards are established in the Basin Plan to provide the foundation for the regulatory programs implemented by the state. The Colorado River Basin RWQCB Basin Plan, which covers the project area, designates beneficial uses for surface waters and ground waters. Beneficial uses are summarized in Table 1 below.

Table 1 – Beneficial Uses from Basin Plan

Receiving Water	Hydrologic Unit Code	Beneficial Uses	Distance from Project (miles)
Salton Sea	728.00	AQUA- Aquaculture IND - Industrial Service Supply (potential) REC I - Water Contact Recreation REC II – Non-contact Water Recreation WARM – Warm Freshwater Habitat WILD – Wildlife Habitat RARE – Preservation of Rare, Threatened or Endangered Species	~1.0 mile to the current shoreline*

** The shoreline at Red Hill Bay (confluence of Alamo River) has receded by over a mile since 1999.*

2.2 303(d) Impaired Waterbodies

The California Regional Water Quality Control Board, Colorado Basin Region (Colorado River Basin Water Board) reviewed and received public comments to support the adoption of the 2018 California Integrated Report, which includes the 2018 303(d) list of impaired water bodies in the Colorado River Basin Region. Based on the 2018 303(d) list, the Project's receiving waters have the following identified impairments.

Table 2 – 303(d) Listed Impairments

Receiving Water	Hydrologic Unit Code	303(d) Impairments	Distance from Project (miles)
Salton Sea	728.00	Nutrients DDT Arsenic Chlorpyrifos Enterococcus Low Dissolved Oxygen Salinity Toxicity Chloride Ammonia	~1.0 mile to the current shoreline*

** The shoreline at Red Hill Bay (confluence of Alamo River) has receded by over a mile since 1999.*

2.3 Established TMDLs

The USEPA approved the Imperial Valley Drains Sedimentation/Siltation Total Maximum Daily Load (TMDL) on September 30, 2005. High sedimentation in the Imperial Valley Drains has led to increased mobilization of agricultural pesticides and a highly turbid environment for sensitive aquatic species. The TMDL sets numeric targets on the Imperial Valley Drains for Total Suspended Solids (TSS). The target is 200 mg/L which would achieve a low to moderate level of protection. According to the 2005 TMDL implementation plan, an overall 63% reduction from the current TSS level is required to meet the minimum targets set forth by the TMDL.

2.4 Construction General Permit (CGP)

The Construction General Permit (CGP), (Order 2009-0009-DWQ as amended by Order 2010- 0014-DWQ and Order 2021-0006-DWQ), issued by the SWRCB, regulates storm water and non- storm water discharges associated with construction activities disturbing 1 acre or greater of soil. Construction sites that qualify must submit a Notice of Intent (NOI) with the SWRCB to gain permit coverage or otherwise be in violation of the CWA and California Water Code.

The CGP requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for each individual construction project greater than or equal to 1 acre of disturbed soil area. The SWPPP must list Best Management Practices (BMPs) that the discharger will use to control sediment and other pollutants in storm water and non-storm water runoff. The CGP requires that the SWPPP is prepared by a Qualified SWPPP Developer (QSD) and implemented at the site under the review/direction of a Qualified SWPPP Practitioner (QSP).

The project includes over 1 acre of grading within the County of Imperial and is therefore subject to the storm water discharge requirements of the CGP. The Project will submit a NOI and prepare a SWPPP prior to the commencement of soil disturbing activities. In the Colorado River Basin Region, where the project resides, the SWRCB is the permitting authority, while the County of Imperial and Colorado River Basin RWQCB provide local oversight and enforcement of the CGP.

2.5 Phase II MS4 Permit

The State Water Resources Control Board issued the Phase II Small MS4 General Permit (Order 2013-0001-DWQ) and amended by Order WQ 2015-0133-EXEC, WQ 2016-0069-EXEC. The Order has been effective since July 1, 2013. The County of Imperial is listed as a Traditional Permittee that operates a storm drain system and meets certain size criteria for MS4 system discharges into waters of the United States. Pursuant to the Permit, dischargers are required to develop a Storm Water Management Plan (SWMP).

Because the Project will create and/or replace 5,000 square feet or more of impervious surface, the County of Imperial will require the implementation of site design, source control, runoff reduction, storm water treatment and baseline hydromodification management. Details are provided under Section 3.

2.6 Industrial General Permit

In 2014, the State Water Resources Control Board adopted the Industrial General Permit (Water Quality Order No. 2014-0057-DWQ as amended by Order 2015-0122-DWQ). This NPDES permit was issued by the State of California to all qualifying industrial facilities based upon land use and Standard Industrial Code (SIC). Within the County of Imperial, the IGP is administered by the Colorado River Basin Regional Water Quality Control Board.

Per Attachment A of Order 2014-0057-DWQ, the lithium extraction activity of the project would be classified as a Oil and Gas/Mining Facility, specifically under SIC Code 1099 (Miscellaneous Metal Ores, Not Elsewhere Classified). As such, the lithium extraction and production activity of the project would be required to be enrolled in the IGP. Because the site design intends to retain the full 100-year 24-hour storm event runoff for both infiltration and evaporation, a Notice of Non-Applicability (NONA) from the IGP may be submitted by a Professional Civil Engineer registered in the State of California.

2.7 Groundwater Resources

Protection of groundwater resources are discussed in a separate report. Geographically, the project site is located within the Imperial Groundwater Basin. The Imperial Valley Groundwater basin is bounded on the east by the Sand Hills and on the west by the impermeable rocks of the Fish Creek and Coyote Mountains. To the north, the basin is bounded by the Salton Sea, which is the discharge point for groundwater in the basin. Major hydrologic features include the Alamo and New Rivers, which flow north towards the Salton Sea.

The latest Water Quality Control Plan for the Colorado River Basin identifies the following beneficial uses of groundwater within the Imperial Hydrologic Unit:

- MUN – Municipal and Domestic Supply;
- IND – Industrial Service Supply.

The MUN beneficial use for groundwater within the Imperial Hydrologic Unit is limited only to a small portion of the ground water unit. Within the project area, groundwater is not used for municipal uses. Rather, all municipal and domestic water supply is obtained from the IID Canals. IND is defined as a use of water for industrial activities that do not depend on water quality. Therefore, impacts from the project on leading to a loss in beneficial uses of groundwater are not anticipated.

3 STORM WATER QUALITY ASSESSMENT

3.1 Pollutants of Concern

An evaporative pond, separate from the onsite stormwater drainage system, would capture all spills, byproducts from the lithium brine. None of the pollutants associated with the extraction and the production of lithium would have an impact on surface water resources.

Potential pollutants due to the geothermal power plant and access infrastructure to the lithium production facilities are listed below.

- Heavy metals from infrastructure and vehicular use. The primary sources of metals in storm water are metals typically used in transportation, buildings and infrastructure and also paints, fuels, adhesives and coatings. Potential sources of heavy metals from the project include vehicular use, building construction, solar array construction, and underground pipes. Copper, lead, and zinc are the most prevalent metals typically found in runoff from these sources. Other trace metals, such as cadmium, chromium, manganese, and mercury are typically not detected in runoff from these sources or are detected at very low levels. Trace metals have the potential to cause toxic effects on aquatic life and are a potential source of groundwater contamination.
- Trash and debris from human activity. Improperly disposed or handled trash (from human use of the site) such as paper, plastics and debris including biodegradable organic matter such as leaves, grass cuttings, and food waste can accumulate on the ground surface where it can be entrained in urban runoff. A large amount of trash and debris can have significant negative impacts on the recreational value of water body. Excessive organic matter can create a high biochemical oxygen demand in a stream and lower its water quality.
- Oil and grease from vehicular use.
- Nutrients and organic compounds from fertilizers on planters. The primary sources of nutrients in storm water are fertilizers. Potential sources of nutrients from the project include historic agricultural land use and landscaping. Nitrogen and phosphorus are the most prevalent nutrients typically found in urban runoff. Failing septic tanks are also potential sources of nutrients in runoff. Organic compounds are carbon-based, and are typically found in pesticides, solvents, and hydrocarbons. Dirt, grease, and other particulates can also adsorb organic compounds in rinse water from cleaning objects, and can be harmful or hazardous to aquatic life either indirectly or directly. Organic compounds are therefore potentially present in runoff from the site due to prior agricultural use (pesticides), vehicular use (hydrocarbons and grease), and may be present in runoff after project construction.
- Sediment tracking from vehicular use. Sediment can result from erosion during storm events, as well as from dust generated by wind erosion and vehicular traffic. Sediments increase the turbidity of the receiving waters, and have the potential to adversely impact aquatic species.

Table 3 cross-references the pollutants of concern associated with the project and the existing impairments in the receiving waters.

Table 3 – Pollutant of Concern and 303(d) Impairments.

Receiving Waters	Pollutant of Concern	Associated 303(d) Impairment
Salton Sea	Nutrients	Ammonia Nutrients
	Sediment	Sedimentation/Siltation
	Heavy Metals	Arsenic

Receiving Waters	Pollutant of Concern	Associated 303(d) Impairment
		Selenium
	Trash and Debris	Trash per State Trash Amendments
	Organic Compounds	Chlorpyrifos Dieldrin PCBs Chlordane DDT Imidacloprid

In examining these anticipated pollutants, the proposed project has the potential to be a source of pollutants based on historic/existing land use and typical activities involved in operating a geothermal power plant and a lithium extraction plant. Through proper planning and operation of the facility however, no runoff leaving the site is anticipated and the concentrations can be reduced to levels which will not contribute to the impairment of beneficial uses in downstream surface waters. Specifically, the project proposes the implementation of drainage swales along its western boundary to fully retain the 100-year 24-hour storm event via infiltration and evaporation. No discharge from the site is anticipated, except during extreme storm events. All pollutants of concern will be eliminated.

3.2 Construction BMPs

During the construction phase, sedimentation and erosion can occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, and improperly designed stockpiles. Although the project site is relatively flat, the large amount of potential disturbed area results in the potential for erosion/sediment issues. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/drains. The project will employ proper Best Management Practices (BMPs) to meet the criteria set forth in the CGP.

In addition to erosion and sedimentation, the use of materials such as fuels, solvents, and paints has the potential to affect surface water quality. Many different types of hazardous compounds will be used during the construction phase, with proper containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project to the Salton Sea and could cause pollution accumulation in the receiving waters. A list of anticipated construction materials and their associated construction activity are provided in Table 4 below.

Table 4 – Anticipated Pollutants from Construction Activities

Construction Activity	Construction Site Material	Visually Observable
Paving	Hot Asphalt	Yes - Rainbow Surface or Brown Suspension
	Asphalt Emulsion	
	Liquid Asphalt (tack coat)	
	Cold Mix	
	Crumb Rubber	Yes – Black, solid material
	Asphalt Concrete (Any Type)	Yes - Rainbow Surface or Brown Suspension
Substation and Transmission Line Construction	Gasoline/Diesel	No
	Mineral and Crankcase Oil	
	Lubricants	

Construction Activity	Construction Site Material	Visually Observable
	Cleaning Solvents	
Equipment Cleaning	Acids	No
	Bleaches	
	Detergents	Yes - Foam
	Solvents	No
Concrete Work	Portland Cement (PCC)	Yes - Milky Liquid
	Masonry products	No
	Sealant (Methyl Methacrylate - MMA)	No
	Incinerator Bottom Ash, Bottom Ash, Steel Slag, Foundry Sand, Fly Ash, Municipal Solid Waste	No
	Mortar	Yes - Milky Liquid
	Concrete Rinse Water	Yes - Milky Liquid
	Non-Pigmented Curing Compounds	No
	Lime	No
Painting	Paint	Yes
	Paint Strippers	No
	Resins	
	Sealants	
	Solvents	
	Lacquers, Varnish, Enamels, and Turpentine	
	Thinners	
Portable Toilet Facilities	Portable Toilet Waste	Yes
Adhesives	Adhesives	No
Dust Control	Water	No
	Liquid Polymer or Polymer Blend	
Vehicle Maintenance	Antifreeze and Other Vehicle Fluids	Yes - Colored Liquid
	Batteries	No
	Fuels, Oils, Lubricants	Yes - Rainbow Surface Sheen and Odor
Soil Amendment/Stabilization	Polymer/Copolymer	No
	Quicklime	No
	Herbicide, Pesticide	No
	Lignin Sulfonate	No
	Psyllium	
	Guar/Plant Gums	
	Gypsum	
Wood (Treated) Work	Ammoniacal-Copper- Zinc-Arsenate, Copper- Chromium-Arsenic, Ammoniacal-Copper- Arsenate, Copper Naphthenate	No
	Creosote	Yes - Rainbow Surface or Brown Suspension

Prior to the beginning of construction, the project Owner will be required to prepare the Permit Registration Documents (PRDs), including a complete Storm Water Pollution Prevention Plan (SWPPP), for upload on the State's SMARTS website. A Notice of Intent (NOI) for coverage of projects under the CGP will be filed with the SWRCB. The Waste Discharge Identification (WDID) Number will be issued

to the project before any land disturbance may begin. If the project is constructed in multiple phases, a NOI will be filed for each phase of construction.

Accordingly, the Owner will be responsible for the implementation of the SWPPP at the project site, and revised as necessary, as administrative or physical conditions change. The Region 7 Colorado River Basin RWQCB, upon request, must instruct the developer to make the SWPPP available for public review. The SWPPP will fully describe Best Management Practices (BMPs) that address pollutant source reduction and provide measures/controls necessary to mitigate potential pollutant sources. These include, but are not limited to: erosion controls, sediment controls, tracking controls, non-storm water management, materials & waste management, and good housekeeping practices. The above-mentioned BMPs for construction activities are discussed further below. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) and implemented at the site under the review/direction of a Qualified SWPPP Practitioner (QSP).

3.2.1 Erosion Control BMPs

Erosion Control, also referred to as soil stabilization, is a source control measure designed to prevent soil particles from detaching and becoming transported in storm water runoff. Erosion Control BMPs protect the soil surface by covering and/or binding the soil particles. The scheduling of soil disturbing activities should be minimized during the wet season, which extends from August through April.

If such activities occur in the wet season, all exposed slopes or areas with loose soil will be stabilized. This may involve the application of soil binders, or geotextiles and mats. Due to the flat surface, creating temporary earth dikes or drainage swales may also be employed/installed prior to large, forecasted storm events to divert runoff away from exposed areas and into more suitable locations. If implemented correctly, erosion controls can effectively reduce the sediment loads entrained in storm water runoff from the construction site. Below is a list of anticipated erosion control BMPs that can be implemented for the proposed Project's SWPPP:

- EC-1 Scheduling
- EC-2 Preservation of Existing Vegetation
- EC-5 Soil Binders
- EC-6 Straw Mulch
- EC-7 Geotextiles and Mats
- EC-8 Wood Mulching
- EC-9 Earth Dikes and Swales
- EC-10 Velocity Dissipation Devices
- EC-11 Slope Drains

3.2.2 Sediment Control BMPs

Sediment control BMPs are structural measures that are intended to complement and enhance the soil stabilization/erosion control measures and reduce sediment discharges from construction areas. Sediment controls are designed to intercept and filter out soil particles that have been detached and transported by the force of water. In addition, silt fencing will be installed along the perimeter of work areas upstream of discharge points, and will also be placed around stockpiles, and areas of soil disturbance. Check dams or chevrons will be situated in areas where high velocity runoff is anticipated/potential (such as in drainage ditches/swales). Gravel bag berms or fiber rolls should be used to intercept sheet flows on streets or at the toe of slopes (such as along streets or canal and drain access roads) to minimize sediment mobilization. Street sweeping will also be scheduled in areas where sediment can be tracked from the project site onto

paved streets or roads. Below is a list of anticipated sediment control BMPs that can be implemented for the proposed Project's SWPPP:

- SE-1 Silt Fence
- SE-2 Desilting Basin
- SE-3 Sediment Trap
- SE-4 Check Dam
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berms
- SE-7 Street Sweeping
- SE-8 Sandbag Barrier
- SE-9 Straw Bale Barrier
- SE-10 Storm Drain Inlet Protection
- SE-11 Active Treatment Systems

3.2.3 Tracking Control BMPs

The proposed project site will stabilize all construction entrance/exit points to reduce the tracking of sediments onto paved streets and roads by construction vehicles. Construction roadways should also be stabilized to minimize off-site tracking of mud and dirt. Wind erosion controls will be employed in conjunction with tracking controls. Below is a list of anticipated tracking control BMPs that can be implemented for the proposed Project's SWPPP.

- TC-1 Stabilized Construction Entrance / Exit
- TC-2 Stabilized Construction Roadway
- TC-3 Entrance / Outlet Tire Wash
- WE-1 Wind Erosion Control

3.2.4 Non Storm Water BMPs

Non-storm water discharges consist of all discharges from a municipal storm water conveyance which do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water).

Paving and grinding operations on the project site, along with any operations which involve using water on landscape are classified as having potential for non-storm water pollutants. This also includes illegal connection and dumping on the construction site, vehicle equipment cleaning, fueling, and maintenance. The construction of project may involve the use of heavy equipment and hazardous materials. Adequate non stormwater BMPs will be implemented.

- NS-1 Water Conversation Practices
- NS-2 Dewatering Operations
- NS-3 Paving and Grinding Operations
- NS-4 Temporary Stream Crossing
- NS-5 Clear Water Diversion
- NS-6 IC/ID Detection and Reporting
- NS-7 Potable Water / Irrigation
- NS-8 Vehicle & Equipment Cleaning
- NS-9 Vehicle & Equipment Fueling
- NS-10 Vehicle & Equipment Maintenance

- NS-11 Pile Driving Operations
- NS-12 Concrete Curing
- NS-13 Concrete Finishing
- NS-14 Material Use Over Water
- NS-15 Demolition Over Water
- NS-16 Temporary Batch Plants

3.2.5 Materials and Waste Management BMPs

Waste management consists of implementing procedural and structural BMPs for collecting, handling, storing and disposing of wastes generated by a construction project to prevent the release of waste materials into storm water discharges. All materials with the potential to contaminate storm water runoff should be delivered and stored in designated areas with secondary containment measures (i.e. covered and bermed). Chemicals, drums, and bagged materials will not be stored directly on soil, but on pallets instead. Personnel will also be trained on the proper use of the materials.

Construction staging areas will be located on the site. These areas will include construction yards that serve as field offices, reporting locations for workers, parking space for vehicles and equipment, and sites for material storage. Facilities will be fenced as necessary. Security guards will be stationed where needed.

A temporary barrier around stockpiles should be installed and a cover provided during the rainy season. Spill cleanup procedures and kits should be made readily available near hazardous materials and waste. Solid wastes, such as trash and debris, should be collected on a regular basis and stored in designated areas. Concrete and paint washout areas should be installed and properly maintained in areas conducting the associated activities. Below is a list of anticipated materials and waste management BMPs that can be implemented for the proposed Project's SWPPP:

- WM-1 Material Delivery & Storage
- WM-2 Material Use
- WM-3 Stockpile Management
- WM-4 Spill Prevention and Control
- WM-5 Solid Waste Management
- WM-6 Hazardous Waste
- WM-7 Contaminated Soil
- WM-8 Concrete Waste
- WM-9 Sanitary / Septic Waste

3.2.6 Monitoring Program

A monitoring program will also be included in the SWPPP that outlines storm event inspections of the project site and a sampling plan in accordance with the CGP. The monitoring program will be prepared by a QSD and implemented at the site under the review/direction of a QSP. The goals of the program are:

(1) to identify areas contributing to a storm water discharge;
(2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate, properly installed, and functioning in accordance with the terms of the CGP; and
(3) whether additional control practices or corrective maintenance activities are needed. If a discharge is observed during these inspections, a sampling and analysis of the discharge is required.

Any breach, malfunction, leakage, or spill observed which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water shall trigger the collection of a sample of discharge. The goal of the sampling and analysis is to determine whether the BMPs employed and maintained on site are effective in preventing the potential pollutants from coming in contact with storm water and causing or contributing to an exceedance of water quality objectives in the receiving waters. In any case of breakage and potential for non-visible pollution, sampling and analysis will be required to ensure that the beneficial uses of downstream receiving waters are protected. In addition, sampling is required for any site which directly discharges runoff into a receiving water listed in the CGP listed as impaired for sedimentation.

3.3 Post-Construction BMPs

Because the Project will create more than 5,000 square feet of impervious area, Post-Construction Standards from the Phase II Small MS4 Permit will be applied to the extent allowable by applicable law. The proposed Project will implement site design BMPs, source control measures, Low Impact Development (LID) BMPs, and hydromodification management BMPs to meet the Permit criteria.

3.3.1 Site Design BMPs

The Permit requires the implementation of at least one Site Design BMPs into the Project. Table 5 defines how the Project anticipates the incorporation of Site Design Measures into the Site Plan.

Table 5 – Anticipated Project Site Design Measures

Permit E.12.b Item	Site Design Measure	Project Implementation
(a)	*Stream Setbacks and Buffers - a vegetated area including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a stream system, lake reservoir, or coastal estuarine area*	A perimeter berm will be incorporated to prevent offsite run-on and runoff from leaving the Project.
(b)	*Soil Quality Improvement and Maintenance - improvement and maintenance soil through soil amendments and creation of microbial community*	Where feasible, drainage swale with amended soil will be implemented along the western boundary of the Project.
(c)	*Tree Planting and Preservation - planting and preservation of healthy, established trees that include both evergreens and deciduous, as applicable*	Not applicable
(d)	*Rooftop and Impervious Area Disconnection - rerouting of rooftop drainage pipes to drain rainwater to rain barrels, cisterns, or permeable areas instead of the storm sewer*	A drainage swale along the western boundary of the Project will collect all onsite stormwater runoff. The design will involve the treatment and retention, where feasible, of the 100-year 24-hour storm event runoff, up to 5 inches to meet the criteria from the EHS Department.
(e)	*Porous Pavement - pavement that allows runoff to pass through it, thereby reducing the runoff from a site and surrounding areas and filtering pollutants*	Not applicable

Permit E.12.b Item	Site Design Measure	Project Implementation
(f)	*Green Roofs - a vegetative layer grown on a roof (rooftop garden)*	Not applicable
(g)	*Vegetated Swales - a vegetated, open-channel management practice designed specifically to treat and attenuate storm water runoff*	Where feasible, drainage swale with amended soil will be implemented along the western boundary of the Project.
(h)	*Rain Barrels and Cisterns — system that collects and stores storm water runoff from a roof or other impervious surface*	A drainage swale along the western boundary of the Project will collect all onsite stormwater runoff. The design will involve the treatment and retention, where feasible, of the 100-year 24-hour storm event runoff, up to 5 inches to meet the criteria from the EHS Department.

3.3.2 Source Control Measures

As a Regulated Project, the proposed Project will implement the source control measures, as defined in Table 6.

Table 6 – Anticipated Project Source Control Measures

Permit E.12.d Item	Source Control Measure	Project Implementation
(a)	*Accidental spills or leaks*	The project will require the preparation and the implementation of a Hazardous Materials Business Plan (HMBP) in accordance with Federal, State, or Local requirements. Safety equipment will be provided for staff use if required during chemical containment and cleanup activities. All staff working with chemicals will be trained in proper handling and emergency response to chemical spills or accidental releases. Water hose connections will be provided near the chemical storage and feed areas, to flush spills and leaks, and absorbent materials will be stored onsite for spill cleanup.
(b)	*Interior floor drains*	All interior flood drains will be diverted to the sewer and the brine pond.
(c)	*Parking/storage areas and maintenance*	All vehicles will be serviced offsite whenever possible. If servicing is required onsite, it must be conducted in an area isolated from storm drain inlets or drainage ditch inlets. The area must be bermed and precluded from run on. Any spillage must be fully contained and captured and disposed of per County of Imperial Hazardous Waste requirements.
(d)	*Indoor and structural pest control*	If any pesticide is required onsite, the need for pesticide use in the project design will be reduced by: • Keeping pests out of buildings using barriers, screens and caulking • Physical pest elimination techniques, such as squashing, trapping, washing or pruning out pests • Relying on natural enemies to eat pests • Proper use of pesticides as a last line of defense
(e)	*Landscape/outdoor pesticide use*	

Permit E.12.d Item	Source Control Measure	Project Implementation
(f)	*Pools, spas, ponds, decorative fountains, and other water features*	Not applicable
(g)	*Restaurants, grocery stores, and other food service operations*	Not applicable
(h)	*Refuse areas*	Not applicable
(i)	*Industrial processes*	The project will require the preparation and the implementation of a Hazardous Materials Business Plan (HMBP) in accordance with Federal, State, or Local requirements.
(j)	*Outdoor storage of equipment or materials*	Where feasible, outdoor storage will be covered and surrounded by a secondary containment area.
(k)	*Vehicle and equipment cleaning*	All vehicles will be serviced offsite whenever possible. If servicing is required onsite, it must be conducted in an area isolated from storm drain inlets or drainage ditch inlets. The area must be bermed and precluded from run on. Any spillage must be fully contained and captured and disposed of per County of Imperial Hazardous Waste requirements.
(l)	*Vehicle and equipment repair and maintenance*	
(m)	*Fuel dispensing areas*	
(n)	*Loading docks*	Material handling will be conducted in a manner as to prevent any storm water pollution.
(o)	*Fire sprinkler test water*	Fire sprinkler water will be disposed of to the sanitary sewer system
(p)	*Drain or wash water from boiler drain lines, condensate drain lines, rooftop equipment, drainage sumps, and other sources*	All wash water, waste drilling mud, drill cuttings will be stored in the lined containment basin. Upon completion of drilling activities, mud and associated drilling liquids will be allowed to evaporate. The solids will be tested for pH, oil and grease, and metals. The solids will be removed and disposed in a waste disposal facility authorized by the Regional Board to receive and dispose these materials.
(q)	*Unauthorized non-storm water discharges*	Illegal dumping educational materials as well as spill response materials will be provided to employees.
(r)	*Building and grounds maintenance*	Materials will be disposed of in accordance with Imperial County Hazardous Material Management guidelines, and will be sent to appropriate disposal facilities. Under no circumstances shall any waste or hazardous materials be stored outside without secondary containment.

3.3.3 LID BMPs

Permit Item E.12.e.(c) defines the numeric sizing criteria for Storm Water Retention and Treatment, as follows:

The Permittees shall require facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the following hydraulic sizing design criteria:

1. *Volumetric Criteria:*
    a. *The maximized capture storm water volume for the tributary area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998) pages 175-178 (that is, approximately the 85th percentile 24-hour storm runoff event); or*
    b. *The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology in Section 5 of the CASQA's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.*

A review of the NRCS web soil survey determined that the onsite soils are of Hydrologic Soil Group C with limited infiltration potential. It is anticipated that the proposed drainage swales will not meet the County's drawdown time requirement of 72 hours, hence the 3-inch retention criteria would not apply. Instead, the stormwater retention ponds would be subject to the 5-inch retention criteria, along with the preparation of a project-specific Mosquito Abatement Plan to be reviewed and approved by the Environmental Health Department prior to issuance of grading permit. Pending further investigations during final engineering, the full onsite runoff stormwater volume will be infiltrated and evaporated. The Imperial Irrigation District estimated the evaporation rate at the Salton Sea to approximate 69 inches per year.

Using the Urban Runoff Quality Management Approach outlined in the California Stormwater BMP Handbook for New Development and Redevelopment, a runoff coefficient for the site is calculated using the following regression equation:

$$C = 0.858i3 – 0.78i2 + 0.774i + 0.04$$

Where:

i is the impervious fraction of the Drainage Management Area

The depth of runoff, PO, is then calculated as:

$$PO = (a * C) * P6$$

Where:

a = regression constant = 1.963 for a 48 hour draw down time

P6 = mean annual runoff-producing rainfall depth, in watershed inches

The value for P6 is determined using tables provided in the California Stormwater BMP Handbook. Using the table provided for the Palm Springs Thermal Airport, the location which is most representative of conditions in Imperial Valley, the value of P6 is approximately 0.43 inches.

Assuming an imperviousness of 85% in each Drainage Management Area, the resulting Water Quality Control Volume (WQCV) is summarized in Table 7.

Table 7 – WQCV Calculations per DMA

DMA	Area (ac)	Imp (%)	Tc (min)	Runoff Coeff C	WQCV (cu.ft)
A-100	12.3	85%	16.70	0.85	32,035
A-110	18.6	85%	20.50	0.85	48,443
B-200	9.1	85%	17.50	0.85	23,700
B-210	9.4	85%	14.10	0.85	24,482
B-220	6.0	100%	Evaporation Pond Only		
B-230	2.5	85%	10.50	0.85	6,511

Assuming that the hydrologic soil group C would result in measured infiltration rates of 0.15 inch/hour and a safety factor 3, the design infiltration rate results in 0.05 inch/hour. The WQCV is anticipated to infiltrate on average in over 252 hours (or 10 days).

Pending design parameters that will be produced during final engineering, we anticipate the WQCV will be infiltrated in the drainage swales for all drainage areas, except for B-220 which consists of the standalone brine evaporation pond. Supplemental volume, up to 5 inch of retention, will be fully captured by the onsite drainage system and be retained through a combination of infiltration and evaporation. The Imperial Irrigation District estimated the evaporation rate at the Salton Sea to approximate 69 inches per year. Because the drawdown time after a 100-year 24-hour storm event will largely exceed 72 hours, a Mosquito Abatement Plan will be prepared for review and approval by the Environmental Health Department prior to issuance of grading permit. All runoff, up to 5 inches of retention, will be directed towards the evaporation ponds.

Table 8 – Retention Pond Sizing Calculations

DMA	Area (ac)	Design Infiltration Rate (in/hr)	Drainage Swale Bottom (SF)	Infiltration Depth (in)	Drawdown Time (hr)	Retention Volume @ 5 inch (AF)
A-100	12.3	0.05	27800	13.83	276.6	4.4
A-110	18.6	0.05	45000	12.92	258.4	6.6
B-200	9.1	0.05	19800	14.36	287.3	3.2
B-210	9.4	0.05	23000	12.77	255.5	3.3
B-220	6.0	Brine Evaporation Pond Only				2.5
B-230	2.5	0.05	13000	6.01	120.2	0.9

A Conceptual Water Quality Map has been prepared to conceptually define how onsite flows will be captured and retained for infiltration/evaporation.

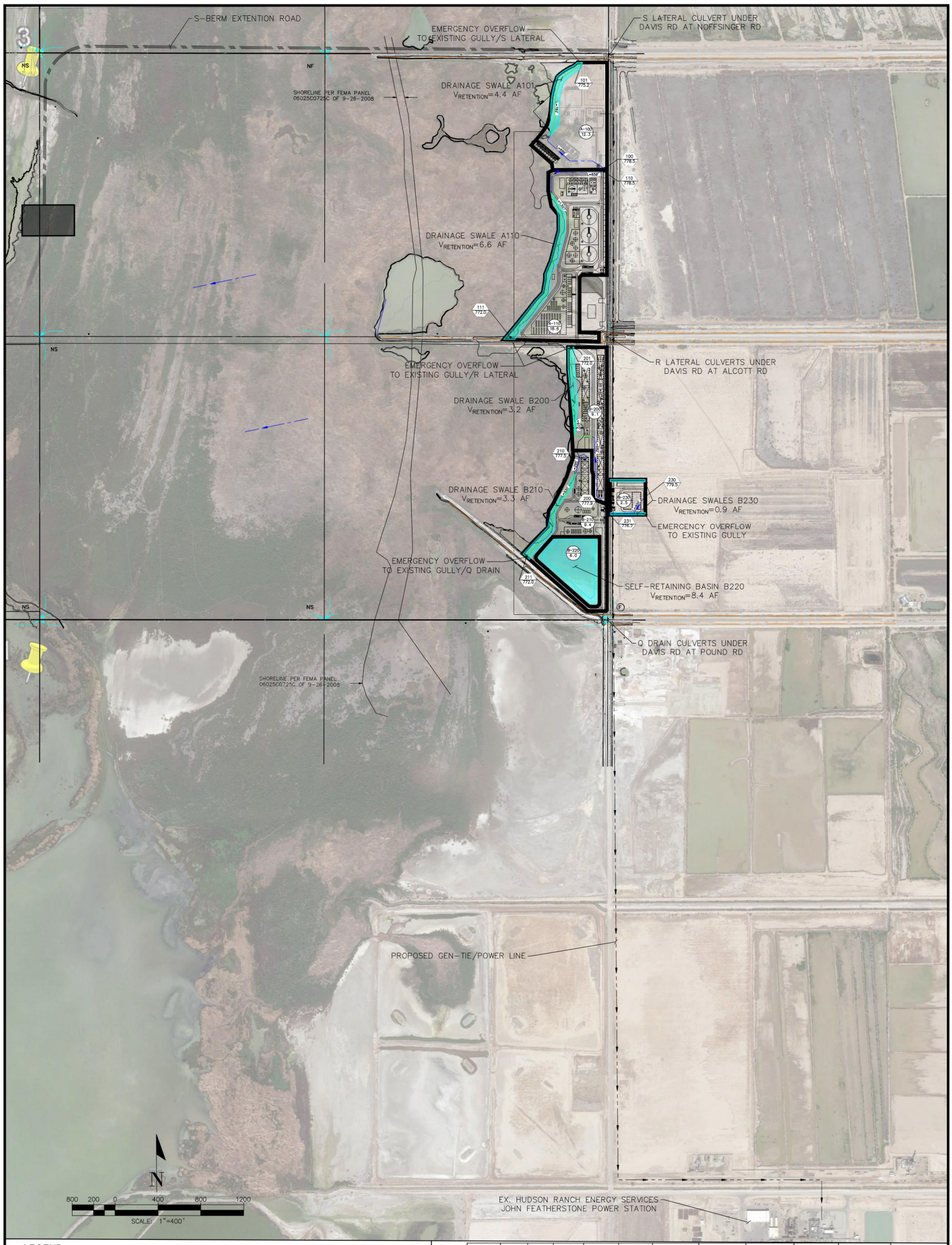
3.3.4 Hydromodification Management BMPs

Permit Item E.12.e.(f) defines the numeric sizing criteria for Hydromodification Management procedures for the Colorado Desert geomorphic province as:

(b) Post-project runoff shall not exceed estimated pre-project flow rate for the10-year, 24-hour storm

Because the project will implement full retention basins, no runoff is anticipated leaving the Project. The Hydromodification Management criteria would be fully met.

Figure 2 - Conceptual Water Quality Map with Post Construction BMPs



DA	Area (ac)	Imp (%)	Tc (min)	Runoff Coeff C	WQCV (cu.ft)	Design Infiltration Rate (in/hr)	Drainage Swale Bottom (SF)	Infiltration Depth (in)	Drawdown Time (hr)	Retention Volume @ 5 inch (AF)
A-100	12.3	85%	16.70	0.85	32,035	0.05	27800	13.83	276.6	4.4
A-110	18.6	85%	20.50	0.85	48,443	0.05	45000	12.92	258.4	6.6
B-200	9.1	85%	17.50	0.85	23,700	0.05	19800	14.36	287.3	3.2
B-210	9.4	85%	14.10	0.85	24,482	0.05	23000	12.77	255.5	3.3
B-220	6.0	100%	Evaporation Pond Only							2.5
B-230	2.5	85%	10.50	0.85	6,511	0.05	13000	6.01	120.2	0.9

3.4 Industrial Post-Construction BMPs

Per Attachment A of Order 2014-0057-DWQ, the lithium extraction activity of the project would be classified as a Oil and Gas/Mining Facility, specifically under SIC Code 1099 (Miscellaneous Metal Ores, Not Elsewhere Classified). Because the site design intends to exceed the retention criteria of the full 100-year 24-hour storm runoff through infiltration and evaporation, a Notice of Non-Applicability (NONA) from the IGP may be submitted by a Professional Civil Engineer registered in the State of California. Table 9 summarizes the depth and size of the retention system per Drainage Management Area.

Table 9 – Retention Basin Calculations

DMA	Area (ac)	Drainage Swale Bottom (SF)	Retention Volume @ 5 inch (AF)
A-100	12.3	27800	4.4
A-110	18.6	45000	6.6
B-200	9.1	19800	3.2
B-210	9.4	23000	3.3
B-220	6.0		2.5
B-230	2.5	13000	0.9

Should the NONA be deemed not feasible during final engineering, the proposed project will develop an Industrial SWPPP and prepare the different documents to support the Notice of Intent on SMARTS. Upon issuance of a WDID for coverage under the IGP, the Project Owner will fulfill the requirements of the IGP.

3.5 Long-Term BMP Maintenance

The project owner will maintain all onsite site design BMPs, source control measures, post-construction BMPs, and retention basins during the lifetime of the project. It shall be noted that preventative maintenance such as removal of trash and debris from the site will help ensure proper function of the BMPs.

The owners of the project are required to perform maintenance in perpetuity, keeping maintenance records for submittal to the County of Imperial and Regional Water Quality Control Board, if requested. In addition, the following maintenance activities will be conducted

- Continued education of staff responsible for hazardous material hauling, loading, and use.
- Periodic visual monitoring to ensure materials are not contaminating areas exposed to storm water.

If a transfer of ownership takes place, the owner will notify the County of Imperial, and the Region 7 Colorado River Basin Regional Water Quality Control Board. The new owner will assume all responsibilities for BMP maintenance.

4 CEQA THRESHOLDS OF SIGNIFICANCE

4.1 Environmental Impacts

The Thresholds of Significance from Appendix G of the CEQA Guidelines, Section VIII. Hydrology and Water Quality, were reviewed based on the findings from this Conceptual Water Quality Assessment. Threshold of significance are discussed below.

Item A - Would the Project violate any water quality standards or waste discharge requirements?

Impact Analysis - As a result of the recommended site design and source control measures, and the provision of full retention ponds, water quality exceedances are not anticipated, and pollutants are not expected within project runoff that would adversely affect beneficial uses in downstream receiving waters. The project will comply with the requirements of the State Regional Water Quality Control Board concerning coverage under the Construction General Permit. If the project is phased, each phase of construction will be required to submit a Notice of Intent and SWPPP, and apply for coverage under the Construction General Permit. It is concluded that this issue is considered a less than significant impact.

Impact E - Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

Impact Analysis - Runoff from the project will be directed to retention ponds that will prevent any discharge from the site. Due to the implementation of infiltration/evaporation drainage swales, it is anticipated that the annual runoff from the proposed project site will decrease when compared to the existing condition. As such, it is concluded that this issue is considered no impact.

Impact F - Otherwise substantially degrade water quality

Impact Analysis - Refer to the water quality discussion included in the Impact A analysis above. It is concluded that this issue is considered a less than significant impact.

5 REFERENCES

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CALIFORNIA STATE WATER BOARD, 2013, *Construction General Permit*, January

CALIFORNIA STATE WATER BOARD, 2018, *Industrial General Permit Order 2014-0057-DWQ*

CALIFORNIA OFFICE OF PLANNING AND RESEARCH, 2020, *CEQA Guidelines (Title 14, Division 6, Chapter 3 of the California Code of Regulations)*.

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CONTROL THERMAL RESOURCES, 2021, *Hell's Kitchen PowerCo 1 Project and Hell's Kitchen LithiumCo 1 Project – Conditional Use Permit Applications*, Submitted to County of Imperial, Planning & Development Services Department, December 11.

COUNTY OF IMPERIAL DEPARTMENT OF PUBLIC WORKS, 2008, *Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage, and Grading Plans within Imperial County*, September 15.

IMPERIAL IRRIGATION DISTRICT, 2018, *Salton Sea Hydrology Development*, by CH2M Hill, October.

NATURAL RESOURCES CONSERVATION SERVICE, 2022, *Web Soil Survey Service.*

Technical Appendix

Appendix A

IGP Exemption For Geothermal Power Plants

State of California

Memorandum

To : Archie Matthews
Division of Water Quality

Date: FEB 2 3 1993

Elizabeth Miller Jennings
Senior Staff Counsel
OFFICE OF THE CHIEF COUNSEL
From : STATE WATER RESOURCES CONTROL BOARD
901 P Street, Sacramento, CA 95814
Mail Code: G-8

Subject: STORM WATER PERMIT: GEOTHERMAL POWER PLANTS

ISSUE

Are discharges of storm water from geothermal power plants required to be covered by a storm water permit?

CONCLUSION

Discharges of storm water from geothermal power plants are not required to obtain coverage under the State Water Resources Control Board's (State Water Board) general permit for industrial discharges of storm water.

DISCUSSION

You have asked for advice on whether geothermal power plants must obtain coverage under the general storm water permit for industrial discharges. Generally, the permit adopted by the State Water Board requires that discharges which are defined as "storm water discharge associated with industrial activity" in regulations adopted by the Federal Environmental Protection Agency (EPA) be covered by the permit. (40 CFR § 122.26(b)(14).) The EPA regulations do contain a category of for "steam electric power generating facilities," but, as explained below, it does not appear that EPA intended to include geothermal power plants.

Section 122.26(b)(14)(vii) establishes a category of facility which is subject to storm water permits entitled, "steam

electric power generating facilities, including coal handling sites." The preamble to the regulations, in response to a comment that "all" steam electric facilities--oil fired and nuclear--should be subject to permits, states that the regulatory language broadly defines the industrial category (steam electric facilities) without specifying each mode of steam electric production. This language could be read to indicate that all steam electric facilities, including geothermal power plants, are subject to the storm water regulation. A close look at the wording here and in other EPA documents reveals, however, that it is unlikely EPA meant to include geothermal plants. Instead, the statement in the preamble should be interpreted to mean that the category includes not only coal power plants, but also fossil fuel and nuclear plants.

First, the language in the Preamble states that the regulation does not specify "each mode of steam electric production". 55 Fed.Reg. 48013. In the case of geothermal power, "steam electric production" is not involved. Unlike plants powered by coal, oil or nuclear reaction, the geothermal plants involve transporting the steam, rather than producing the steam. The EPA guidance document on industrial permits supports this distinction. (Industrial Permit Application Question & Answer Document, March 13, 1992.) While the document does not specifically address geothermal plants, it does address a comparable process--cogeneration. The document states that heat capture cogeneration facilities are not covered, while dual fuel cogeneration facilities are covered. (Id., at page 7.) The distinction appears to be whether the steam is generated from fuel (as in the dual fuel plant), or the steam is simply captured from a different activity (heat capture). Geothermal plants are analogous to heat capture cogeneration rather than to dual-fuel cogeneration.

There is further support for the exclusion of geothermal power plants in reviewing the regulatory context of the inclusion of steam electric power generating facilities. EPA has adopted effluent limitation guidelines (not including limitations for the discharge of storm water) for the "steam electric power generating point source category" in 40 CFR Part 423. Section 423.10 states that these effluent limitation guidelines are applicable to discharges from:

> "Operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium." (Emphasis added.)

It is clear that geothermal power plants are not subject to the effluent limitation guidelines in Part 423. As explained above, the steam is not generated by the power plant, but instead is transported from wells to the plant. There is also no use of fossil fuels or nuclear fuel in the generation of electricity. (There are some plants where water must be heated further to produce steam, but this is accomplished by heat exchange, without the use of fossil fuels.) In adopting the storm water regulations, EPA used the same description of the facilities, i.e., steam electric power generating, as in the effluent limitation guidelines. The conclusion can therefore be drawn that the intent of EPA was to require the regulation of storm water discharges from the same industrial facilities for which it had already adopted effluent limitation guidelines for process wastewater.

In conclusion, there is every indication that the steam electric power plants which are to be regulated under the regulations are limited to steam electric power plants which generate steam either by use of fossil fuels (gas, coal, and oil) or by nuclear reaction. It appears that steam electric power plants which use geothermal energy to produce electricity were not meant to subject to the storm water permit.

cc: Vince Christian
Colorado River Basin
Regional Water Board

Appendix B

NRCS Soil Resource Report for Hell's Kitchen Projects

United States Department of Agriculture

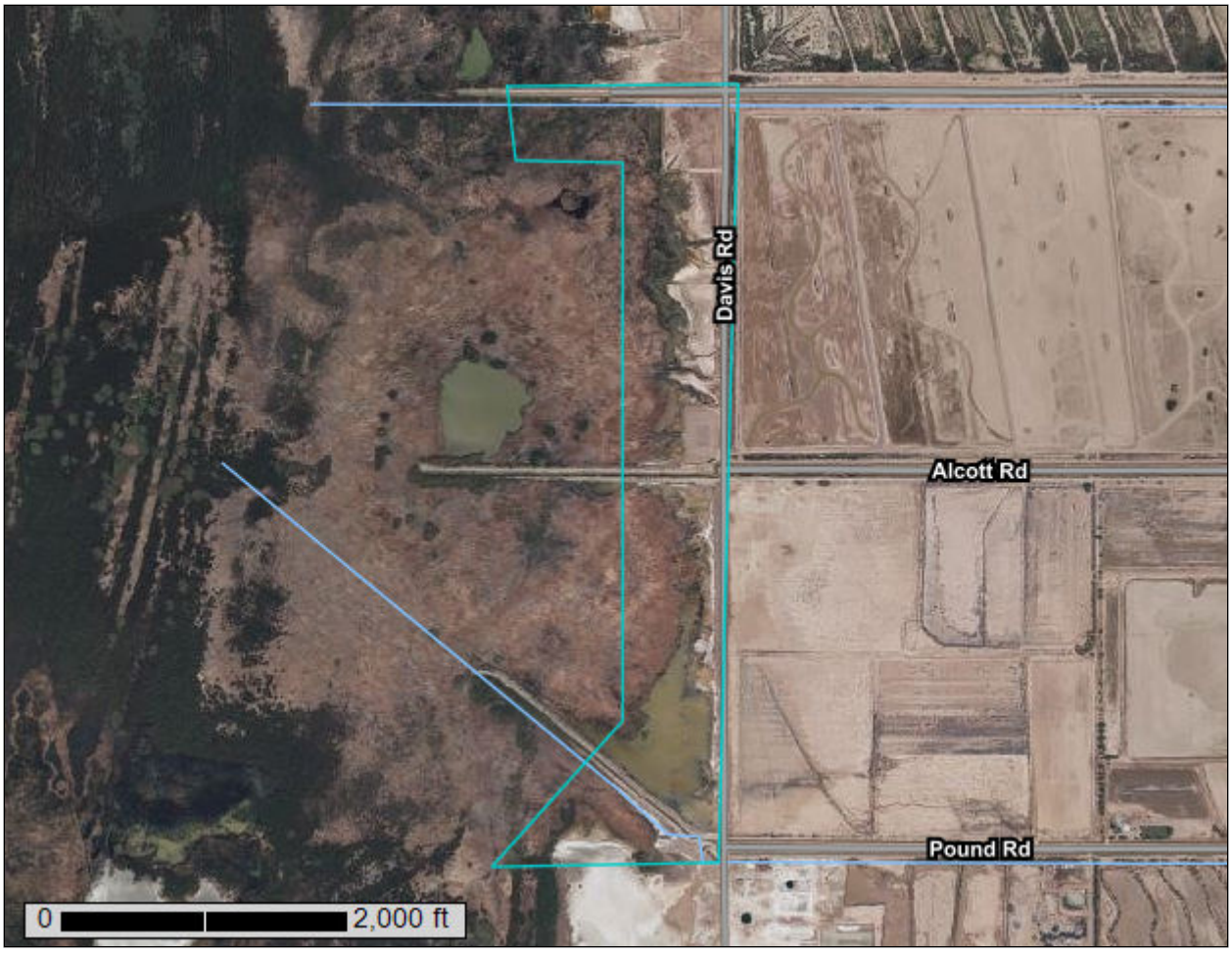
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Imperial County, California, Imperial Valley Area

Hell's Kitchen, Calipatria, CA



April 18, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....12
Map Unit Descriptions.....12
Imperial County, California, Imperial Valley Area.....14
104—Fluvaquents, saline.....14
114—Imperial silty clay, wet.....15
115—Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes.....16
Soil Information for All Uses.....19
Soil Properties and Qualities.....19
Soil Qualities and Features.....19
Hydrologic Soil Group (Hell's Kitchen).....19
References.....25

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

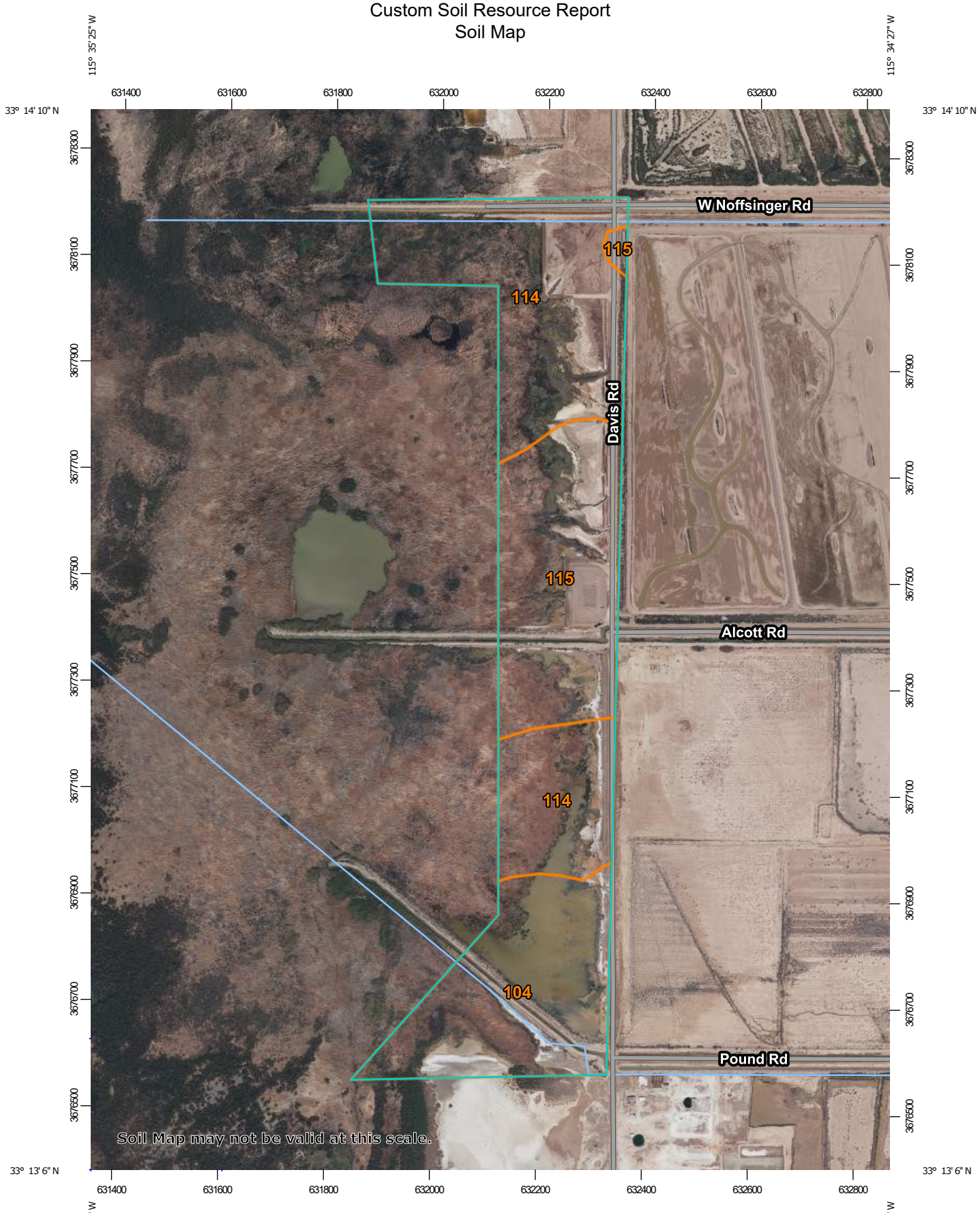
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:9,720 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 13, Sep 15, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 6, 2021—May 29, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Fluvaquents, saline	30.1	26.8%
114	Imperial silty clay, wet	50.1	44.7%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	31.8	28.4%
Totals for Area of Interest		**112.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Imperial County, California, Imperial Valley Area

104—Fluvaquents, saline

Map Unit Setting

National map unit symbol: h8zb
Elevation: -230 to 150 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents, saline, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents, Saline

Setting

Landform: Basin floors
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 60 inches: variable

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: Yes

Minor Components

Unnamed soils

Percent of map unit: 10 percent
Hydric soil rating: No

Rositas

Percent of map unit: 5 percent
Hydric soil rating: No

114—Imperial silty clay, wet

Map Unit Setting

National map unit symbol: h8zn
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Imperial, wet, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Imperial, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed

Typical profile

H1 - 0 to 12 inches: silty clay
H2 - 12 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland
Percent of map unit: 4 percent
Hydric soil rating: No

Holtville
Percent of map unit: 4 percent
Hydric soil rating: No

Glenbar
Percent of map unit: 4 percent
Hydric soil rating: No

Niland
Percent of map unit: 3 percent
Hydric soil rating: No

115—Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: h8zp
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Imperial, wet, and similar soils: 41 percent
Glenbar, wet, and similar soils: 40 percent
Minor components: 19 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Imperial, Wet

Setting
Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed

Typical profile
H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 60 inches: silty clay loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Description of Glenbar, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R031XY007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland

Percent of map unit: 10 percent
Hydric soil rating: No

Holtville

Percent of map unit: 9 percent
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group (Hell's Kitchen)

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

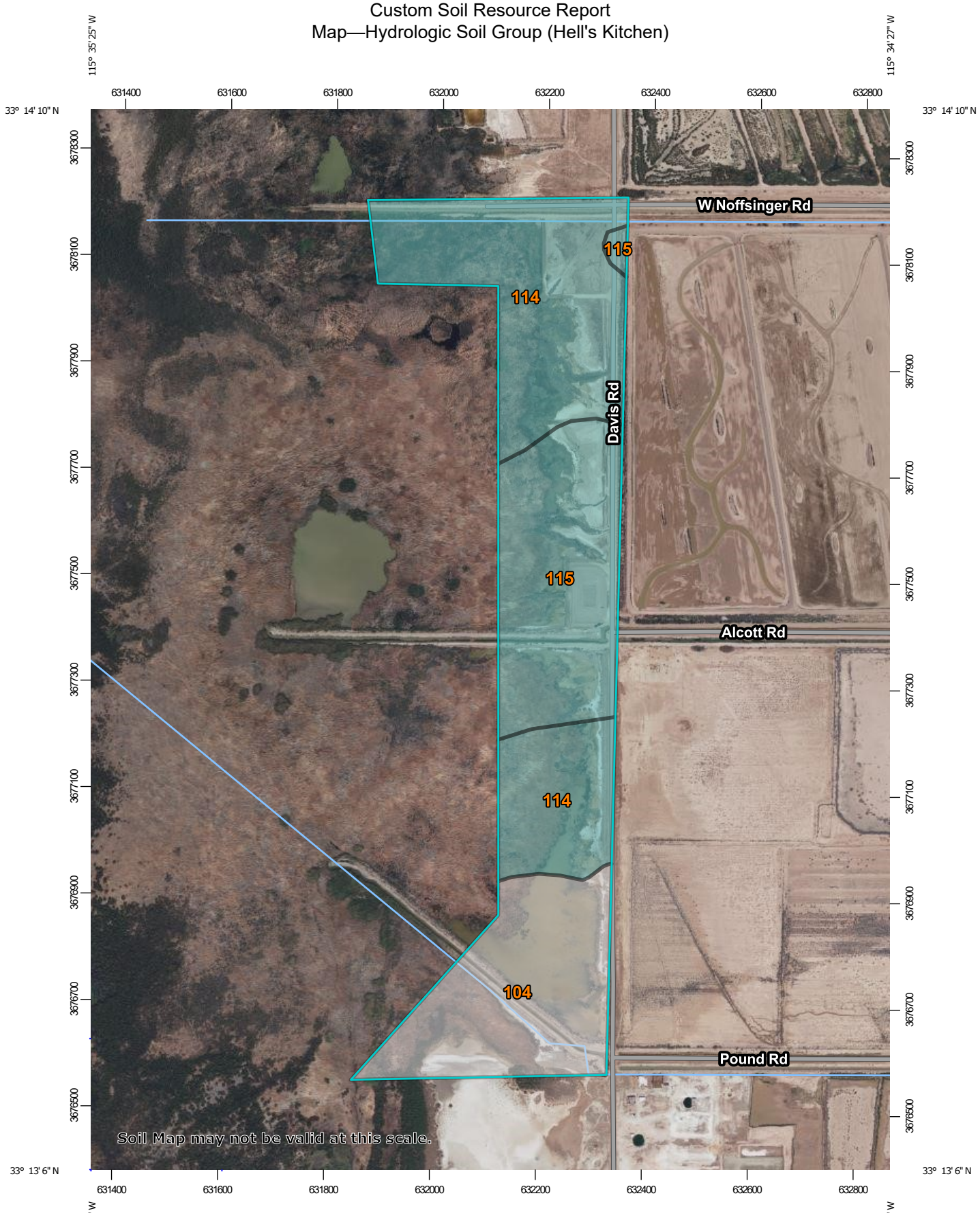
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group (Hell's Kitchen)



Map Scale: 1:9,720 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 13, Sep 15, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 6, 2021—May 29, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group (Hell's Kitchen)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
104	Fluvaquents, saline		30.1	26.8%
114	Imperial silty clay, wet	C	50.1	44.7%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	C	31.8	28.4%
Totals for Area of Interest			**112.0**	**100.0%**

Rating Options—Hydrologic Soil Group (Hell's Kitchen)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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NOISE ASSESSMENT

Hell's Kitchen
Geothermal Project
County of Imperial, CA

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TABLE OF CONTENTS

TABLE OF CONTENTS II

LIST OF FIGURES III

LIST OF TABLES III

GLOSSARY OF COMMON TERMS IV

EXECUTIVE SUMMARY V

1.0 PROJECT INTRODUCTION 1

1.1 Purpose of this Study 1
1.2 Project Location 1
1.3 Project Description and Purpose 1

2.0 FUNDAMENTALS 5

2.1 Acoustical Fundamentals 5
2.2 Vibration Fundamentals 5

3.0 SIGNIFICANCE THRESHOLDS AND STANDARDS 8

3.1 Operational Standards 8
3.2 Construction Noise Standards 9
3.3 Significant Increase of Ambient Noise Levels 9
3.4 Vibration Standards 10

4.0 ENVIRONMENTAL SETTINGS & EXISTING CONDITIONS 12

4.1 Settings & Locations 12
4.2 Existing Noise Conditions 12
4.3 Noise Measuring Methodology and Procedures 12
4.4 Receiver Locations 15

5.0 CONSTRUCTION NOISE 16

5.1 County of Imperial Construction Standards 16
5.2 Potential Project Construction Noise Impacts 16
5.3 Construction Vibration 18
5.4 Construction Conclusions 19

6.0 OPERATIONAL NOISE 20

6.1 Guidelines for the Determination of Significance 20
6.2 Potential Operational Noise Impacts 20
6.3 Conclusions 21

7.0 TRANSPORTATION NOISE 22

8.0 REFERENCES 23

LIST OF FIGURES

FIGURE 1-A: PROJECT VICINITY MAP 3
FIGURE 1-B: PROJECT AREA OVERVIEW MAP 4
FIGURE 4-A: NOISE MEASUREMENT LOCATIONS 14

LIST OF TABLES

TABLE 2-1: HUMAN REACTION TO TYPICAL VIBRATION LEVELS 7
TABLE 3-1: PROPERTY LINE NOISE LEVEL LIMITS 8
TABLE 3-2: VIBRATION AND NOISE IMPACT CRITERIA (HUMAN ANNOYANCE) 10
TABLE 3-3: VIBRATION IMPACT CRITERIA (STRUCTURAL DAMAGE) 11
TABLE 4-1: AMBIENT NOISE LEVELS 12
TABLE 5-1: CONSTRUCTION NOISE LEVELS 17
TABLE 5-2: VIBRATION LEVELS FROM CONSTRUCTION ACTIVITIES 19
TABLE 6-1: OPERATIONAL NOISE LEVELS 21

GLOSSARY OF COMMON TERMS

Sound Pressure Level (SPL): a ratio of one sound pressure to a reference pressure (L_{ref}) of 20 µPa. Because of the dynamic range of the human ear, the ratio is calculated logarithmically by 20 log (L/L_{ref}).

A-weighted Sound Pressure Level (dBA): Some frequencies of noise are more noticeable than others. To compensate for this fact, different sound frequencies are weighted more.

Minimum Sound Level (L_{min}): Minimum SPL or the lowest SPL measured over the time interval using the A-weighted network and slow time weighting.

Maximum Sound Level (L_{max}): Maximum SPL or the highest SPL measured over the time interval the A-weighted network and slow time weighting.

Equivalent sound level (L_{eq}): the true equivalent sound level measured over the run time. Leq is the A-weighted steady sound level that contains the same total acoustical energy as the actual fluctuating sound level.

Day Night Sound Level (Ldn): Representing the Day/Night sound level, this measurement is a 24 –hour average sound level where 10 dB is added to all the readings that occur between 10 pm and 7 am. This is primarily used in community noise regulations where there is a 10 dB "Penalty" for nighttime noise. Typically, Ldn's are measured using A weighting.

Community Noise Exposure Level (CNEL): The accumulated exposure to sound measured in a 24-hour sampling interval and artificially boosted during certain hours. For CNEL, samples taken between 7 pm and 10 pm are boosted by 5 dB; samples taken between 10 pm and 7 am are boosted by 10 dB.

Octave Band: An octave band is defined as a frequency band whose upper band-edge frequency is twice the lower band frequency.

Third-Octave Band: A third-octave band is defined as a frequency band whose upper band-edge frequency is 1.26 times the lower band frequency.

Response Time (F,S,I): The response time is a standardized exponential time weighting of the input signal according to fast (F), slow (S) or impulse (I) time response relationships. Time response can be described with a time constant. The time constants for fast, slow and impulse responses are 1.0 seconds, 0.125 seconds and 0.35 milliseconds, respectively.

EXECUTIVE SUMMARY

This noise study has been completed to determine the noise impacts associated with the development of the proposed Hell's Kitchen Geothermal Project in the County of Imperial, CA. Hell's Kitchen PowerCo 1 LLC is proposing the Hell's Kitchen PowerCo 1 (HKP1), and Hell's Kitchen LithiumCo 1 LLC is proposing the Hell's Kitchen LithiumCo 1 (HKL1). Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale.

Construction Noise

At a distance of 0.5-miles from the nearest residence the point source noise attenuation from construction activities is a reduction or 35 dBA. This would result in an anticipated worst case eight-hour average combined noise level well below 75 dBA at the property line. Given this, the noise levels will comply with the County of Imperial's 75 dBA standard at all Project property lines and no impacts are anticipated.

There are no vibration-sensitive uses located adjacent to the proposed construction. The nearest offsite uses are residential and located over 0.5-miles from any construction activities. Project construction activities would not result in vibration induced structural damage or vibration induced annoyance to adjacent land uses. Therefore, vibration impacts would be less than significant.

Operational Noise

Based on the empirical data and the distances to the property lines the unshielded noise levels from the proposed equipment were found to be below the County's most restrictive nighttime property line standard of 45 dBA. No impacts are anticipated and no mitigation is required.

Off-Site Noise

The project does will not create a direct impact of more than 3 dBA CNEL on any roadway segment and no cumulative noise increase of 3 dBA CNEL or more were found. Therefore, the proposed project's direct and cumulative contributions to off-site roadway noise increases will not cause any significant impacts to any existing or future noise sensitive land uses.

1.0 PROJECT INTRODUCTION

1.1 Purpose of this Study

The purpose of this Noise study is to determine potential noise impacts (if any) created from the proposed construction and operation of the proposed project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to bring those impacts to a level that would be considered less then significant.

1.2 Project Location

HKP1 and HKL1 are located approximately 3.6 miles west of the community of Niland, adjacent to Davis Road, south of Noffsinger Road and north of Pound Road, near the eastern shore of the Salton Sea in the County of Imperial, CA. A project vicinity map and location map are shown in Figure 1-A. Both facilities are located within CTR's lease area from IID and on lands owned by CTR. The gen-tie/powerline will be located east of Davis Road and north of McDonald Road within IID's transmission line right-of-way (ROW) and partially within new ROW. The proposed project is located within Sections 11 and 12 of Township 11 South, Range 13 East, as shown on the Niland USGS 7.5' quadrangles, San Bernardino Base Meridian.

1.3 Project Description and Purpose

Hell's Kitchen PowerCo 1 LLC proposes to develop the HKP1 Project and Hell's Kitchen LithiumCo 1 LLC proposes to construct and operate the HKL1 Project in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). The projects will be constructed by different entities, have different project objectives, and will be operated by separate entities as separate projects; however, the projects are considered connected actions under the California Environmental Quality Act (CEQA). Imperial County is the CEQA Lead Agency with authority for issuing the Conditional Use Permits for the projects. The project area overview map is shown on Figure 1-B of this report.

The HKP1 Project involves the generation of up to 49.9 MW of geothermal power and will deliver the power to Imperial Irrigation District (IID) via an approximately 2-mile-long, 230-kilovolt (kV) generation tie (gen-tie) line, which will interconnect with IID facilities at the existing Hudson Ranch Interconnect Station. The HKP1 project will include a total of seven wells for production. In addition to the wells and gen-tie alignment, the project will include geothermal fluid pipelines; power production and brine processing facilities; a brine pond; administration buildings, laboratories and control rooms, operations and maintenance buildings, and warehouses; and a water storage pond along Davis Road.

The HKL1 facility will utilize geothermal brine produced from the neighboring HKP1 project site for the commercial production of lithium hydroxide, silica, bulk sulfide, and polymetallic products. The HKL1 Project will also include a power line co-located on the same transmission poles as the HKP1 gen-tie line, to supply power to Project facilities. Other HKL1 facilities include a cooling tower and cooling and flocculation building, brine supply and return pipelines and processing facilities, ion exchange systems, product handling facilities, and offloading and storage tanks. The HKL1 administration building, laboratory, maintenance shop, and warehouses will be shared with the HKP1 Project and will be built as part of the HKP1 facility. The water storage pond will also be shared between the two facilities.

Figure 1-A: Project Vicinity Map



Source: (Google, 2022)

Figure 1-B: Project Area Overview Map



Source: (Chambers Group, 2021)

2.0 FUNDAMENTALS

2.1 Acoustical Fundamentals

Noise is defined as unwanted or annoying sound which interferes with or disrupts normal activities. Exposure to high noise levels has been demonstrated to cause hearing loss. The individual human response to environmental noise is based on the sensitivity of that individual, the type of noise that occurs and when the noise occurs.

Sound is measured on a logarithmic scale consisting of sound pressure levels known as a decibel (dB). The sounds heard by humans typically do not consist of a single frequency but of a broadband of frequencies having different sound pressure levels. The method for evaluating all the frequencies of the sound is to apply an A-weighting to reflect how the human ear responds to the different sound levels at different frequencies. The A-weighted sound level adequately describes the instantaneous noise whereas the equivalent sound level depicted as Leq represents a steady sound level containing the same total acoustical energy as the actual fluctuating sound level over a given time interval.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment. Noise levels generated by heavy construction equipment can range from 60 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 75 dBA measured at 50 feet from the noise source to the receptor would be reduced to 69 dBA at 100 feet from the source to the receptor and reduced to 63 dBA at 200 feet from the source. The most effective noise reduction methods consist of controlling the noise at the source, blocking the noise transmission with barriers or relocating the receiver. Any or all of these methods may be required to reduce noise levels to an acceptable level.

The most effective noise reduction methods consist of controlling the noise at the source, blocking the noise transmission with barriers or relocating the receiver. Any or all of these methods may be required to reduce noise levels to an acceptable level.

2.2 Vibration Fundamentals

Vibration is a trembling or oscillating motion of the ground. Like noise, vibration is transmitted in waves, but in this case through the ground or solid objects. Unlike noise, vibration is typically felt rather than heard. Vibration can be either natural as in the form of earthquakes, volcanic eruptions, or manmade as from explosions, heavy machinery, or trains. Both natural and manmade vibration may be continuous, such as from operating machinery; or infrequent, as from an explosion.

As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized in three ways: displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position and for the purposes of soil displacement is typically measured in inches or millimeters. Particle velocity is the rate of speed at which soil particles move in inches per second or millimeters per second. Particle acceleration is the rate of change in velocity with respect to time and is measured in inches per second or millimeters per second. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration. Table 2-1 shows the human reaction to various levels of peak particle velocity.

Vibrations also vary in frequency and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occurring around 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, it is less common, to measure traffic frequencies above 30 Hz.

Propagation of ground-borne vibrations is complicated and difficult to predict because of the endless variations in the soil through which the waves travel. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by dropping an object into water. P-waves, or compression waves, are waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and special voids. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Table 2-1: Human Reaction to Typical Vibration Levels

Vibration Level Peak Particle Velocity (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans, Division of Environmental Analysis, *Transportation Related Earthborne Vibration, Caltrans Experiences*, Technical Advisory, Vibration, TAV-02-01-R9601, 2002 (Caltrans, 2002).

3.0 SIGNIFICANCE THRESHOLDS AND STANDARDS

3.1 Operational Standards

The Property Line Noise Limits listed in Table 9 of the County's General Plan Noise Element (County of Imperial General Plan, 2015) and the County's Ordinance, Title 9, Division 7 (Noise Abatement and Control) Section 90702.00 Subsection A provides acceptable Sound level limits based on the property zoning. The applicable property line sound level limits are provided in Table 3-1 below and shall apply to noise generation from one property to an adjacent property. The standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. These standards do not apply to construction noise.

Table 3-1: Property Line Noise Level Limits

Zone	Time	Applicable Limit One-hour Average Sound Level (Decibels)
Residential Zones	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
Multi-residential Zones	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial Zones	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
Light Industrial/Industrial Park Zones	Anytime	70
General Industrial Zones	Anytime	75
When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dB L_{eq}. The sound level limit between two zoning districts (different land uses) shall be measured at the property line between the properties. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of subsection A of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located. This section does not apply to noise generated by helicopters at heliports or helistops authorized by a conditional use permit. This section does not apply to noise generated by standard agricultural field operating practices such as planting and harvesting of crops. The County of Imperial has a Right to Farm Ordinance (1031) which serves as recognition to agricultural practices to new development. Agricultural/industrial operations shall comply with the noise levels prescribed under the general industrial zones.		

Source: County of Imperial Ordinance, Title 9, Division 7 (Noise Abatement and Control)

These standards are intended to be enforced through the County's code enforcement program on the basis of complaints received from persons impacted by excessive noise. It must be acknowledged that a noise nuisance may occur even though an objective measurement with a sound level meter is not available. In such cases, the County may act to restrict disturbing, excessive, or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

3.2 Construction Noise Standards

Based on the County of Imperial's Noise Element of the General Plan, construction noise from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period.

Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9 a.m. and 5 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

3.3 Significant Increase of Ambient Noise Levels

The increase of noise levels generally results in an adverse impact to the noise environment. The Noise/Land Use Compatibility Guidelines are not intended to allow the increase of ambient noise levels up to the maximum without consideration of feasible noise reduction measures. The following guidelines are established by the County of Imperial for the evaluation of significant noise impact.

a. If the future noise level after the Project is completed will be within the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines but will result in an increase of 5 dB CNEL or greater, the Project will have a potentially significant noise impact and mitigation measures must be considered.

b. If the future noise level after the Project is completed will be greater than the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, a noise increase of 3 dB CNEL or greater shall be considered a potentially significant noise impact and mitigation measures must be considered.

3.4 Vibration Standards

The County has not yet adopted vibration criteria. The United States Department of Transportation Federal Transit Administration (FTA) provides criteria for acceptable levels of groundborne vibration for various types of special buildings that are sensitive to vibration. For purposes of identifying potential project-related vibration impacts, the FTA criteria will be used. The human reaction to various levels of vibration is highly subjective. The upper end of the range shown for the threshold of perception, or roughly 65 VdB, may be considered annoying by some people. Vibration below 65 VdB may also cause secondary audible effects, such as a slight rattling of doors, suspended ceilings/fixtures, windows, and dishes, any of which may result in additional annoyance. Table 3-2 on the following page shows the FTA groundborne vibration and noise impact criteria for human annoyance.

In addition to the vibration annoyance standards presented above, the FTA also applies the following standards for construction vibration damage. Table 3-3 on the following page, structural damage is possible for typical residential construction when the peak particle velocity (PPV) exceeds 0.2 inch per second (in/sec). This criterion is the threshold at which there is a risk of damage to normal dwellings.

Table 3-2: Vibration and Noise Impact Criteria (Human Annoyance)

	Groundborne Vibration Impact Levels (VdB re 1 microinch/second)			Groundborne Noise Impact Levels (dB re 20 micropascals)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where low ambient vibration is essential for interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]	N/A[4]	N/A[4]	N/A[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Source: United States Department of Transportation Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment Manual,* September 2018.

[1] "Frequent Events" are defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

[2] "Occasional Events" are defined as between 30 and 70 vibration events of the same source per day. Most commuter truck lines have this many operations.

[3] "Infrequent Events" are defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines

[4] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

[5] Vibration-sensitive equipment is not sensitive to groundborne noise.

Table 3-3: Vibration Impact Criteria (Structural Damage)

Building Category	PPV (in/sec)	VdB
I. Reinforced-concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90
Source: (FTA, 2018) Notes: RMS velocity calculated from vibration level (VdB) using the reference of one microinch/second.		

4.0 ENVIRONMENTAL SETTINGS & EXISTING CONDITIONS

4.1 Settings & Locations

The proposed project is located within the unincorporated area of the Imperial County in southeastern California. Imperial County encompasses the southern half of the Salton Sea Air Basin (SSAB). The proposed project is situated about 3.6 miles west-southwest of the community of Niland, California. The project and surrounding land use is designated as Agricultural with a Zoning Designation of S1G. The property to the east across Davis Road and north of Alcott Road has a land use designation of Government/Special Public. The nearest residence is located 0.5-miles east along Pound Road.

4.2 Existing Noise Conditions

The project is surrounded by existing agricultural land uses and the nearest urban area is the community of Niland located over 3-miles to the east. The Hudson Ranch Power Plant is located over 1-mile to the south.

4.3 Noise Measuring Methodology and Procedures

In July 2011, noise levels were measured at the Sonny Bono National Wildlife Refuge, the southeast corner of the town of Niland, McDonald Road west of State Route 111, and on State Route 111 east of the proposed Project to obtain a baseline ambient noise level as referenced in the Hudson Ranch Power II and Simbol Calipatria II Final EIR Noise Study (Hudson Ranch Power II and Simbol Calipatria II Final EIR, 2012). According to the Final EIR, all noise level measurements were taken for a period of 15 minutes between Wednesday, July 6 for daytime and Thursday, July 7 for nighttime. The report calculated the day-night average sound level (L_{dn}) as provided in Table 4-1.

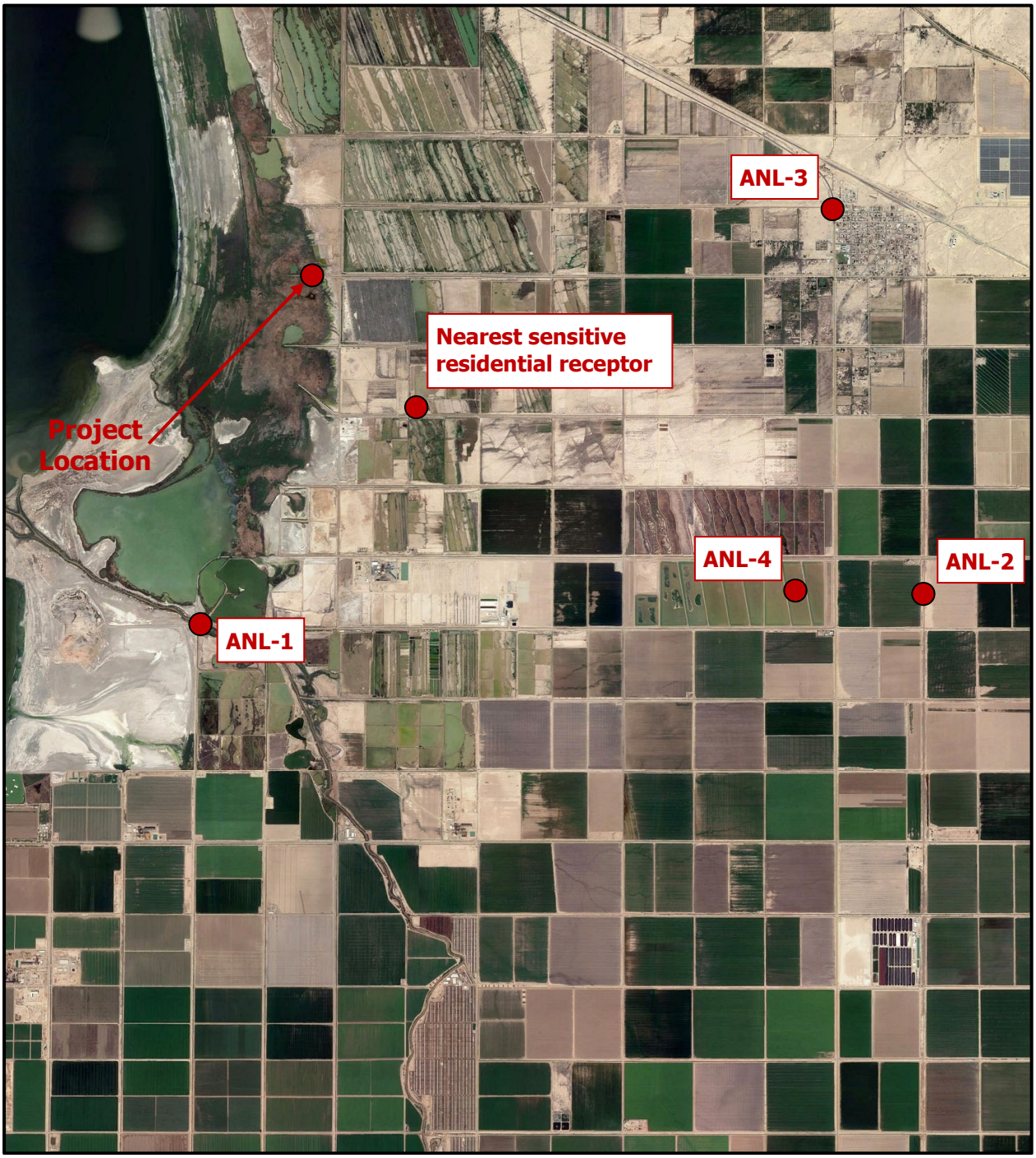
Table 4-1: Ambient Noise Levels

Ambient Noise Measurement	Ambient Noise Measurement Location	Time of Measurement	Noise Level (L_{dn}, dBA)
ANL-1	Sonny Bono NWR	04:08 - 04:23 21:03 - 21:18	48.5
ANL-2	State Route 111	04:47 - 05:02 19:03 - 19:18	68.1
ANL-3	Niland, CA	05:43 - 05:58 21:08 - 20:23	76.5
ANL-4	McDonald Road	05:14 - 05:29 19:30 – 19:46	58.2
Source: (Hudson Ranch Power II and Simbol Calipatria II Final EIR, 2012)			

According to the Hudson Ranch Power II and Simbol Calipatria II Final EIR Noise Study, based on the location of Grace Smith Elementary School and other residences in relation to that Project, and the fact that the caretaker mobile home is located within an industrial development for the sole purpose of facilitating the industrial use, the Town of Niland was chosen as the best example of an average location where sensitive receptors are located. The existing residence along Pound Road is located over a mile from any existing noise generating sources (i.e., operational noise from the Hudson Power Plant and roadway noise from SR-111) and is expected to have similar noise levels as that found at the Sonny Bono NWR (ANL-4). The resulting equivalent sound level (L_{eq}) daytime noise level was 67.6 dBA and nighttime noise level was 70.4 dBA over a period of 15 minutes (Hudson Ranch Power II and Simbol Calipatria II Final EIR, 2012). The location of the ambient noise measurement areas and sensitive receptors, in relation to the proposed facility site, are presented in Figure 4-A.

It was determined in the Hudson Ranch Power II and Simbol Calipatria II Final EIR that during the noise measurement period, existing noise sources in the vicinity of the proposed Project included vehicular traffic, biological resources, geothermal energy development, and farming equipment. Noise sources associated with biological resources included bird calls and the sounds of crickets and other insects. The existing Leathers geothermal power plant operation was audible near the Sonny Bono NWR measurement location. Peak noise levels increased to approximately 65 to 75 dBA when vehicles/trucks passed by at the Niland and McDonald Road measurement location. Ambient noise was also measured approximately 0.5 miles from the Project site at ANL-4 measurement location and it was stated that the expected noise levels at the residences along Pound Road would be similar. The average noise level was about 49.7 dBA, approximately 50 feet from State Route 11, with the dominant noise source being vehicle and truck traffic on State Route 111.

Figure 4-A: Noise Measurement Locations



4.4 Receiver Locations

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as identified below, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Receiver locations are located in outdoor living areas (e.g., backyards) at 10 feet from any existing or proposed barriers or at the building façade, whichever is closer to the Project site, based on FHWA guidance, and consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 3. Sensitive receiver locations in the Project study area include residential uses as described below. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

The County of Imperial does not consider the surrounding agricultural land uses as sensitive uses. However, an existing residence is located along Pound Road on land that is designated as agricultural. The property is located over 0.5-miles to the east along Pound Road and over 0.75 miles from the main operations of the proposed facility. Therefore, for the purpose of this study, the residence is considered a sensitive land use from the construction and operational activities.

5.0 CONSTRUCTION NOISE

5.1 County of Imperial Construction Standards

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

5.2 Potential Project Construction Noise Impacts

Noise levels resulting from proposed construction activities were obtained from the Controlled Thermal Resources (US), Inc.'s (CTR) equipment lists and process descriptions, reports prepared by the FTA and the Federal Highway Administration (FHWA), satellite imagery from the site, and field data from files.

On-site noise-generating activities associated with the Hell's Kitchen Geothermal Project would include short-term construction noise, mechanical equipment noise related to geothermal drilling, installation and testing of flash power plant equipment, and associated vehicles. Well-testing and construction of the proposed power plant and interconnection line would involve the short-term use of heavy equipment. Estimations made based on the proposed equipment list result in composite noise from well pad grading of 85 dBA Leq(h) at 50 feet and 83 dBA Leq(h) for drill rig assembly, well drilling, and testing. It is expected that well drilling average noise would be 85 dBA at 50 feet.

Major noise sources during construction of the Project would include the diesel engines on the construction equipment, operation of the drilling rig, and noise associated with the movement of pipes and casing. Construction of the power plant is anticipated to last a total of 10 months and construction of the lithium plant is anticipated to last a total of 23 months. Construction noise is usually made up of intermittent noise peaks and continuous lower levels of noise from equipment cycling through use. Noise levels associated with individual pieces of equipment can generally range between 70 and 90 dBA (FTA, 2018). Based on the proposed construction equipment list and industry-wide noise reference levels, the estimated maximum composite construction noise level for the Project is 93 dBA at a distance of 50 feet from the building, mechanical, and electrical work sites (EMA, 2012a) (FHA, 2006). Additionally, noise from trucks, commuter vehicles, and other on-road equipment, which would mainly be along streets and access roads, would produce peak levels of approximately 88 dBA at 50 feet from the source (FTA, 2018).

During a typical day, equipment would not be operated continuously at peak levels. While the average noise levels on-site could exceed the 75 dBA Leq construction noise standard established by County of Imperial for General Industrial Zones, noise would attenuate to levels below the threshold with increasing distance until it reaches the nearest sensitive receptors. To abate noise pollution, the applicant would install mufflers on engine-driven equipment during both construction and development operations. Additionally, the applicant would implement an exhaust emissions control program during Project construction, which would include, but not limited to, engine maintenance, and procedures to minimize emissions that would assist in reducing noise. Generally, exhaust emission control programs include the minimization of unnecessary vehicle and equipment idling time either by shutting equipment off when not in use or reducing idling time. Therefore, it is anticipated that construction noise would be reduced from the estimated peak levels.

Most of the project construction would be located within the northern half of the project site approximately 0.75-miles or more away from the nearest residential noise receptor along Pound Road. However, portions of the site construction would be as close as 0.5-miles. Therefore, to be conservative, construction noise levels were calculated at 0.5-miles from the nearest noise sensitive residential land use. As shown on Table 5-1, construction noise levels would attenuate from 93 dBA at 50 feet from the source to 58 dBA at the closest residential receptor due to geometric spreading of sound energy. Therefore, all calculated noise levels would fall within the normally acceptable range of the guidance set forth in the County of Imperial General Plan Noise Element.

Table 5-1: Construction Noise Levels

Sensitive Receptor	Source Level @ 50-Feet (dBA)	Approximate Distance to Project Site Property Line	Noise Reduction Due to Distance (dBA)	Resultant Noise Level at Sensitive Receptor (dBA)
Residence	93	0.5-miles east	-35	58
			County of Imperial Threshold	75
			IMPACT?	**NO**

The Hell's Kitchen geothermal well drilling and some power plant construction activities would take more time than those established by the County of Imperial construction noise standards. Drilling operations would occur 24 hours a day, 7 days a week. However, the Imperial County Land Use Ordinance (Division 17) includes general drilling standards specific to geothermal projects. This ordinance allows for drilling on a 24-hour basis, provided the County-specified noise control measures (Land Use Ordinance 91702.01, Sections B, D, M, O, and S) are implemented. The Project proponent will be required to implement these measures in order to comply with the local applicable standards.

The Hell's Kitchen power plant construction schedule is based on a 10-hour/day, 6-days/week basis. This implies that the proposed Project may exceed the County Noise Element's construction limits for construction on Saturdays, when the allowed construction time is limited to 8 hours. Therefore, the proposed Project will be required to comply with all applicable noise control measures contained in the County General Plan Noise Element and Noise Abatement and Control Ordinance. In addition, the Project will be required to comply with the standards of Division 17 (Geothermal) of the County's Land Use Ordinance, which include specific noise control measures associated with geothermal well drilling.

Based on the County of Imperial's Noise Element of the General Plan, construction noise from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period. Since the nearest receptors are located over a half mile from the construction, the 75 dBA in a one hour period is not anticipated to be exceeded as can be seen in Table 5-1 above. Therefore, the project may request to work outside the normal construction hours.

5.3 Construction Vibration

The County has not yet adopted vibration criteria. The United States Department of Transportation Federal Transit Administration (FTA) provides criteria for acceptable levels of groundborne vibration for various types of special buildings that are sensitive to vibration. For purposes of identifying potential project-related vibration impacts, the FTA criteria will be used.

The FTA has determined vibration levels that would cause annoyance to a substantial number of people and potential damage to building structures. The FTA criterion for vibration induced structural damage is 0.20 in/sec for the peak particle velocity (PPV). Project construction activities would result in PPV levels below the FTA's criteria for vibration induced structural damage. The FTA criterion for infrequent vibration induced annoyance is 80 Vibration Velocity (VdB) for residential uses. Construction activities would generate levels of vibration that would not exceed the FTA criteria for nuisance for nearby residential uses.

There are no vibration-sensitive uses located adjacent to the proposed construction. The nearest residential use is located over 0.5-miles from any construction activities. Table 5-2 lists the average vibration levels that could be experienced at adjacent land uses from the temporary construction activities at a distance of 100-feet. Project construction activities are located a minimum of 0.5-miles away, therefore, would not result in vibration induced structural damage or vibration induced annoyance to adjacent land uses. Therefore, vibration impacts would be less than significant.

Table 5-2: Vibration Levels from Construction Activities

Equipment	Approximate Velocity Level at 25 Feet (VdB)	Approximate RMS Velocity at 25 Feet (in/sec)	Approximate Velocity Level at 100 Feet (VdB)	Approximate RMS Velocity at 100 Feet (in/sec)
Small bulldozer	58	0.003	40.0	0.0004
Jackhammer	79	0.035	61.0	0.0044
Loaded trucks	86	0.076	68.0	0.0095
Large bulldozer	87	0.089	69.0	0.0111
		FTA Criteria	80	0.2
		Significant Impact?	**No**	**No**

[1] PPV at Distance D = PPVref x $(25/D)^{1.5}$

5.4 Construction Conclusions

As can be seen in Table 5-1, at a distance of 0.5-miles from the residential property, the point source noise attenuation from construction activities is reduced 35 dBA to a level of approximately 58 dBA. This would result in an anticipated worst case eight-hour average combined noise level well below 75 dBA at the property line. Given this, the noise levels will comply with the County of Imperial's 75 dBA standard at all Project property lines and no impacts are anticipated.

There are no vibration-sensitive uses located adjacent to the proposed construction. The nearest residential use is located over 0.5-miles from any construction activities. Therefore, project construction activities would not result in vibration induced structural damage or vibration induced annoyance to adjacent land uses. Therefore, vibration impacts would be less than significant.

6.0 OPERATIONAL NOISE

6.1 Guidelines for the Determination of Significance

The County Ordinance, Title 9, Division 7 (Noise Abatement and Control) states it is unlawful for any person to make or cause any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of their property exceeds the applicable limits provided above in Table 3-1. The project and surrounding land use is designated as Agricultural with a Zoning Designation of S1G. The property to the east across Davis Road and north of Alcott Road has a land use designation of Government/Special Public. The nearest residence is located 0.5-miles east along Pound Road.

Section 90702.00 of the Noise Ordinance sets a sound level limit of 50 dBA Leq for daytime hours of 7 a.m. to 10 p.m. and 45 dBA Leq during the noise sensitive nighttime hours of 10 p.m. to 7 a.m. for residential noise sensitive land uses. The proposed Project components are expected to operate during both daytime and nighttime hours and therefore the most restrictive and conservative approach is to apply the 45 dBA Leq nighttime standard at the property lines.

6.2 Potential Operational Noise Impacts

This section examines the potential stationary noise source impacts associated with the operation of the proposed Project. Primary noise sources at the geothermal power plant would include turbine operations, cooling towers, and associated Project vehicles. Typically, the loudest components at geothermal power plant operations are the cooling tower(s) and the non-condensed gas (NCG) facility. Operational noise levels for the geothermal plant and operating wells were obtained from the Hudson Ranch Power II and Simbol Calipatria II Noise Study (Hudson Ranch Power II and Simbol Calipatria II Final EIR, 2012). The Final EIR gathered noise level measurements from the Hudson Ranch I geothermal power plant. Operational noise measured during operation at the Hudson Ranch I geothermal power plant at a distance of 50 feet from the cooling tower resulted in a noise level of 77 dBA. Noise levels measured during operation at the Hudson Ranch I geothermal power plant at a distance of 50 feet from the NCG facility resulted in a noise level of 78 dBA. Based on noise levels referenced during the operation of production wells 13-2 and 13-3 at the HR-1 Project, the average maximum operational noise level from production wells would be approximately 58 dBA at 50 feet.

Assuming a similar noise levels for the HKP1 operations, the combined noise level for the simultaneous operation of the cooling towers and the NCG facility would be approximately 81 dBA at 50 feet. The nearest project property line is located as close as 0.5-miles from the sensitive residential receptor to the east. However, facilities at this distance include well pads and ponds that do not generate significant noise. The majority of the HKP1 operations that generate significant noise include the cooling towers located a minimum of 0.75-miles or more from the

nearest residence to the southeast. This would result in a combined noise level at the closest receptor of approximately 43 dBA, which would be below the County Property Line Noise Standards. Additionally, HKP1 will be required to comply with the County Land Use Ordinance 91702.01(B), which limits drilling noise to a sound level equivalent to CNEL 60 dBA as measured at the nearest human receptor location outside the parcel boundary. This level may be exceeded by 10% if the noise is intermittent and during daylight hours.

Table 6-1 provides an estimate of the projected noise levels from the proposed Hell's Kitchen Project operations at the nearest sensitive receptor. As presented in the table, operating sound levels from the HKP1 Project is estimated to be 45 dBA at these closest sensitive receptors.

Table 6-1: Operational Noise Levels

Sensitive Receptor	Source Level @ 50-Feet (dBA)	Approximate Distance to Project Site Property Line	Noise Reduction Due to Distance (dBA)	Resultant Noise Level at Sensitive Receptor (dBA)
Residence	81	0.75-miles southeast	-38	43
			County of Imperial Threshold	45
			IMPACT?	**NO**

Implementation of the Hell's Kitchen Geothermal Project would not result in a substantial increase in ambient noise levels at off-site noise-sensitive receptors or exceed the County of Imperial Property Line Noise Standards (70 dBA anytime for Light Industrial/Industrial Park Zones) and the applicable Noise/Land Use Compatibility criteria. Based on reported noise levels from similar operations, it is anticipated that noise levels would not exceed the County property line noise limits at the closest sensitive receptors. Therefore, operational noise impacts would be less than significant.

6.3 Conclusions

Based on the empirical data and the distances to the property lines the unshielded noise levels from the proposed equipment were found to be below the County's most restrictive nighttime property line standard of 45 dBA. No impacts are anticipated and no mitigation is required.

7.0 TRANSPORTATION NOISE

Project Related Offsite Transportation Noise

To determine if direct or cumulative off-site noise level increases associated with the development of the proposed project would create noise impacts, the traffic volumes for the existing conditions were compared with the traffic volume increase of existing plus the proposed project. According to the Project VMP Analysis (DKS Associates, 2021), the Project is expected to generate 432 daily trips.

Access to the Project will be via State Route 111 (SR-111) to the east and either Noffsinger Road and Alcott Road. The existing average daily traffic (ADT) volumes on SR-111 is several thousand ADT. Typically, it requires a project to double (or add 100%) the traffic volumes to have a direct impact of 3 dBA CNEL or be a major contributor to the cumulative traffic volumes. The project will add less than a 12% increase to SR-111 volumes. Noffsinger Road and Alcott Road are unpaved west of SR-111 to the Project site and experience minimal traffic. The Project has the potential to impact noise levels along these roadways, however, no sensitive uses exist along these roadway segments. Therefore, no direct or cumulative impacts are anticipated.

8.0 REFERENCES

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March 21, 2022

Quechan Indian Tribe
Attn: Jill McCormick
PO Box 1899
Yuma, AZ 85366

RE: **CALIFORNIA ENVIRONMENTAL QUALITY ACT ASSEMBLY BILL 52 (AB 52) FORMAL NOTIFICATION OF THE HELL'S KITCHEN POWERCO 1 AND LITHIUMCO 1 PROJECT**

Dear Ms. McCormick,

The County of Imperial is providing formal notice of the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project (together referred to as the Proposed Project, Project) in accordance with Assembly Bill 52 (AB 52). The following notification letter is being provided to you because your Tribe, the Quechan Indian Tribe, has requested formal notification from the County for projects proposed within this geographic area and/or because your name was listed on the Native American Heritage Commission (NAHC) directory as an individual who may have additional knowledge pertaining to tribal cultural resources within this geographic area where Hell's Kitchen PowerCo 1 LLC is proposing the development of Hell's Kitchen PowerCo 1 (HKP1) and Hell's Kitchen LithiumCo 1 LLC is proposing the development of Hell's Kitchen LithiumCo 1 (HKL1) in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale.

The Project would be located within Imperial County, California, approximately 3.6 miles west from the town of Niland. The Project would be adjacent to Davis Road and south of Noffsinger Road, within the Controlled Thermal Resources (US), Inc. geothermal lease area, and on lands owned by Imperial Irrigation District (IID) and CTR. The development area for the Project would be approximately 65 acres. The Project is located on vacant and generally undeveloped land. On June 14, 2017 the County authorized Geothermal CUP #16-0001, which allowed construction of up to four well pads as well as drilling and maintenance of up to six separate geothermal exploratory wells on the Project site. A well pad, Well Pad 1, north of Alcott Road and west of Davis Road, and two geothermal wells were constructed on the site in 2021. Rough grading for Well Pad 3, south of Noffsigner Road and east of Davis Road, began in November 2021. The remaining Project site is undeveloped.

The proposed gen-tie line will be located east of Davis Road and north of McDonald Road within IID's transmission right-of-way (ROW) and within new right-of-way. The gen-tie line will run from Noffsigner Road, approximately 2 miles south to McDonald Road, then approximately 0.3 miles east to Hudson Ranch. The geothermal development area and

lithium facilities would be within Sections 11 and 12 of Township 11 South, Range 13 East, San Bernardino Base Meridian, and the gen-tie/power line ROW corridor is located within Sections 12, 13, and 14 of Township 11 South, Range 13 East (see Figure 1). Table 1 details the Project's Assessor Parcel Numbers (APNs).

Table 1: Project Assessor Parcel Numbers (APNs)

APN	Project Component	Zoning Designation
020-010-012	HKP1 and HKL1 Shared Facilities	S-1-G
020-010-013	HKP1 and HKL1 Shared Facilities	S-1-G
020-070-060	HKP1 and HKL1 Shared Facilities	S-1-G
020-010-042	Gen-Tie and Power Line	S-1-G
020-060-001	Gen-Tie and Power Line	S-1-G
020-060-002	Gen-Tie and Power Line	S-1-G
020-060-039	Gen-Tie and Power Line	S-1-G
020-060-040	Gen-Tie and Power Line	S-1-G
020-070-026	Gen-Tie and Power Line	S-1-G
020-070-025	Gen-Tie and Power Line	S-1-G
020-070-029	Gen-Tie and Power Line	S-1-G
020-070-055	Gen-Tie and Power Line	S-1-G
020-010-031	Gen-Tie and Power Line	S-1-G
020-010-032	Gen-Tie and Power Line	S-1-G
020-010-035	Gen-Tie and Power Line	M-2-G-PE
020-010-044	Gen-Tie and Power Line	M-2-G-PE
Notes: S-1-G (open space/geothermal overlay zone); M-2-G-PE (medium industrial/geothermal overlay)		

Surrounding land uses and setting:

As shown in Table 1, the development area is zoned S-1-G (open space/geothermal overlay zone) and is within the renewable energy/geothermal map overlay zone in the 2015 Renewable Energy and Transmission Element update to the County General Plan. The gen-tie and power line ROW is zoned S-1-G and M-2-G-PE (medium industrial/geothermal overlay). Imperial Irrigation District-owned vacant land is located west of the Project site. Vacant private land is located north of the Project site. State of California-owned wildlife areas are located to the east of the Project site. Vacant land owned by IID and the Hudson Ranch 1 facility are located south of the Project site. There are no residential uses within one mile of the Project site.

A Sacred Lands File search by the NAHC, conducted on April 12, 2021, was Positive and indicates that sacred sites have been identified within a one-mile radius of the Proposed Project. The California Historical Resources Information System records search indicate four previously recorded cultural resources located within a half-mile radius of the Project site; however, none are within the Project footprint.

In accordance with Section 21080.3.1(d) of the PRC, you have 30 days from the receipt of this letter to either request or decline consultation in writing for this Project. Please send your written response before April 25, 2022 to Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA. 92243, att. David Black, Planner IV or by email to CommentLetters@co.imperial.ca.us. If the County does not receive a response within 30 days, the County will proceed with the Proposed Project. Thank you and we look forward to your response.

Sincerely,

JIM MINNICK, DIRECTOR
Imperial County Planning & Development Services

BY:
David Black
Planner IV

Attachment: Figure 1 – Project Location and Vicinity Map

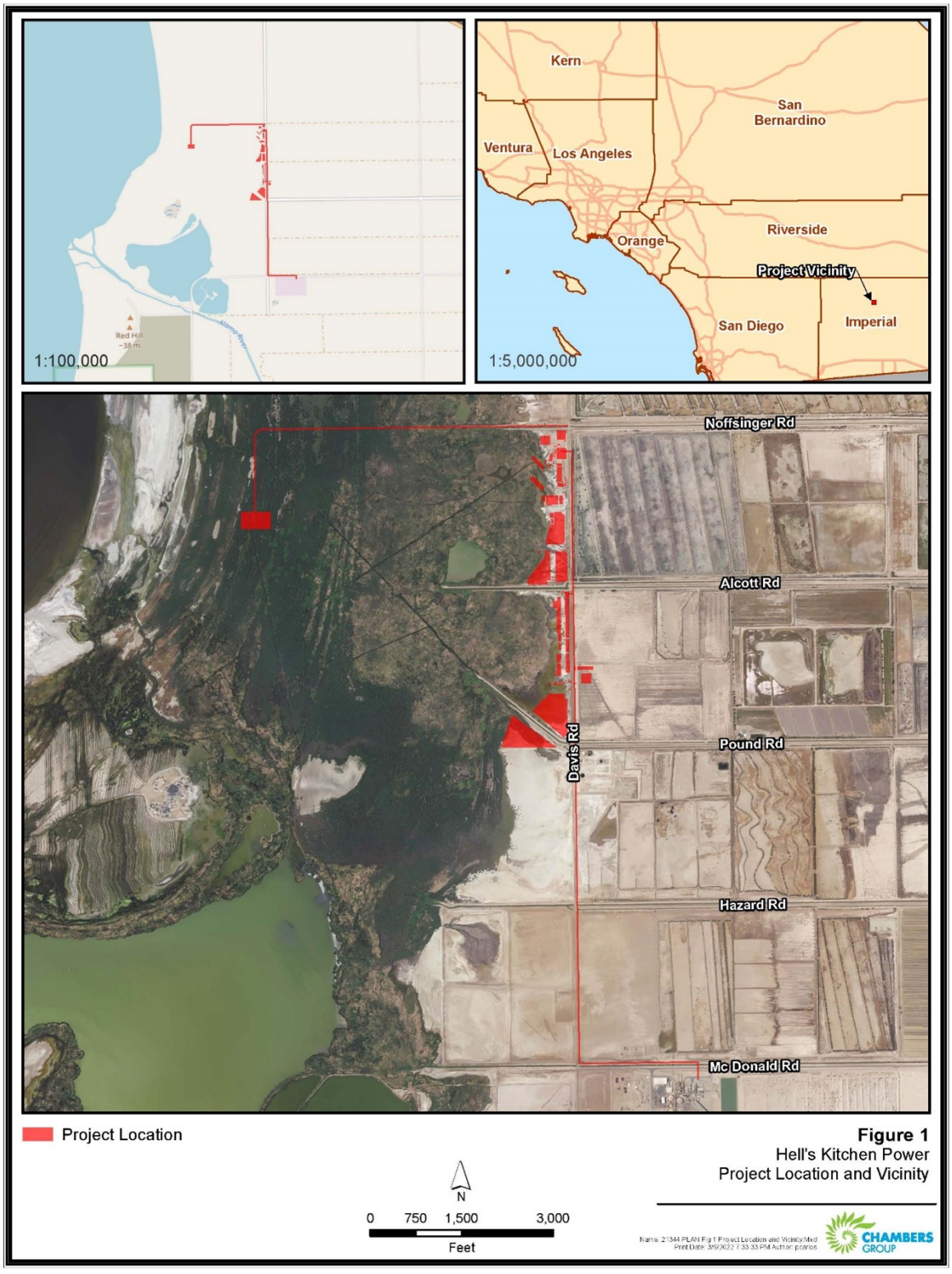


Figure 1
Hell's Kitchen Power
Project Location and Vicinity

March 21, 2022

Torres-Martinez Indian Tribe
Joseph Mirelez, Vice Chairman
66725 Martinez Road
Thermal, CA 92274

RE: **CALIFORNIA ENVIRONMENTAL QUALITY ACT ASSEMBLY BILL 52 (AB 52) FORMAL NOTIFICATION OF THE HELL'S KITCHEN POWERCO 1 AND LITHIUMCO 1 PROJECT**

Dear Mr. Mirelez,

The County of Imperial is providing formal notice of the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project (together referred to as the Proposed Project, Project) in accordance with Assembly Bill 52 (AB 52). The following notification letter is being provided to you because your Tribe, the Torres-Martinez Indian Tribe, has requested formal notification from the County for projects proposed within this geographic area and/or because your name was listed on the Native American Heritage Commission (NAHC) directory as an individual who may have additional knowledge pertaining to tribal cultural resources within this geographic area where Hell's Kitchen PowerCo 1 LLC is proposing the development of Hell's Kitchen PowerCo 1 (HKP1) and Hell's Kitchen LithiumCo 1 LLC is proposing the development of Hell's Kitchen LithiumCo 1 (HKL1) in Imperial County, California. Hell's Kitchen PowerCo 1 LLC and Hell's Kitchen LithiumCo 1 LLC are both subsidiaries of Controlled Thermal Resources (US), Inc. (CTR). HKP1 involves the development of a geothermal power plant that will produce up to 49.9 megawatts (MW) net of geothermal power. HKL1 proposes to develop mineral extraction and processing facilities capable of producing lithium hydroxide, silica, bulk sulfide, and polymetallic products for commercial sale.

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Notes: S-1-G (open space/geothermal overlay zone); M-2-G-PE (medium industrial/geothermal overlay)		

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As shown in Table 1, the development area is zoned S-1-G (open space/geothermal overlay zone) and is within the renewable energy/geothermal map overlay zone in the 2015 Renewable Energy and Transmission Element update to the County General Plan. The gen-tie and power line ROW is zoned S-1-G and M-2-G-PE (medium industrial/geothermal overlay). Imperial Irrigation District-owned vacant land is located west of the Project site. Vacant private land is located north of the Project site. State of California-owned wildlife areas are located to the east of the Project site. Vacant land owned by IID and the Hudson Ranch 1 facility are located south of the Project site. There are no residential uses within one mile of the Project site.

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Sincerely,

JIM MINNICK, DIRECTOR
Imperial County Planning & Development Services

BY:
David Black
Planner IV

Attachment: Figure 1 – Project Location and Vicinity Map

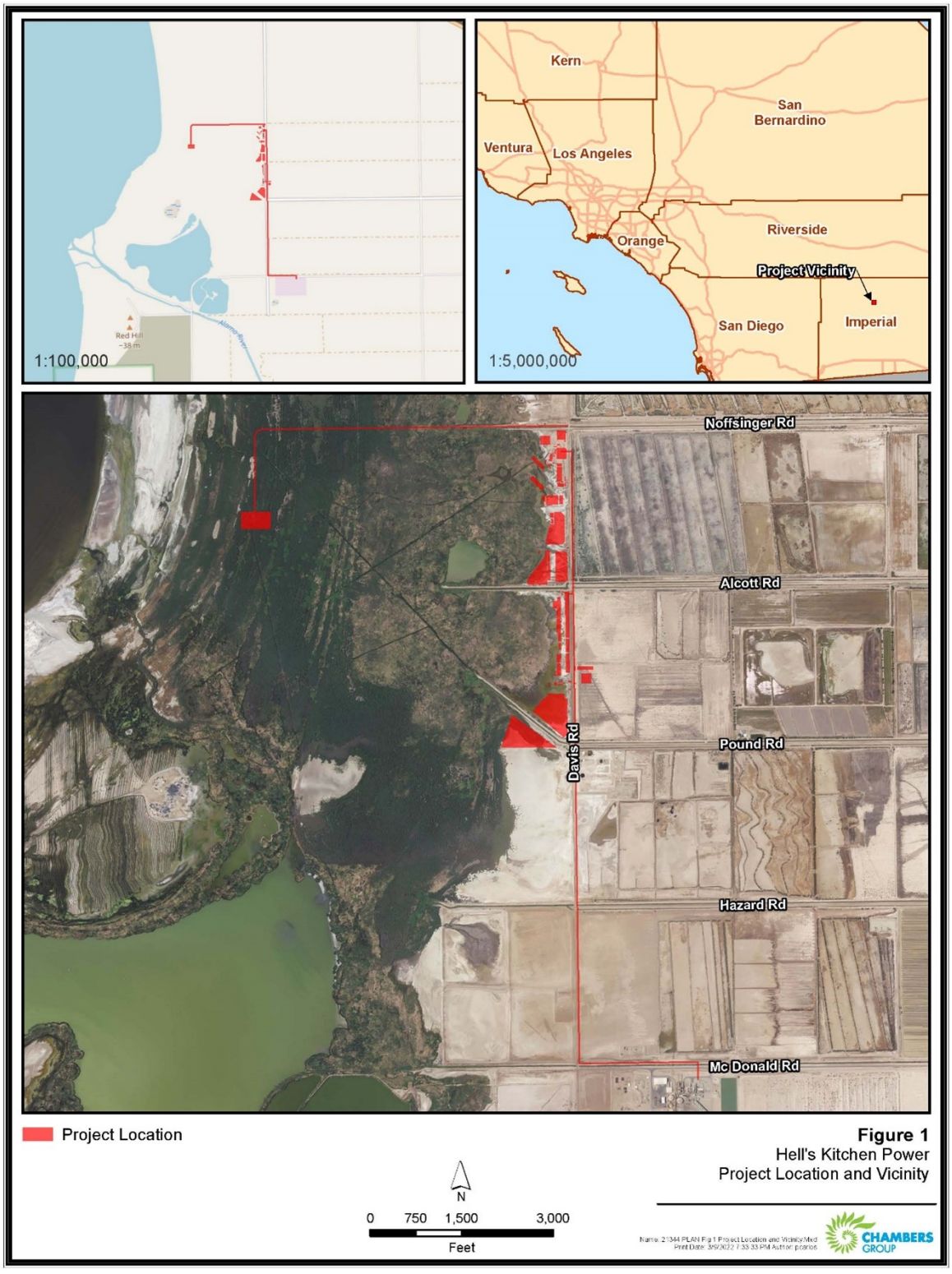


Figure 1
Hell's Kitchen Power
Project Location and Vicinity

DKS 8950 CAL CENTER DRIVE, SUITE 340, SACRAMENTO, CA 95826 • 916.368.2000 • DKSASSOCIATES.COM

VMT ANALYSIS

DATE: December 3, 2021

TO: Susanne Heim, Principal | Panorama Environmental

FROM: David Tokarski, Jim Damkowitch | DKS Associates

SUBJECT: Hell's Kitchen Geothermal Project VMT Analysis Project #21162-000

In accordance with Senate Bill 743 (SB 743) and the resulting changes to the California Environmental Quality Act (CEQA) Guidelines published by the Natural Resources Agency, local agencies may no longer use measures of vehicle delay such as Level of Service (LOS) to quantify transportation impacts on the environment. VMT is a systemic metric and is a useful indicator of overall land use and transportation efficiency, where the most efficient system is one that minimizes VMT by encouraging shorter vehicle trip lengths, more walking and biking, or increased carpooling and transit. Vehicle miles traveled (VMT) has been codified in the CEQA Guidelines as the most appropriate measure for measuring transportation impacts under CEQA. This change went to effect statewide on July 1, 2020. Imperial County has not yet adopted any VMT thresholds or standards for environmental analysis of development project

Based on the technical guidance published by the Governor's Office of Planning and Research (OPR), transportation impacts are considered significant if the proposed project would result in a VMT per capita or office VMT per employee above 85% of the regional average. The OPR guidance does not specify a particular significance threshold for industrial employment and recommends that local jurisdictions determine this threshold based on local conditions. Some jurisdictions have determined that the significance threshold for industrial employment is 100% of regional average.

The methodology in this analysis for evaluating VMT and completing an SB 743 compliant analysis of the proposed Hell's Kitchen geothermal project is described below.

VMT SCREENING

VMT SCREENING CRITERIA

Pursuant to SB 743 and technical guidance published by OPR, there are several screening procedures to potentially streamline project analysis (i.e., provide a presumptive non-impact finding and obviate the need for a VMT analysis). The various screening options are listed below with a brief determination of whether a given screen is triggered by the proposed project.

- Project Size: projects that generate fewer than 110 trips per day can be presumed to have a less than significant transportation impact. **Data (provided in the following section) indicates that the proposed project would generate greater than 110 daily trips and thus does not trigger this screen.**

- Proximity to High Quality Transit: residential or office projects within one-half mile of an existing major transit station or stop along an existing high-quality transit corridor can be presumed to have a less than significant transportation impact. The proposed project is not located near any high quality transit stations. There are no transit stations with at least two transit routes with frequency of at least one bus per 15 minutes within one-half mile of the proposed project. **The proposed project is not located near any high-quality transit lines or stations and thus does not trigger this screen.**

- Affordable Housing Development: **The proposed project does not include the provision of housing and thus does not trigger this screen.**

- Locally Serving Retail: typically less than 50,000 square feet. **The proposed project does not contain commercial square footage and thus does not trigger this screen.**

- Infrastructure: projects that would not likely lead to a substantial or measurable increase in vehicle travel are presumed to be VMT neutral and generally presumed to have a less than significant transportation impact (i.e., induced VMT). These include: Roadway Maintenance and Rehab Projects; Signal Timing / Synchronization / Adaptive Signal Control /Signal Preemption Improvements; Intersection Control Type and Turn Lane Channelization Improvements; Widening for Local or Local Collector Streets; and Transit / Bicycle / Pedestrian Infrastructure Improvements. **The proposed project does not contain any substantial infrastructure improvements that trigger this screen.**

  Project Location: projects that fall within an identified location that demonstrates VMT per Capita for residential projects or VMT per Employee for employment-based projects below 85% of the regional average for that metric. **The proposed project does not fall within a geographic location that potentially triggers this screen.**

TRIP GENERATION

While the proposed project will consist of 605,421.4[1] square feet of perimeter space, data provided by the applicant and Panorama Environmental, Inc. indicates that the Power Plant project will consist of a maximum of 22 daily staff, while the Extraction Project will consist of a maximum of 90 staff. The Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* was utilized to estimate daily project trip generation. While the Trip Generation Manual has many

[1] Source: Manuel Weyman Group, Inc. FEA (Hatch) drawing H365144-00000-240-0001 Rev C.

categories of land use, it does not include data for a geothermal plant land use category specifically, or for power plants in general. The most analogous ITE land use category is under the general land use group of "Industrial". The most appropriate specific land use in the manual is "Utility" (Code 170), representing land uses pertaining to energy production and similar uses. The Trip Generation Manual includes formulas and rates for trip generation based on metrics including project building square footage and number of employees. Often, building square footage is the appropriate metric to use, however in this case, it is not possible given that the proposed project is over 600,000 square feet of building, while the maximum building square footage allowed in ITE Code 170 is less than 50,000 square feet. Therefore, employment is the only metric for estimating trip generation.

Table 1 shows employment information for the proposed project, as provided by the project team.

TABLE 1: ESTIMATED PROJECT EMPLOYMENT

PROJECT / USE	ESTIMATED EMPLOYEES	ITE CODE[1]	DAILY TRIP RATE[1]	ESTIMATED DAILY TRIPS
POWER PLANT	22	170 (Utility)	3.85 per emp	85
EXTRACTION	90			347
TOTAL	**112**			**432**

NOTE [1]: *ITE TRIP GENERATION Manual 11TH EDITION*, INSTITUTE OF TRANSPORTATION ENGINEERS

Trip generation for the proposed project has been estimated using the *Trip Generation Manual, 11th Edition*, for both the power plant (22 employees) and the extraction project (90 employees) for ITE Trip Generation Code 170 (Utility). Based on the rates presented in the manual, estimated daily trips for the power plant is 85 daily trips and estimated daily trips for the extraction project is 347 daily trips. These estimates combined exceed the OPR screening threshold of 110 daily trips, as presented in the previous section. Therefore, additional VMT analysis is required.

Trip generation calculation sheets are presented in **Figure 1** and **Figure 2** below.

FIGURE 1: POWER PLANT DAILY TRIP GENERATION

Utility
(170)

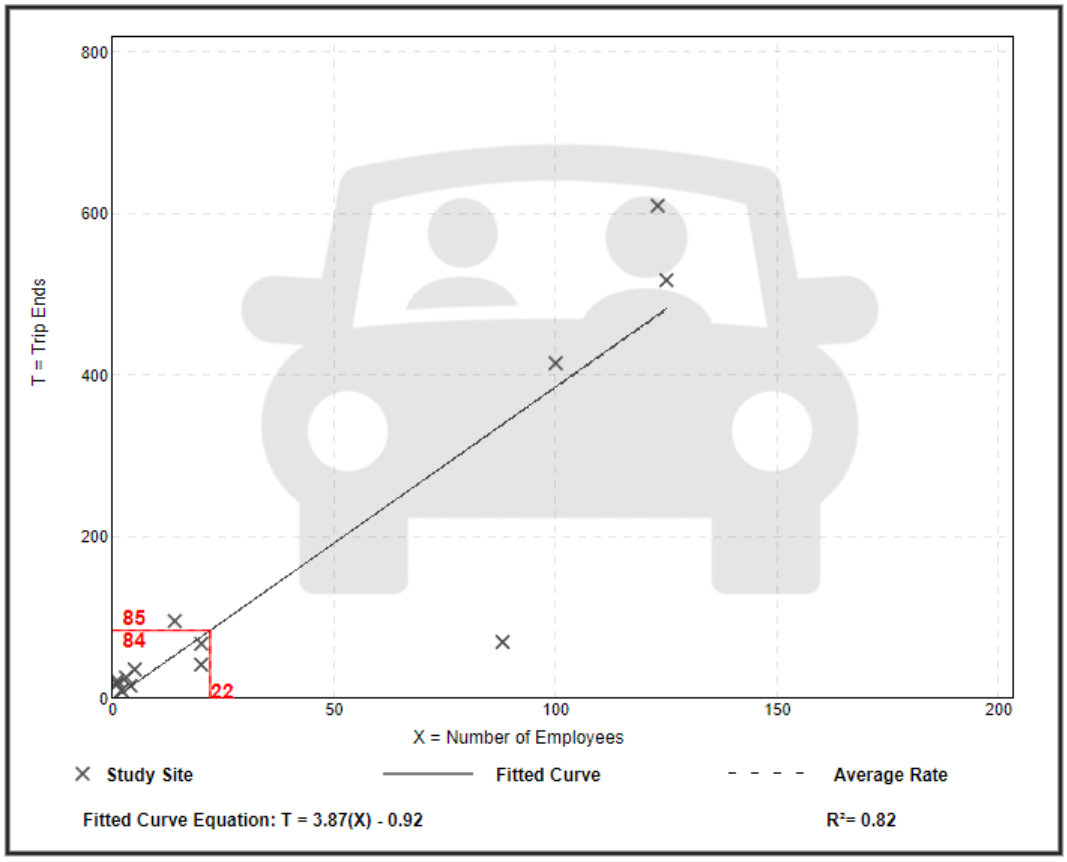
Vehicle Trip Ends vs: **Employees**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 13
Avg. Num. of Employees: 39
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
3.85	0.80 - 22.00	1.99

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

FIGURE 2: EXTRACTION PROJECT DAILY TRIP GENERATION

Utility
(170)

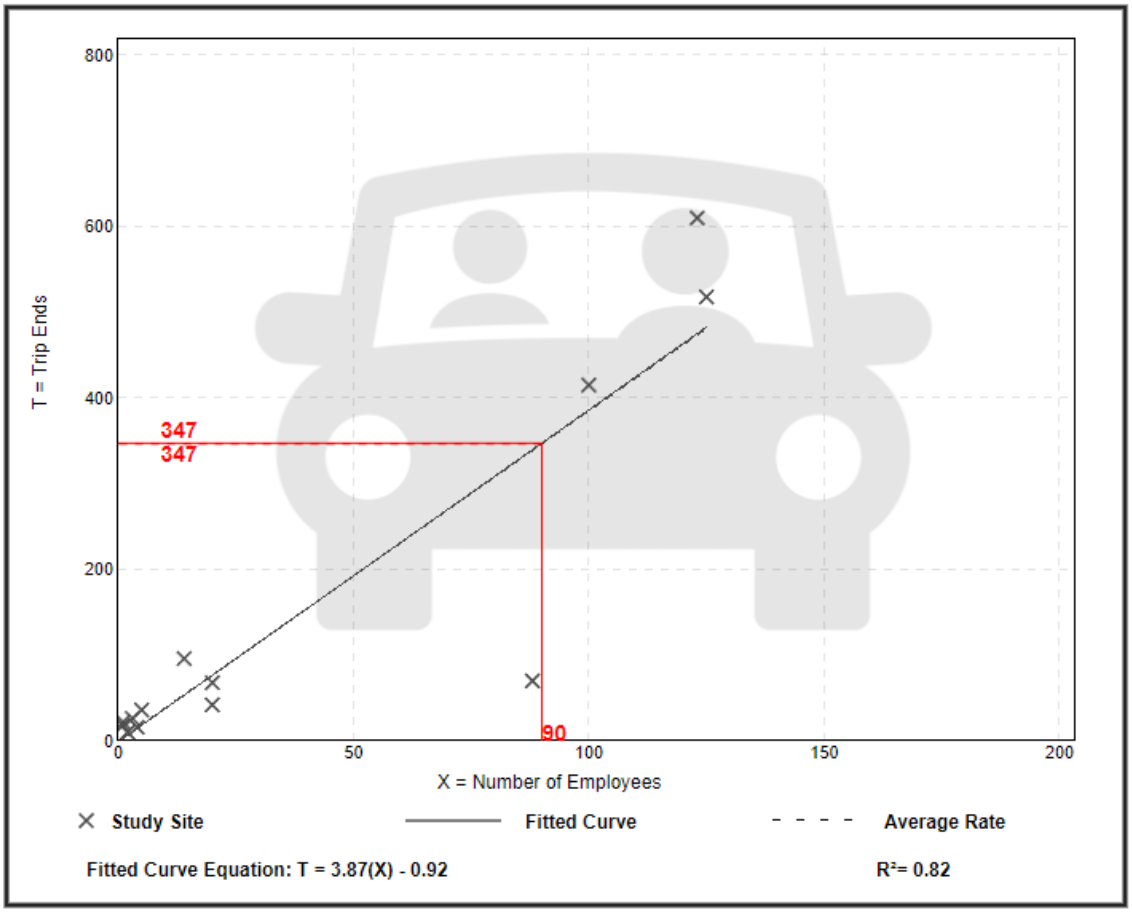
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Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
3.85	0.80 - 22.00	1.99

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

VEHICLE MILES TRAVELED

Based on the screening assessment and the proposed project description, the proposed project cannot be screened out based on an assumed trip generation of less than 110 trips per day. Therefore, additional VMT analysis has been prepared to determine if the project's impact is significant.

SIGNIFICANCE THRESHOLD

Since the County has not yet adopted its own threshold for VMT, the County is relying on the guidance provided in the Technical Advisory published by the Governor's Office of Planning and Research (OPR) in December 2018 (the "OPR Guidance") for purposes of evaluating the potential VMT impacts of development projects. The OPR Guidance for VMT states that depending on the type of project, different thresholds of significance are applicable. The "Recommended Numeric Thresholds for Residential, Office, and Retail Project" section of the OPR Guidance includes a section on "Other Project Types" which applies to the Project:

> "Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described [in the Residential, Office, and Retail Project section] for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types...".

Guidance from OPR's Technical Advisory is used to establish a significance threshold of a minimum fifteen (15) percent reduction or more from the regional average VMT per employee for project evaluation. That means that if the Project's VMT per employee is more than 15 percent below the regional average, no significant transportation impact would result. It should be noted that the Technical Advisory has no guidelines for truck trips.

VMT METHODOLOGY

The VMT assessment was conducted using California Statewide Travel Demand Model (CSTDM) data provided by Caltrans. The following is a summary of steps involved in calculating the trip length and region wide VMT:

1. Determine the appropriate traffic analysis zone (TAZ) for the Project's location
2. Determine the estimated VMT per employee for the Project's TAZ
3. Determine the average estimated VMT per employee for Imperial County as a whole (i.e. the Region)
4. Compare the estimated VMT per employee for the Project's TAZ to the County as a whole and determine if the Project TAZ's result is more than 15% below the County average.

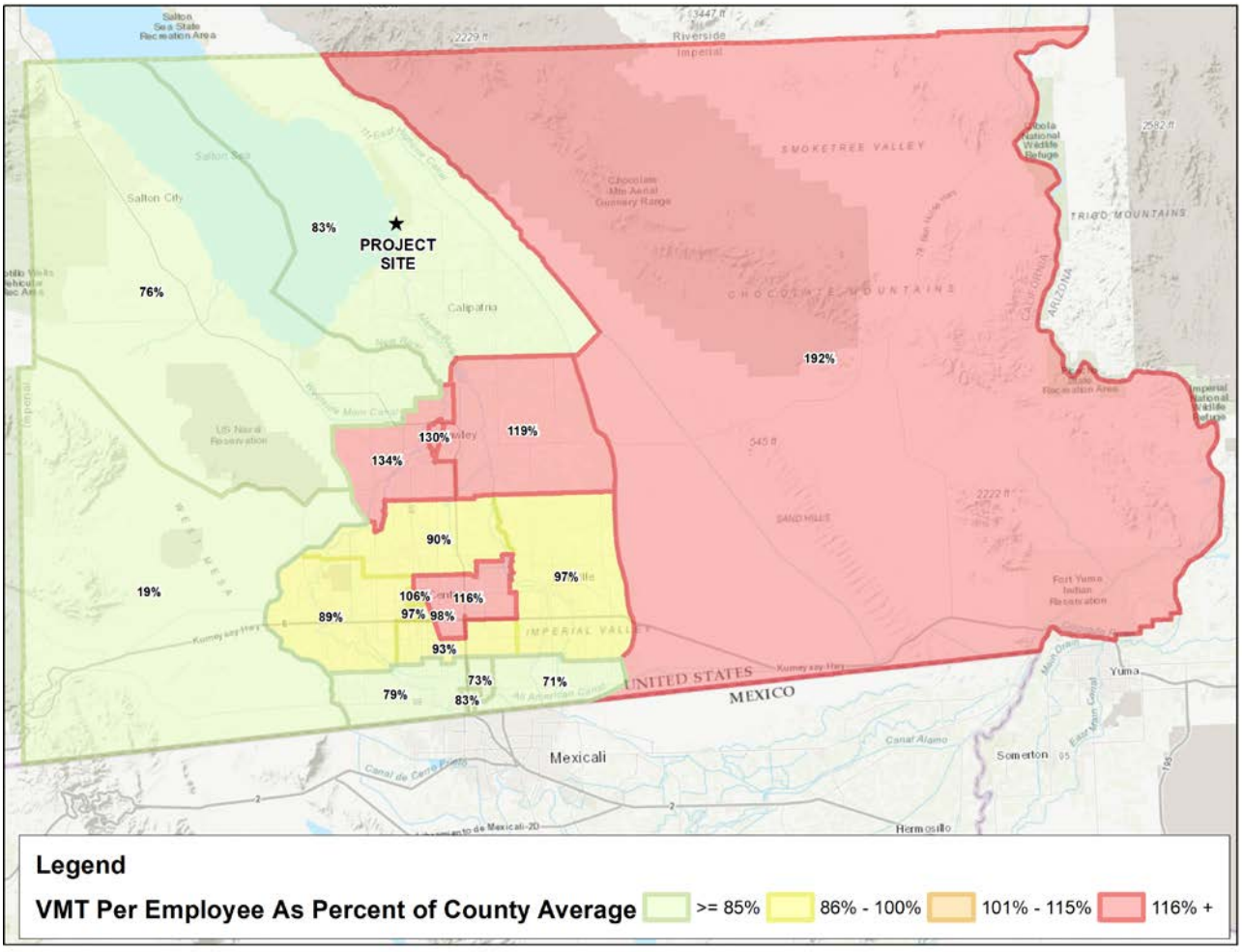
PROJECT IMPACT ANALYSIS

As stated in the methodology above, the Project's daily VMT per employee has been estimated using data from the California Statewide Travel Demand Model (CSTDM). On its website, Caltrans has provided a link to VMT per Capita and VMT per Employee estimates by TAZ based on both the existing (2010) and 2040 versions of the model. This data was downloaded from the following link:

https://dot.ca.gov/programs/transportation-planning/multi-modal-system-planning/statewide-modeling/sb-743-vmt-impact-assessment

This analysis is based on the existing model data as presented in the Excel spreadsheet[2] accessed from the above referenced web page. VMT per employee data for Imperial County is summarized in **Figure 3** and **Table 2** below.

FIGURE 3: VMT PER EMPLOYEE AS PERCENT OF COUNTYWIDE AVERAGE (IMPERIAL COUNTY)



[2] https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/vmt-analysis-2015-11-19.xlsx

TABLE 2: VMT PER EMPLOYEE BY TAZ (IMPERIAL COUNTY)

TAZ	VMT	HBW VMT	HBW TRIP LENGTH	EMPLOYEES	VMT PER EMPLOYEE	% OF COUNTY AVERAGE
5600	**48,026**	**19,184**	**13.53**	**2,305**	**20.84**	82.5%
5601	103,324	35,017	9.24	3,438	30.05	119.0%
5602	58,731	18,633	7.69	1,740	33.75	133.7%
5603	76,193	22,281	5.86	2,329	32.72	129.6%
5604	52,467	21,345	12.18	2,144	24.47	96.9%
5605	93,969	38,537	8.73	4,165	22.56	89.4%
5606	169,048	62,861	7.30	5,772	29.29	116.0%
5607	130,294	47,401	6.17	4,869	26.76	106.0%
5608	82,801	33,034	7.11	3,517	23.54	93.2%
5609	53,983	20,240	6.04	2,178	24.79	98.2%
5610	84,984	34,285	6.23	3,472	24.48	96.9%
5611	28,830	11,097	5.80	1,437	20.06	79.5%
5612	94,598	33,225	4.87	4,511	20.97	83.1%
5613	24,725	9,427	5.24	1,347	18.36	72.7%
5614	62,291	16,545	16.27	1,288	48.36	191.5%
5615	15,591	7,219	14.16	814	19.15	75.9%
5616	115,892	50,620	9.35	5,073	22.84	90.5%
5699	55,663	23,371	6.25	3,106	17.92	71.0%
6836	99	103	17.21	21	4.72	18.7%
COUNTY	**1,351,510**	**504,427**	**169.22**	**53,526**	**25.25**	**100%**
THRESHOLD	(85% of Countywide Average				**21.46**	**85%**

Notes: **PROJECT IS IN TAZ 5600 (SHOWN IN BOLD)**, HBW = Home Based Work

The table shows that the Project's traffic analysis zone (TAZ 5600) has an estimated VMT per Employee of 20.84, which is approximately 82.5% of the Countywide average of 25.25 and falls below the 85% threshold of 21.46.

Therefore, based on the VMT analysis presented above, the proposed Project represents a **less than significant transportation impact based on VMT** and no further VMT analysis is required.

VMT MITIGATION

Based on the results discussed above, the proposed project land use does not require any VMT based mitigation.

SB 610 - Water Supply Assessment

For

Hell's Kitchen PowerCo 1 and LithiumCo 1 Project

Prepared For:

Imperial County Planning and Development Services

801 Main Street
El Centro, California 92243

Prepared by:

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June 2023

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Hell's Kitchen PowerCo 1 and LithiumCo 1 Project

Contents

Purpose of Water Supply Assessment 7
Project Determination According to SB 610 - Water Supply Assessment 8
Executive Summary 9
Project Description 11
HKP1 Facilities 12
HKL1 Facilities 15
HKP1 and HKL1 Shared Facilities and Design 16
Project Operations 17
Water Requirements 23
Description of IID Service Area 27
Climate Factors 27
Imperial Valley Historic and Future Land and Water Uses 30
Imperial Integrated Regional Water Management Plan (October 2012) 31
IID Interim Water Supply Policy for Non-Agricultural Projects (September 2009) 34
IID Temporary Land Conversion Fallowing Policy (May 2012) 35
Imperial Irrigation District's Water Rights 36
California Law 36
Law of the River 36
Imperial Irrigation District Water Supply and Demand 46
Water Availability – Normal Year 46
Expected Water Availability – Single Dry and Multiple Dry Years 49
Water Management under a Suspended Inadvertent Overrun Payback Policy (IOPP) 49
Equitable Distribution Plan (EDP) History 52
Projected Water Supplies 53
Project Water Availability for a 20-Year Period to Meet Projected Demands 54
Expected Water Demands for the Proposed Project 57
IID's Ability to Meet Demands With Water Supply 59
Expanding Water Supply Portfolio 62
IID Near Term Water Supply Projections 64
Imperial County Planning and Development Services (Lead Agency) Findings 66
Assessment Conclusion 68
Resources and References 70
Attachments 71

Figures

Figure 1. Project Site Regional Location 24
Figure 2. Aerial Map of Project Vicinity 25
Figure 3. Project Layout/Site Plan 26
Figure 4. IID Imperial Unit Boundary and Canal Network 28
Figure 5. Major Colorado River Reservoir Storage Facilities and Basin Location Map 42
Figure 6. Lake Mead Water Elevation Levels January 2022 45
Figure 7. Lake Mead Schematic (June 15, 2022) 51

Tables

Table 1. Climate Characteristics, Imperial, CA 100-Year Record, 1923-2022 29
Table 2. IID Areawide Annual Precipitation (In), (1990-2022) 29
Table 3. Monthly Mean Temperature (°F) – Imperial, CA 10-Year, 30-Year & 100-Year (2013-2022, 1993-2022, 1923-2022) 29
Table 4. Monthly Mean Rainfall (In) – Imperial, CA 10-Year, 30-Year & 100-Year (2013-2022, 1993-2022, 1923-2022) 30
Table 5. Non-Agricultural Water Demand within IID Water Service Area, 2015-2055 (KAFY) 32
Table 6. Historic and forecasted Agricultural Water Consumptive Use and Delivery Demand within IID Water Service Area, 2015-2055 (KAFY) 33
Table 7. IID System Operations Consumptive Use within IID Water Service Area and from AAC at Mesa Lateral 5 to Imperial Dam, (KAF), 2020 34
Table 8. Interim Water Supply Policy 2023 Annual Non-Agricultural Water Supply Development Fee Schedule 34
Table 9. CRWDA Annual 4.4 MAF Apportionment (Priorities 1 to 4) for California Agencies (AFY) 40
Table 10. Unregulated Inflow to Lake Powell, Percent of Historic Average, 2000-2022 43
Table 11. IID Historic and Forecast Net Consumptive Use for Normal Year, Single-Dry Year and Multiple-Dry Year Water Supply, 2003-2037, et seq. (CRWDA Exhibit B) 48
Table 12. IID Annual Rainfall (In), Net Consumptive Use and Underrun/Overrun Amounts (AF), 1988-2022 50
Table 13. IID Inadvertent Overrun Payback to the Colorado River under the IOPP, 2012-2022 51
Table 14. Project Operational Water Uses (AFY) 57
Table 15. Ten-Year Historic Delivery (AFY), 2013-2022 57
Table 16. IID System Operations Consumptive Use within IID Water Service Area and from AAC at Mesa Lateral 5 to Imperial Dam, (KAF), 2022 59
Table 17. IID Historic and Forecasted Consumptive Use vs CRWDA Exhibit B IID Net Available Consumptive Use, volumes at Imperial Dam (KAFY), 2015-2055 60
Table 18. 2020 Approved Water Order, Actual CU (Decree Accounting Report) and IID Underrun, KAF at Imperial Dam 60

Table 19. IID Capital Project Alternatives and Cost (May 2009 price levels $)..... 64

Attachments

Attachment A: IID Interim Water Supply Policy for Non-Agricultural Projects

Acronyms

AF	Acre-Foot or Acre-Feet
AFY	Acre-Feet per Year
AOP	Annual Operations Plan
CAP	Central Arizona Project
CDCR	California Department of Corrections and Rehabilitation
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
CRWDA	Colorado River Water Delivery Agreement
CUP	Conditional Use Permit
CVWD	Coachella Valley Water District
EDP	IID Equitable Distribution Plan
EIS	Environmental Impact Statement
ICPDS	Imperial County Planning and Development Services
ICS	Intentionally Created Surplus
IID	Imperial Irrigation District
IOPP	Inadvertent Overrun Payback Policy
ISG	Interim Surplus Guidelines
IRWMP	Integrated Regional Water Management Plan
IWSP	Interim Water Supply Policy
KAF	Thousand Acre Feet
LAFCO	Local Agency Formation Commission
LCR	Lower Colorado Region
MCI	Municipal, commercial, industrial
MGD	Million Gallons per Day
MW	Megawatt
MWD	Metropolitan Water District of Southern California
NAF	Naval Air Facility
PVID	Palo Verde Irrigation District
QSA/	Quantification Settlement Agreement and Related Agreements
Transfer Agreements	
SB	Senate Bill
SDCWA	San Diego County Water Authority
SNWA	Southern Nevada Water Authority
TLCFP	Temporary Land Conversion Fallowing Policy
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
WSA	Water Supply Assessment

PURPOSE OF WATER SUPPLY ASSESSMENT

This Water Supply Assessment (WSA) was prepared for the Imperial County Planning and Development Services (Lead Agency) by Chambers Group, Inc. (Chambers Group), regarding Controlled Thermal Resources (US), Inc. (CTR) (the "Applicant") Hell's Kitchen PowerCo 1 and LithiumCo 1 Project (the "Project"; HKP1 and HKL1, respectively). This study is a requirement of California law, specifically Senate Bill 610 (referred to as SB 610). SB 610 is an act that amended Section 21151.9 of the Public Resources Code, and Sections 10631, 10656, 10910, 10911, 10912, and 10915 of the Water Code. SB 221 is an act that amended Section 11010 of the Business and Professions Code, while amending Section 65867.5 and adding Sections 66455.3 and 66473.7 to the Government Code. SB 610 was approved by the Governor and filed with the Secretary of State on October 9, 2001, and became effective January 1, 2002.[1] SB 610 requires a lead agency, to determine that a project (as defined in CWC Section 10912) subject to California Environmental Quality Act (CEQA), to identify any public water system that may supply water for the project and to request the applicants to prepare a specified water supply assessment.

This study has been prepared pursuant to the requirements of CWC Section 10910, as amended by SB 610 (Costa, Chapter 643, Stats. 2001). The purpose of SB 610 is to advance water supply planning efforts in the State of California; therefore, SB 610 requires the Lead Agency, to identify any public water system or water purveyor that may supply water for the project and to prepare the WSA after a consultation. Once the water supply system is identified and water usage is established for construction and operations for the life of the project, the lead agency is then able to coordinate with the local water supplier and make informed land use decisions to help provide California's cities, farms, and rural communities with adequate water supplies.

Under SB 610, water supply assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in California Water Code (CWC) Section 10912 [a]) that are subject to the California Environmental Quality Act (CEQA). Due to increased water demands statewide, this water bill seeks to improve the link between information on water availability and certain land use decisions made by cities and counties. This bill takes a significant step toward managing the demand placed on California's water supply. It provides further regulations and incentives to preserve and protect future water needs. Ultimately, this bill will coordinate local water supply and land use decisions to help provide California's cities, farms, rural communities, and industrial developments with adequate long-term water supplies. The WSA will allow the lead agency to determine whether water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

[1]SB 610 amended Section 21151.9 of the California Public Resources Code, and amended Sections 10631, 10656, 10910, 10911, 10912, and 10915, repealed Section 10913, and added and amended Section 10657 of the Water Code. SB 610 was approved by California Governor Gray Davis and filed with the Secretary of State on October 9, 2001.

Project Determination According to SB 610 - Water Supply Assessment

With the introduction of SB 610, any project under the California Environmental Quality Act (CEQA) shall provide a Water Supply Assessment if the project meets the definition of CWC § 10912. Water Code section 10911(c) requires for that the lead agency "determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses." Specifically, Water Code section 10910(c)(3) states that "If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20 year projection, will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

After review of CWC § 10912a, and Section 10912 (a)(5)(B), it was determined that Hell's Kitchen PowerCo 1 and LithiumCo 1 Project is deemed a project as it is considered an industrial use that will occupy more than 40 acres of land and will have more than 650,000 square feet of floor area.

EXECUTIVE SUMMARY

The Imperial County Planning and Development Services in coordination with Imperial Irrigation District has requested a WSA as part of the environmental review for the proposed Hell's Kitchen PowerCo 1 and LithiumCo 1 Project ("Project").This study is intended for use by Imperial County Planning and Development Services and Imperial Irrigation District in its evaluation of water supplies for existing and future land uses. The evaluation examines the following water elements:

- Water availability during a normal year
- Water availability during a single dry year, and multiple dry water years
- Water availability during a 20-year projection to meet existing demands
- Expected 20-year water demands of the Project
- Reasonably foreseeable planned future water demands to be served by the Imperial Irrigation District under Equitable Distribution Plan apportionment

The proposed Project site is located within undeveloped land owned by IID and a right-of-way (ROW) corridor for the gen-tie and power line to the IID's interconnect station at Hudson Ranch (HR1). The Project would be located within Sections 11 and 12, Township 11 North, Range 13 East in Imperial County near the eastern shore of the Salton Sea. The Project is approximately 3.6 miles west of the town of Niland. The majority of the proposed HKP1 and HKL1 facilities are located immediately west of Davis Road, with administrative buildings and warehouses located east of Davis Road. The 230-kilovolt (kV) gen-tie line for HKP1 will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to Hudson Ranch. The gen-tie line would be located east of Davis Road and north of McDonald Road, within the IID's transmission ROW and within new ROW. The power line to supply power to the HKL1 facilities would be collocated on the HKP1 transmission structures/poles. The proposed Project is within IID's Imperial Unit and district boundary and as such is eligible to receive water service.

IID adopted an Interim Water Supply Policy (IWSP) in 2009 for new Non-Agricultural Projects, under which water supplies may be contracted to serve new developments within IID's water service area. For applications processed under the IWSP, applicants shall be required to pay a processing fee and, after IID board approval of the corresponding water supply agreement, will be required to pay a reservation fee(s) and annual water supply development fees. The water supply development fees are collected for the development of water supply projects, such as water conservation projects, water storage projects and/or water augmentation projects.

Under the IWSP, IID may set aside up to 25,000 acre-feet annually (AFY) of IID's Colorado River water supply to serve new non-agricultural projects with water created from IID efficiency conservation projects and programs. As of January 2023, a balance of 23,020 AFY remain available under the IWSP for new non-agricultural projects, providing a mechanism for the development of reasonably sufficient water supplies for such projects. The proposed Project water demand of approximately 5,874 AFY represents 25.52 % of the annual unallocated supply that may be created and set aside for new non-agricultural projects.

Imperial County Planning and Development Services anticipates non-agricultural project water supply demand within their jurisdiction, as the land use authority, is unlikely to exhaust the 23,020 AFY available under the IWSP within the foreseeable 20-year planning period. Thus, the proposed Project's estimated water demand, combined with other development anticipated in the area is unlikely to adversely affect IID's ability to provide water to other users in IID's water service area.

In efforts to address any potential water supply/demand imbalances, on June of 2022, IID adopted a revised Equitable Distribution Plan for the apportionment of water to all water user categories including for commercial/industrial water uses such as the proposed Project. Implementation of the EDP initiates every January 1st and continues throughout the year unless the IID Board of Director takes specific action. Under the EDP, water supplies may be restricted to Hell's Kitchen PowerCo 1 and LithiumCo 1 Project as described under the IID Water Supply & Demand Section, Equitable Distribution Plan sub-section of this WSA.

IID's EDP implementation efforts in 2022 coincide with efforts communicated by the U.S. Bureau of Reclamation to all Colorado River Basin contractors during the same time period. In June 2022, Commissioner Camille Touton testified before a congressional committee and called for the Basin states to develop a plan before the end of the year to reduce demands by 2-4 million acre-feet per year, through 2026, or the Secretary of the Interior would take regulatory action to force these reductions in order to protect the Colorado River system in light of the prolonged drought conditions and climate change impacts.

California reductions, or the potential for regulatory reductions, by the Secretary of the Interior remain undefined as of the date of this WSA. IID is working diligently with federal agencies and Colorado River contractors to minimize impacts to the local community while simultaneously ramping up water conservation programs in an effort to augment local water supplies, to some degree, should Basin-wide cuts be unavoidable. In the interim, IID has gone on record that its share of the California proposal under a voluntary plan would not exceed 250,000 AFY as long as there are no obligatory reductions imposed.

PROJECT DESCRIPTION

CTR is proposing to build, operate, and maintain a geothermal power plant (HKP1) and mineral extraction and processing facilities (HKL1) facilities on approximately 65.0 acres of private lands in the Imperial Valley in Imperial County**.** More specifically, the project is located within undeveloped land owned by IID and a right-of-way (ROW) corridor for the gen-tie and power line to the IID's interconnect station at Hudson Ranch (HR1). The Project would be located within Sections 11 and 12, Township 11 North, Range 13 East in Imperial County near the eastern shore of the Salton Sea. The Project is approximately 3.6 miles west of the town of Niland. The majority of the proposed HKP1 and HKL1 facilities are located immediately west of Davis Road, with administrative buildings and warehouses located east of Davis Road. The 230-kV gen-tie line for HKP1 will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to Hudson Ranch. The gen-tie line would be located east of Davis Road and north of McDonald Road, within the IID's transmission ROW and within new ROW. The power line to supply power to the HKL1 facilities would be collocated on the HKP1 transmission structures/poles. A majority of the development area is zoned S-1-G (open space/geothermal overlay zone) with a portion zoned S-2-G (open space/preservation/geothermal overlay) and is entirely within the renewable energy/geothermal map overlay zone in the 2015 Renewable Energy and Transmission Element update to the County General Plan. The gen-tie and power line ROW is zoned S-1-G and M-2-G-PE (medium industrial/geothermal overlay). The General Plan Land Use designation for the entire Project is Agriculture. Individual Assessor Parcel Numbers (APNs) and associated zoning designations are as follows: Zoning Designation S-1-G and S-2-G, 020-010-012; Zoning Designation S-1-G, 020-010-013, 020-070-060, 020-010-042, 020-060-001, 020-060-002, 020-060-039, 020-060-040, 020-070-026, 020-070-025, 020-070-029, 020-070-055, 020-010-031, 020-010-032; Zoning Designation M-2-G-PE, 020-010-035, 020-010-044. Please refer to Figure 1 for the Project's Regional Location (**Figure 1.** Site Regional Location), and Figure 2 for the Project Site and Vicinity **(Figure 2.** Aerial View of Project Site and Vicinity).

In general, the project can be described as follows:

HKP1 will include construction of the following structures: production and injection wells and well pads; geothermal fluid production and injection pipelines; a brine processing facility; a brine pond; 49.9-MW net geothermal turbine generator facility; a cooling tower; material and equipment storage; a control building; administrative and warehouse buildings; a water storage pond and water storage tank; an on-site substation; and a 230-kV gen-tie line to the IID interconnect station at Hudson Ranch. HKL1 will include construction of the following structures: geothermal pipelines to transfer brine from HKP1; a cooling tower; truck entrance security; a cooling tower and flocculation facilities; brine crystallizers, clarifiers, thickeners, and filter presses; a lithium-recovery resin vessel and systems; raw water filtration, fire-water storage, and reverse osmosis (RO) facilities; electrical buildings to house electric power switchgear and electrical metering; a substation; reagent storage and preparation buildings; two motor-control centers and a control room building; lithium product handling and packaging buildings (that will house the filtration and drying equipment for the lithium products and bagging and palletizing of finished products); polymetallic product handling facilities; bulk sulfide product handling facilities; silica product manufacturing facilities; bulk boron

product handling facilities; two lime silos; hydrochloric acid (HCl) offloading and storage tanks; and an RO water treatment facility .

HKP1 Facilities

Production and Injection Wells

The Project will use Well Pad 1 and a well pad adjacent and south of the Q Drain for geothermal fluid production and injection. The Project may also use Well Pad 4 for geothermal fluid production or injection. Well Pad 1 was previously approved for geothermal exploration drilling and was constructed in 2021. The geothermal production wells will be drilled at Well Pad 1, and one or two injection wells will also be drilled at Well Pad 1. The existing footprint of Well Pad 1 will be expanded during construction of the commercial facility by approximately 160 feet to the north to accommodate the wells required for commercial operation of the Project. Well Pad 4 was previously approved by the County for geothermal exploration drilling but was not constructed. The Project will include a total of seven wells for production and injection, including one well for injection of aerated fluids. The two previously drilled geothermal exploration wells will be used as commercial production wells for the Project. All production and injection wells will be operated in accordance with California Geologic Energy Management Division (CalGEM) regulations.

Well-Site Production and Injection Equipment

Production and injection wellhead dimensions are not expected to exceed a height of 15 feet above the ground surface or 4 feet in diameter. The wellhead will consist of control valves, warmup bypass valves, and isolation valves. The wellheads will be insulated, and the insulation cladding will be supplied with an appropriate color to blend with the area and minimize visibility. The injection wells will be located to avoid geothermal fluid interference with the production wells. Each injection well will be remotely monitored for pressure, temperature, and flow rate. Injection pumps located at the power plant site will pump the geothermal injection fluid through the injection pipeline system, providing sufficient pressure to inject the geothermal brine back into the geothermal reservoir. Limited electrical equipment is required at the injection well sites. A flow meter will be integrated into the injection pipeline equipment at the injection well pad and remotely operated from the control room. Overhead lighting will be constructed on the injection well pads. The injection well pad will be fenced. The geothermal production and injection wells will be drilled from the production and injection well pads using steel, titanium or titanium alloy, nickel alloy, duplex stainless steel, or equivalent as appropriate to the final well completion depth.

Geothermal Pipeline Systems

Above-ground pipelines will be constructed to interconnect the production and injection wells with the power plant site facilities. The pipelines will be constructed at ground level on pipeline supports on drilled foundations approximately every 20 to 40 feet along the pipeline routes. The pipelines will use a cattleguard type crossing at the Q and R Drains to avoid impacts on the irrigation drains, and the crossing will be constructed in collaboration with IID. Pipeline construction will be conducted concurrently with construction of the power plant. The production wellheads will be located on Well Pad 1, south of the

power plant site. An above-ground pipeline will be constructed from the production wells to the brine and steam-handling facilities on the power plant site. The production pipelines will be constructed from alloy or alloy-lined pipe designed, constructed, tested, and inspected pursuant to current industry standards for high temperature, high-pressure piping. Above-ground geothermal fluid pipelines, approximately 30-inches in diameter, will be covered with approximately 2 inches of insulation and a protective metal sheath appropriately colored to blend with the area. The brine injection pipeline will be either cement-lined carbon steel, alloy, or a combination of both. The brine injection pipeline will be approximately 24 inches in diameter and will be insulated then covered with a protective metal sheath appropriately colored to blend with the area.

Brine Processing Facility

The brine processing facility will prepare the geothermal fluid produced from the production wells for steam extraction. The geothermal fluid will be delivered through aboveground pipelines to the brine-processing facility. The spent brine will be injected back into the geothermal reservoir through injection wells (discussed below). A pH-modification system will be installed should silica management be necessary to prevent scaling in either surface equipment or injection wellbores. The pH modification system will involve injection of dilute HCl into the brine stream exiting the high-pressure separator at a rate to establish a known bulk fluid pH value. The pH modification system consists of a concentrated acid storage tank, acid transfer pumps, a diluted acid storage tank, diluted acid injection pumps, and an injection nozzle to distribute the diluted acid into the brine injection pipeline. Concentrated HCl (approximately 32% by weight) will be delivered to the Project site by truck for storage. The concentrated acid will be mixed with service water to create a diluted acid solution (approximately 4% by weight). This diluted acid solution, should it be necessary for silica management, would then be injected into the brine pipeline between the high-pressure separator and the brine-injection pumps.

Brine Pond

The brine pond will be cement-lined, with an underliner-leak detection system, and will allow for storage of brine during upset conditions and collection of brine during flow testing and plant start-up. The brine pond will be sized to accommodate two times the volume of the largest vessel and up to six hours of normal-brine-flow equivalent during system upset conditions plus two feet of freeboard. The brine pond will be constructed as a waste management unit (WMU) to meet Colorado River Regional Water Quality Control Board (CRRWQCB) surface-discharge requirements. Groundwater-monitoring wells will be constructed adjacent to the brine pond in conformance with CRRWQCB requirements.

Turbine Generator Facility

The Project will use flash-based power plant technology utilized in the Salton Sea geothermal field since 1982 to convert geothermal-based renewable steam energy into electricity. Steam from the high temperature geothermal fluid in the brine-handling facilities will be delivered to the turbine generator facility. The turbine generator facility will include a 49.9-MW (net) condensing turbine/generator set, a gas removal and emission abatement system, and a heat rejection system (i.e., condenser and cooling tower).

The steam will be purified using a scrubber and demister before being admitted into the condensing steam turbine. The turbine will be directly coupled to a totally enclosed water and air-cooled (TEWAC) synchronous-type generator. The turbine-generator unit will be fully equipped with all the necessary auxiliary systems for turbine control and speed protection, lubricating oil, gland sealing, generator excitation, and cooling. Facilities associated with the turbine generator facility include a control building, a service water storage tank, lube oil skid, and other ancillary facilities. One 3-MW diesel generator will be installed to provide black start capability and emergency site power when the steam turbine generator is shut down. An 800-kW emergency generator will also be installed to provide backup for critical-instrument and equipment-control power. The diesel engines will meet California Air Resources Board (CARB) air pollutant emission limits. The generators are expected to operate fewer than 600 hours per year.

Heat Rejection and Non-COndensable Gas Removal Systems

The heat rejection system will be comprised of a shell-and-tube type condenser, a counterflow cooling tower, and a noncondensable gas (NCG) removal system. The cooling tower, NCG removal system, and condenser design will be similar to those employed at other geothermal power plants at the Salton Sea. The cooling tower will be up to 40 feet tall. Steam from the turbine will be condensed in the condenser. The geothermal steam condensate from the condenser will be collected in an aeration tank and used as a source of makeup water for the cooling tower. Gases that accumulate in the condenser will be evacuated by the NCG removal system. NCG will be pressurized and vented to a hydrogen sulfide (H2S) abatement system during normal plant operation. During plant start-up or load rejection (i.e., plant trip offline), steam to the turbine will be diverted to a rock muffler for safe venting as is currently the procedure at the existing geothermal power plants in the Salton Sea KGRA. During this time, H2S and other NCG will be released to the atmosphere. A combination of best available control technology, management practices, and process-monitoring equipment will be used to minimize air emissions from the power plant facilities. Permits to construct and operate the facility will be obtained from the Imperial County Air Pollution Control District (ICAPCD).

Hydrogen Sulfide Abatement System

H2S gas is a naturally occurring compound found in Salton Sea geothermal brines. To minimize H2S from being released to the atmosphere and to meet permitted requirements during routine operations, the project will employ proven abatement systems. The H2S abatement system effectively oxidizes the gas to a sulfate (SO42-) that is highly soluble and then returns the sulfate product to injectate streams via the cooling tower blowdown process. Non-condensable gases, including H2S, are removed from the main condenser through a series of steam-powered air ejectors, vacuum pumps, and compressors. Once the gas stream is pressurized, it is sent to a sparging system located in the cooling tower basin, where the H2S reacts with H2S-abatement chemicals to oxidize the sulfide to sulfate. The sulfate product is injected into the reservoir with cooling tower blowdown. Additionally, condensate flowing from the main condenser is routed to a tank where oxygen (sparged air) is introduced along with oxidizing chemicals. This process oxidizes any remaining H2S gas to soluble sulfate. The treated condensate is then introduced to the cooling tower basin as a source of makeup water. As stated above, the sulfate product is subsequently injected into the reservoir as cooling tower blowdown.

Substation and Electrical Power Transmission

The electricity from the geothermal power plant will be converted to 230-kV in the onsite substation. The output of the turbine generator facility is connected through a generator breaker to a (13.8-kV to 230-kV) main step-up transformer in the facility substation. The transformer will be set on a concrete pad within an oil containment system. The transformer will include gas-insulated switchgear. The high voltage side of the main step-up transformer will be connected to a new gen-tie line located within IID's transmission ROW to the IID interconnect station at HR1. The gen-tie line will be constructed as part of the power plant construction but turned over to IID for ownership and operation. The transmission line will be installed on steel structures that will support up to two 230-kV three-phase electrical circuits, including optical ground and static wire. The steel structures will consist of direct-bury steel poles approximately 120 feet tall and will span an average length of 800 feet.

HKL1 Facilities

Pipe Rack and Process Pipelines

A pipe rack will be constructed from the HKL1 Project's process area to the HKP1 site. A geothermal brine delivery pipeline from HKP1 will feed brine to the HKL1 Project's process area. Steam/steam-condensate pipelines will also be constructed on the pipe rack. After minerals processing, the depleted brine will be delivered to the HKP1 injection system for reinjection into the geothermal reservoir. The geothermal brine delivery and return pipelines will be constructed with minimal usage of flanged connections to reduce the potential for pipeline leaks. Automatic valves will be integrated into the pipeline system that will close or divert the geothermal brine in the event of a pipeline issue to minimize the size of any potential spill. An Emergency Response Plan will be prepared and implemented should a fluid spill event occur.

Product Extraction Facilities

The lithium extraction areas will be constructed on concrete pads with a containment curb. The lithium extraction processing areas will consist of a series of interconnected tanks, pipelines, and control valves.

Security Fence and Landscaping

A security fence will be constructed around the Project site. The fence will be constructed to meet Imperial County standards for obscured fencing around processing areas.

Power Facilities

A power line will be installed for HKL1 on the transmission structures that are being constructed for HKP1. An electrical substation will be constructed on the site to obtain power from IID. Six electrical-control buildings will be located on the site, and each will house pad-mounted transformers and switchgear. An emergency standby diesel generator will provide emergency power supply in case of electrical outage.

HKP1 and HKL1 Shared Facilities and Design

Foundations

Buildings and equipment will be constructed on foundations consistent with the overall site plan. Deep foundations for all major equipment are expected to require subsurface improvements in the form of steel and or concrete pilings. Shallow foundations for buildings are not expecting to require piling supports.

Water Storage

A high-density polyethylene (HDPE)-lined freshwater pond will be constructed at the southern end of the Project site and just north of the Q Drain. The pond will store and provide fresh water for Project operations. The pond will be sized to provide sufficient storage capacity to meet Project demand during foreseeable periodic interruptions in IID canal water availability. A 100,000-gallon water storage tank will be located on site for fire water storage and 5-acre water storage pond for the facility to use would also be on site.

Stormwater Retention

Stormwater retention infrastructure will be constructed along the western boundary of the site. A berm/levee will run along the western boundary of the site to contain any stormwater runoff and prevent stormwater run on. Water accumulated in the stormwater retention basin will be allowed to evaporate or possibly used as a substitute for normal fresh water. The retention basin will be designed to meet State Water Resources Control Board requirements and will include an appropriate mosquito abatement per Imperial County guidelines. The developed Project facility pad generally will be flat but will be designed to effectively drain to the stormwater retention basin. The stormwater drainage system will be size to accommodate 3 inches of precipitation in a 24-hour period (100-year storm event), and to the comply with applicable local codes and standards. Buildings and equipment will be constructed to provide protection from a 100-year storm event. Spill containment areas and sumps subject to spills of miscible chemicals will drain to an enclosed oil/water separator and will be collected in a waste oil tank for off-site recycling. The site will be graded and constructed so that any geothermal fluid spills will be collected in sumps that drain to the brine pond rather than the stormwater retention basin.

Generation Tie Line and Power Facilities

The 230-kV gen-tie structures constructed for the HKP1 project will be used to support the new power line for the HKL1 Project. The gen-tie line will run from Noffsigner Road approximately 2 miles south to McDonald Road and then will run approximately 0.3 miles east to Hudson Ranch. The gen-tie line will be located east of Davis Road and north of McDonald Road within IID's transmission right-of-way and within new right-of-way.

Parking and Site Access

Parking will be available in the administration and control building area. The Project will be accessed from Davis Road via new ingress/egress driveways. Davis Road will be upgraded with aggregate base during construction of the HKP1 Project. Project traffic will access the site from Highway 111 via McDonald Road and Davis Road. A bridge will be constructed across the R Drain to connect the northern and southern portions of the Project site. County road ingress/egress points will be constructed in conformance with Imperial County Public Works Department and Fire Department requirements. Road access will be restricted during construction, and appropriate traffic controls will be in place during construction of the Project. Davis Road will be paved from McDonald Road to Noffsinger Road at the completion of HKL1 Project construction. All structures within IID right-of-way (ROW), including the bridge over the R Drain, will require IID ROW and approval.

Please refer to Figure 3 for the conceptual project layout and tentative site plan. (**Figure 3.** Project Layout/Site Plan).

The geothermal power plant (HKP1) and mineral extraction and processing facilities (HKL1) will require regional, State, and federal permits as follows, Lead Agency required permits: CUP, Zoning Variance, Development Agreement (if needed), Building and Grading Permit, and Encroachment Permit; Reviewing Federal Agency required permits: USFWS Incidental Take Permit (ITP, if needed) and USACE Individual Permit under Section 404 of the Clean Water Act; Reviewing State Agency required permits: California Department of Transportation (Caltrans) Encroachment Permit, CDFW Lake or Streambed Alteration Agreement and ITP (if needed), California Department of Toxic Substances/Certified Unified Program Agency (CUPA) Hazardous Materials/Environmental Protection Agency Approvals and Permits, and CalGEM Permit(s) to drill; Reviewing Regional Agency required permits: CRRWQCB Waste Discharge Requirement and 401 Water Quality Certification, IID Encroachment Permit, Imperial County Air Pollution Control District Permit to Construct and Permit to Operate; Use of Generators (if needed), Imperial County Public Health Department Nontransient-Noncommunity Water System Permit, Imperial County Building Department Building and Grading Permits, Imperial County Public Works Department Encroachment Permit(s), and any requirements set forth by Imperial County Fire Department and Office of Emergency Services. These permits and agreements will allow for the Project operations and outputs described below.

Project Operations

Routine operations and maintenance of the facility will include preventative maintenance and repairs of any damaged or otherwise inoperable equipment on an as-needed basis. The operation and maintenance staff will monitor the facility operations over the project life to ensure the power plant is operating to meet design standards. The HKP1 facility will utilize geothermal brine to create geothermal energy which will be sold to IID through the gen-tie line. The HKL1 facility will utilize geothermal brine produced from the geothermal fluid management activities on the neighboring HKP1 power plant site for the commercial production of lithium hydroxide, silica, bulk sulfide, and polymetallic products. The production processing

steps may be altered over time as production methods and efficiencies evolve and new or revised product lines are developed at the facility. The process includes the following steps: brine cooling; silica, bulk sulfide, and polymetallic product production; lithium and metals extraction; concentration of lithium extractant; processing of lithium extractant to lithium hydroxide; drying and packaging of lithium and polymetallic products; offsite product shipping.

Each of the general processing steps is discussed further below. After processing of the geothermal brine, the depleted brine will be returned to HKP1 for injection at the wells, developed for HKP1, south of the Q Drain.

Metal Recovery

Geothermal brine from the HKP1 will feed two parallel vacuum-flash brine cooling trains sized for the full operating flow of approximately 5 million pounds per hour (lbs./hr.) The cooled brine will be fed to the mineral extraction process. Silica, bulk sulfide, and polymetallic products will be extracted from the brine using proprietary technology. Silica, bulk sulfide, and polymetallic products will be filtered and shipped offsite in roll-off bins. A lithium chloride (LiCl) product stream will also be produced using a proprietary extraction process. The LiCl will be processed in the subsequent lithium process steps.

Lithium Production

The LiCl product stream will be concentrated and purified. The purified, concentrated LiCl will be transported via pipeline from the lithium purification/concentration operation to the lithium product production buildings. Proprietary technology will be used to convert the LiCl into a LiOH•H2O product.

The LiOH•H2O product stream will be crystallized and transported to a lithium product handling, production, and warehouse building, where the crystals will be separated from the lithium-rich process fluid in a filtration system. LiOH•H2O crystals will be dried and packaged in bulk bags. Packaging is expected to be into 20-kilogram (kg) bags or into 1,000-kg super sacks.

Product Shipping to Offsite Markets

The HKL1 plant will produce multiple products for offsite shipment to market by truck. The average annual amount of product shipped out of the plant operating at 5,000,000 lbs./hr. brine flow capacity is estimated at approximately 5,100 lbs./hr. dry lithium product (LiOH•H2O), 3,100 lbs./hr. silica, 9,800 lbs./hr. bulk sulfide and 60,000 lbs./hr. polymetallic products. All products will be transported by freight truck on existing roadways to shipping distribution point(s).

Operational Workforce, Schedule, and Traffic

The HKP1 facility will require up to 22 full-time onsite employees during operation. Operational staff will include operators, management and supervisors, maintenance technicians, and lab technicians. On a typical day, the operators will assume a two-shift, 24-hour workday, and all other personnel will assume

a standard 8-hour workday. Approximately 22 worker trips, 3 vendor trips, and 1 haul-truck trip will take place during daily operations.

The HKL1 facility is expected to require 90 full-time onsite employees during operation. Facility operations will continue 24 hours per day, 7-days per week. It is projected that up to 44 employees will be on site at any given time, with 28 day-staff employees and two rotating shifts of 16 additional employees overlapping the day staff and covering nights, weekends, and holidays. Approximately 48 trucks per day will travel in and out of the Project site during normal operations. Daily truck traffic includes up to 40 trucks for product shipping. All trucks used for product shipping will be electric. Truck traffic will also include approximately eight truck deliveries of reagent chemicals, cooling tower treatment chemicals, consumptive media, product-packaging materials, and fuel. Outgoing general waste generated on the site will be removed by truck as needed and is expected to require less than one truck per day.

Operational Water Supply and Requirements

The HKP1 will require up to approximately 200 AFY of fresh water for normal operation, including supplemental cooling tower makeup and other plant uses when operating at full plant load. Average annual demand requirements will vary, depending on the capacity factor of the overall facility. It is anticipated that steam condensate will be utilized to offset freshwater requirements.

The primary source of fresh water for the facility is anticipated to be irrigation water made available under a supply contract and purchased through IID. Water will be obtained from the "Q" and "R" laterals adjacent to the Project site. Water will be transferred to a water storage pond, with a capacity of approximately 18 AF, located adjacent to the Q Drain. The water would then be transferred to 100,000-gallon aboveground water storage tank via an aboveground fresh-water pipeline. Additional pipelines will be constructed to transport the water from the water storage tank to the power plant facility. The water will be used for steam wash water, purged water for pump seals, and the RO potable water system, process wash water, and, at times, cooling water makeup. The project is designed to minimize reliance on external sources of water supply for process needs as well by using condensed steam from the geothermal steam condensate to the greatest extent practical.

A filtration-based or RO potable water system will be used to process IID fresh water for the non-drinking potable water needs at the site. A Nontransient-Noncommunity Water System Permit will be obtained from the Imperial County Public Health Department (ICPHD) for the onsite potable water system. Bottled drinking water will be purchased for consumption.

The HKL1 facility will require approximately 6,300 AFY of water to be purchased from the IID for project cooling water makeup and additional process water. Approximately 3 AFY of the purchased water will be used for potable water purposes, including potable washbasin water, eyewash equipment water, water for showers and toilets in the administration and control buildings, and sink water in the sample laboratory.

Operational Energy Requirements

HKP1 would generate 49.9 MW of renewable energy which would be sold to IID. HKL1 would require approximately 35 MW of power and have a peak power demand of 40 MW, which would be obtained from IID. Overall, the power demand would be less than what is produced by HKP1. Additionally, HKP1 will require the use of generators for up to 600 hours per year for startups during black start situations. HKL1 generators will only be used in emergency situations and will be operated less than 50 hours per year.

Fire Protection and Safety

The fire protection system will consist of an underground fire main and surface distribution equipment, such as yard hydrants and hose houses, monitors around the perimeter of the cooling tower, automatic sprinklers for the turbine generator and auxiliary equipment, and a complete detection and alarm system. The firewater supply and pumping system will provide an adequate quantity of fire-fighting water. The systems will be designed in accordance with federal, State, and local fire codes, occupational health and safety regulations and other jurisdictional codes, requirements, and standard practices.

Spent Fluid and Wastewater

Under normal operation, the spent brine will be pumped via the main injection system. Spent geothermal brine will be injected into the subsurface geothermal reservoir via the primary injection wells. Geothermal brine will be discharged into the bring pond during upset conditions or maintenance activities (start up and shut down). The fluids from the brine pond also will be injected into the subsurface geothermal reservoir via the dedicated aerated brine injection well. All subsurface fluid injection will conform with CalGEM requirements.

Wastewater including non-process wash water and sanitary waste, will be generated during operations. Sanitary drains will collect all sanitary waste and non-process wash water and discharge to an approximately sized and County-approved septic system. The septic system will be engineered and operated to meet County Environmental Health requirements.

Hazardous Materials and Waste

<u>Hazardous Material Management</u>

The Project will develop and implement a Hazardous Materials Business Plan (HMBP), in compliance with California Health and Safety Code, Division 20, Chapter 6.95, Sections 25500-25519 and California Code of Regulations, Title 19, Division 2, Chapter 4. The HMBP will be provided to the California Office of Emergency Services, the Imperial County Fire Department, and the Certified Unified Program Agency for Imperial County (the local California Department of Toxic Substances Control office), for review and approval before plant operation. The HMBP will include, at a minimum, procedures for: hazardous materials handling, use and storage; emergency response; spill control and prevention; employee training, and reporting and record keeping.

Portable bins or other storage containers will be on site for storage of maintenance lube oils, chemicals, paints, and other construction materials, as needed. Secondary containment will be provided in all petroleum hydrocarbon and hazardous material storage areas, and all brine processing areas. Safety showers and eyewash stations will be provided in or adjacent to chemical storage and use areas. Safety equipment will be provided for staff use if required during chemical containment and cleanup activities. All staff working with chemicals will be trained in proper handling and emergency response to chemical spills or accidental releases. Water hose connections will be provided near the chemical storage and feed areas, to flush spills and leaks, and absorbent materials will be stored on site for spill cleanup.

The HKP1 facility may include transformer oil for transformer operation, lube oil for the turbine generator operation, diesel for generator fueling, and HCl (32% by weight). The transformer oil will be contained within the transformers; the lube oil will be stored on a skid. Diesel will be stored in a diesel storage tank with a capacity of approximately 3,000 gallons. Two polymer or fiber-reinforced plastic HCl tanks, with capacities of approximately 20,000 and 75,000 gallons, will store the HCI for the acid modification process. The HCI tanks will be fitted with scrubbers. All chemicals will be stored outdoors on impervious surfaces in above-ground storage tanks with secondary containment. The secondary containment areas for the bulk storage tanks will not have drains. Any chemical spill occurring in these areas will be removed with portable equipment and re-used or disposed properly. Other chemicals will be stored and used in their delivery containers.

Hazardous materials that are expected to be used during construction of HKP1 will include: unleaded gasoline, diesel fuel, oil, hydraulic fluids, lubricants, solvents, adhesives, and paint materials. Hazardous materials that are expected to be used during operation of HKL1 will include: unleaded gasoline, diesel fuel, transformer oil, hydraulic fluid, HCl (32% by weight), calcium oxide, sodium sulfide, sodium hydroxide, and manganese.

No feasible alternatives exist to avoid use of these materials for construction or operation of construction vehicles and equipment, or for painting and caulking buildings and equipment. HCl, calcium oxide, sodium hydroxide, and sodium sulfide will be required for the mineral extraction process. Manganese will be produced for commercial sale. Manganese will be stored in indestructible containers for shipping.

Hazardous Materials Transportation

Hazardous material carriers and hazardous waste transporters are required by law to adhere to applicable local, State, and federal regulations regarding proper truck signage, indicating the materials being transported, carrying a shipping/waste manifest of the types and concentrations of materials being transported, and other appropriate measures. Hazardous material carriers also are responsible for their loads, reporting spills, and initiating appropriate emergency response to releases of any transported hazardous materials, from the point of origin up to the destination of the hazardous material delivery.

HKL1 will communicate with the locally responsible emergency response agencies before shipment of any bulk hazardous materials to or from the Project site. Continuing coordination and communications with these agencies relevant to hazardous material shipments will be undertaken as required by the agencies.

HKL1 will also develop an Emergency Action Plan for responding to spills or releases of hazardous substances by hazardous material carriers in the Project area. This plan will conform to all applicable federal, State, and local requirements for notifications, reporting, and emergency response of hazardous substance release incidents. The plan also will describe cleanup of spilled substances and site reclamation, if required. In the unlikely event of a hazardous materials spill during transportation of materials to or from the plant site, HKL1 will cooperate with the responsible agencies and provide all available information and knowledge about the materials to facilitate the spill response cleanup and spill site remediation.

Solid Waste

Construction and operation of the facility will generate both nonhazardous and hazardous wastes described below.

Nonhazardous Wastes

Solid waste from construction activities may include lumber, excess concrete, metal, glass scrap, empty nonhazardous containers, and waste generated by workers. Management of these wastes will be the responsibility of the construction contractor(s). Typical management practices required for nonhazardous waste management will include recycling, when possible, proper storage of waste and debris to prevent wind dispersion, and weekly pickup and disposal of wastes to local Class III landfills.

The primary source of solid waste during operation will be office waste and other waste generated by workers. Non-hazardous waste will be collected in appropriate on-site storage receptacles, designated for waste and recycling. Recyclable materials will be brought to a recycling center, and non-recyclable waste will be removed and taken to a Class III landfill.

Hazardous Wastes

Hazardous wastes may be generated over the course of construction from spills of hazardous materials used during construction, empty hazardous material containers, or spill cleanup wastes. Hazardous materials that are expected to be used during construction include paints, oil and lubricants, solvents, and welding materials. Used oil will be recycled, and oil or heavy metal contaminated materials (e.g., filters) requiring disposal will be transported to an off-site waste disposal facility that is authorized to accept such wastes. Scale from pipe and equipment cleaning operations will be disposed in a similar manner.

All hazardous wastes generated during construction and operation will be handled and disposed in accordance with applicable laws, ordinances, regulations, and standards. Any hazardous wastes generated during construction will be collected in hazardous waste accumulation containers near the point of generation and moved daily to the contractor's 90-day hazardous waste storage area on site. The accumulated wastes subsequently will be delivered to an authorized waste management facility, which may be as far as Yuma, Arizona. Hazardous wastes will be managed and disposed properly in a licensed Class I waste disposal facility that is authorized to accept the waste.

Water Requirements

The potable water provider for the Project is IID. The Project will require domestic water and there is not a domestic water delivery system currently available on the Project site. A filtration-based or RO potable water system will be used to process IID fresh water for the non-drinking potable water needs at the site. A Nontransient-Noncommunity Water System Permit will be obtained from ICPHD for the onsite potable water system. Bottled drinking water will be purchased for consumption.

The proposed Project owner will need to contract with IID to deliver up to 6,500 AFY of untreated water, via the "Q" and "R" laterals adjacent to the project site, specifically gates Q-28 and R-24. The proposed Project is anticipated to use approximately 5,874 AFY of water for steam wash water, purged water for pump seals, and the RO potable water system, process wash water, cooling water makeup, and additional water processes. This includes 240 AFY necessary for periodic dust control while in construction. Approximately 3 AFY of the purchased water will be used for potable water purposes, including potable washbasin water, eyewash equipment water, water for showers and toilets in the administration and control buildings, and sink water in the sample laboratory.

The Project proposes to incorporate the following Best Management Practices for water use efficiency under the requested operational water supply amount of 6,500 AFY: The project is designed to minimize reliance on external sources of water supply for process needs as well by using condensed steam from the geothermal steam condensate to the greatest extent practical.

Should reductions to IID's water supply be ordered or directed from a governmental authority having appropriate jurisdiction, the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project may be required to reduce its water supply demand by a proportionate reduction of the total volume of water available to IID. Additionally, operational changes that may be implemented by the Project under these unpredictable conditions.

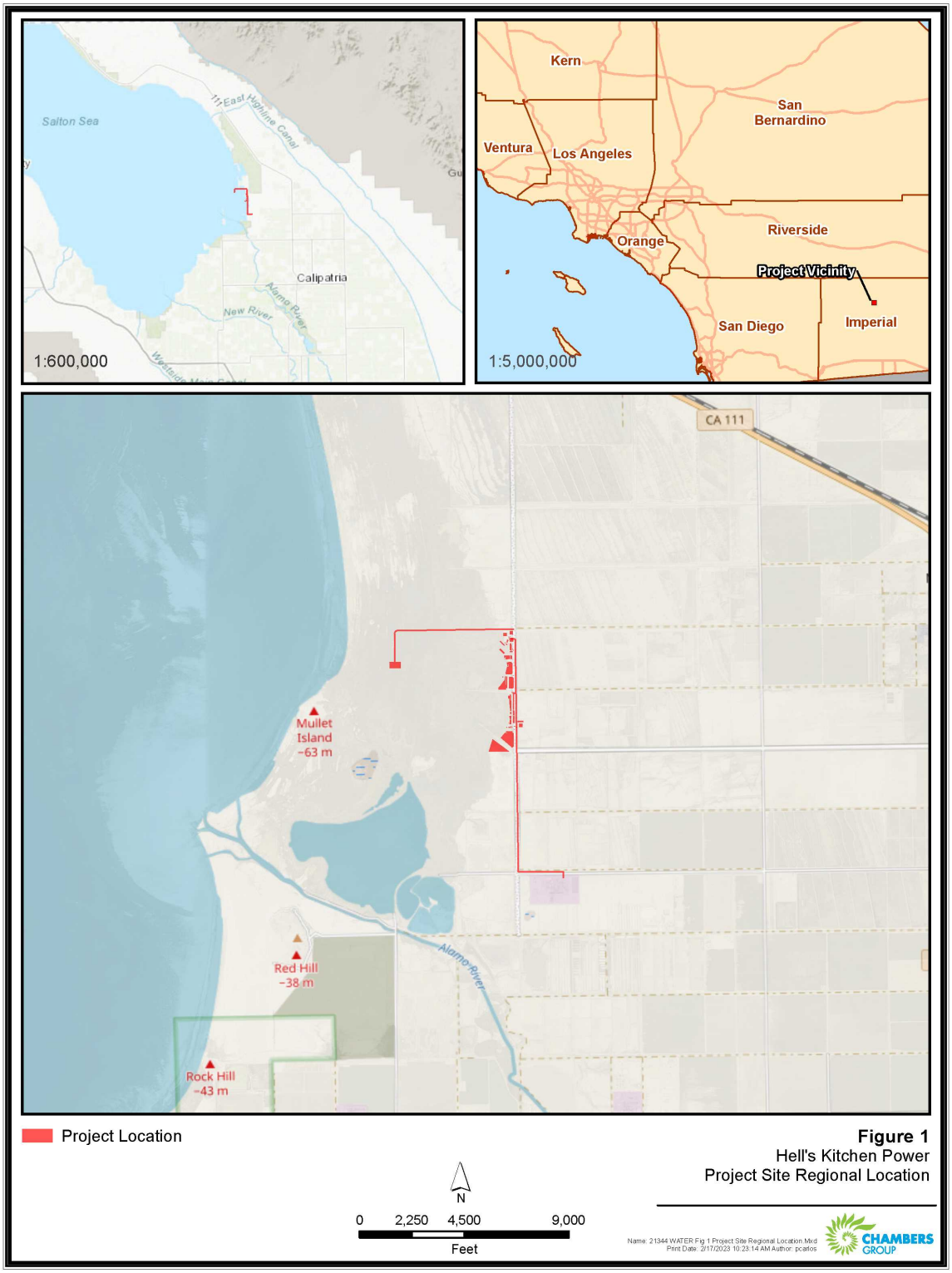


Figure 1. Project Site Regional Location

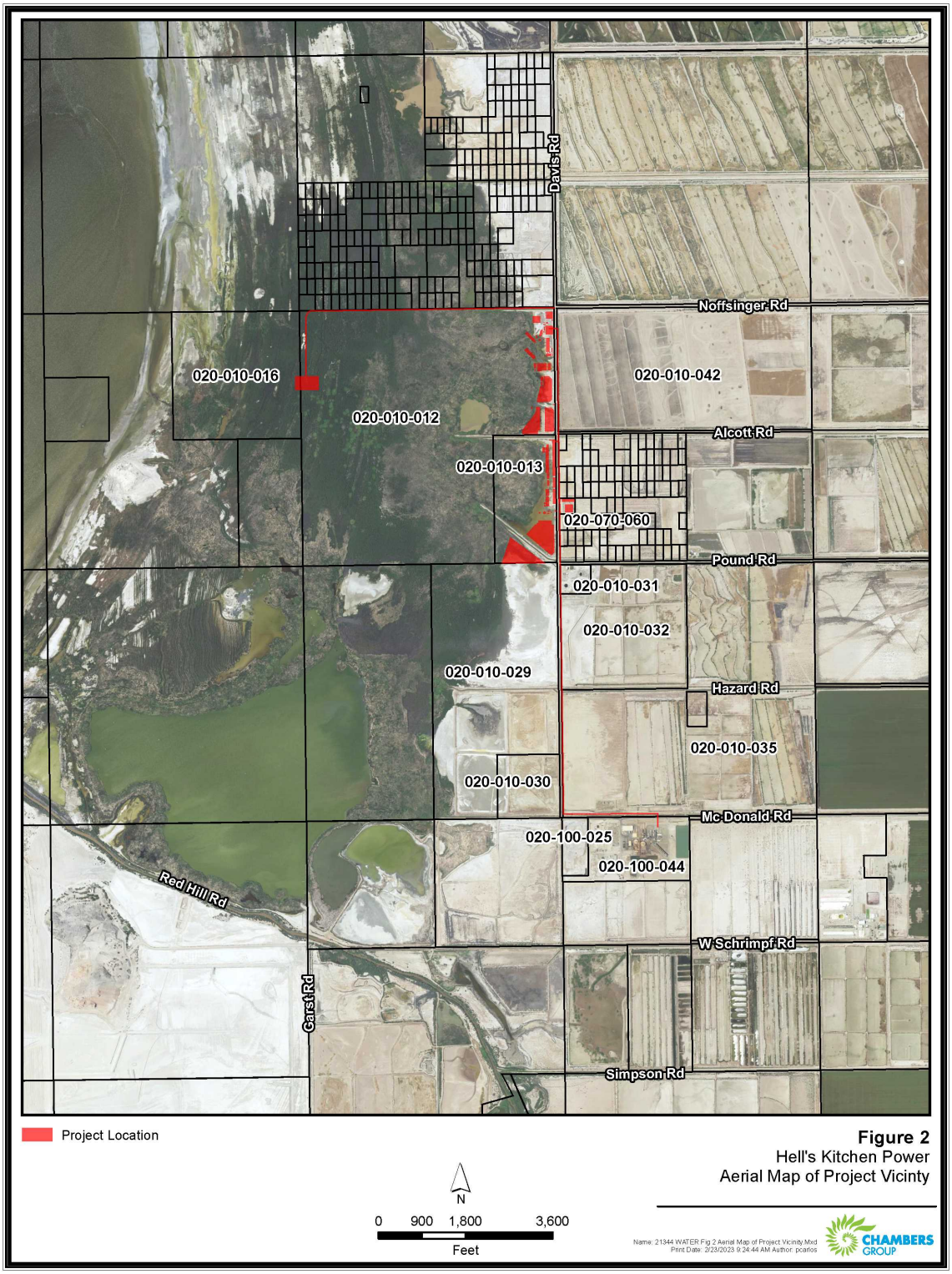


Figure 2. Aerial Map of Project Vicinity



Figure 3. Project Layout/Site Plan

Description of IID Service Area

The proposed Project site is located in Imperial County in the southeastern corner of California. The County is comprised of approximately 4,597 square miles or 2,942,080 acres.[2] Imperial County is bordered by San Diego County to the west, Riverside County to the north, the Colorado River/Arizona boundary to the east, and 84 miles of International Boundary with the Republic of Mexico to the south. Approximately fifty percent of Imperial County is undeveloped land under federal ownership and jurisdiction. The Salton Sea accounts for approximately 11 percent of Imperial County's surface area. In 2022, approximately sixteen percent (16%) of the area was in irrigated agriculture (468,226 acres), including 14,676 acres of the Yuma Project, some 35 sections or 6,405 acres served by Palo Verde Irrigation District (PVID), and 447,147 acres served by IID.[3]

The area primarily served by IID is located in the Imperial Valley, which is generally contiguous with IID's Imperial Unit, lies south of the Salton Sea, north of the U.S./Mexico International Border, and generally in the 699,132 acre area between IID's Westside Main and East Highline Canals.[4] In 2022, IID delivered untreated water to 495,844 net irrigated acres, predominantly in the Imperial Valley, along with small areas of East and West Mesa land, including non-agricultural uses.

The developed area consists of seven incorporated cities (Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmorland), three unincorporated communities (Heber, Niland and Seeley), and three institutions (Naval Air Facility [NAF] El Centro, Calipatria CDCR, and Centinela CDCR) and supporting facilities. **Figure 4** provides a map of the IID canal network, as well as cities, communities, and main canals.

Climate Factors

Imperial Valley, located in the Northern Sonoran Desert, which has a subtropical desert climate is characterized by hot, dry summers and mild winters. Clear and sunny conditions typically prevail, and frost is rare. The region receives 85 to 90 percent of possible sunshine each year, the highest in the United States. Winter temperatures are mild rarely dropping below 32°F, but summer temperatures are very hot, with more than 100 days over 100°F each year. The remainder of the year has a relatively mild climate with temperatures averaging in the mid-70s.

The 100-year average climate characteristics are provided in **Table 1**. Rainfall contributes around 50,000 AF of effective agricultural water per inch of rain. Most rainfall occurs from November through March; however, summer storms can be significant in some years. Annual areawide rainfall is shown in **Table 2**. The thirty-year, 1993-2022, average annual air temperature was 73.95°F, and average annual rainfall was

[2] *Imperial County General Plan*, Land Use Element 2008 Update
[3] *USBR website: Yuma Project. PVID contact for acreage September 30, 2021.*
[4] *IID Annual Inventory of Areas Receiving Water Years 2022, 2021, 2020*

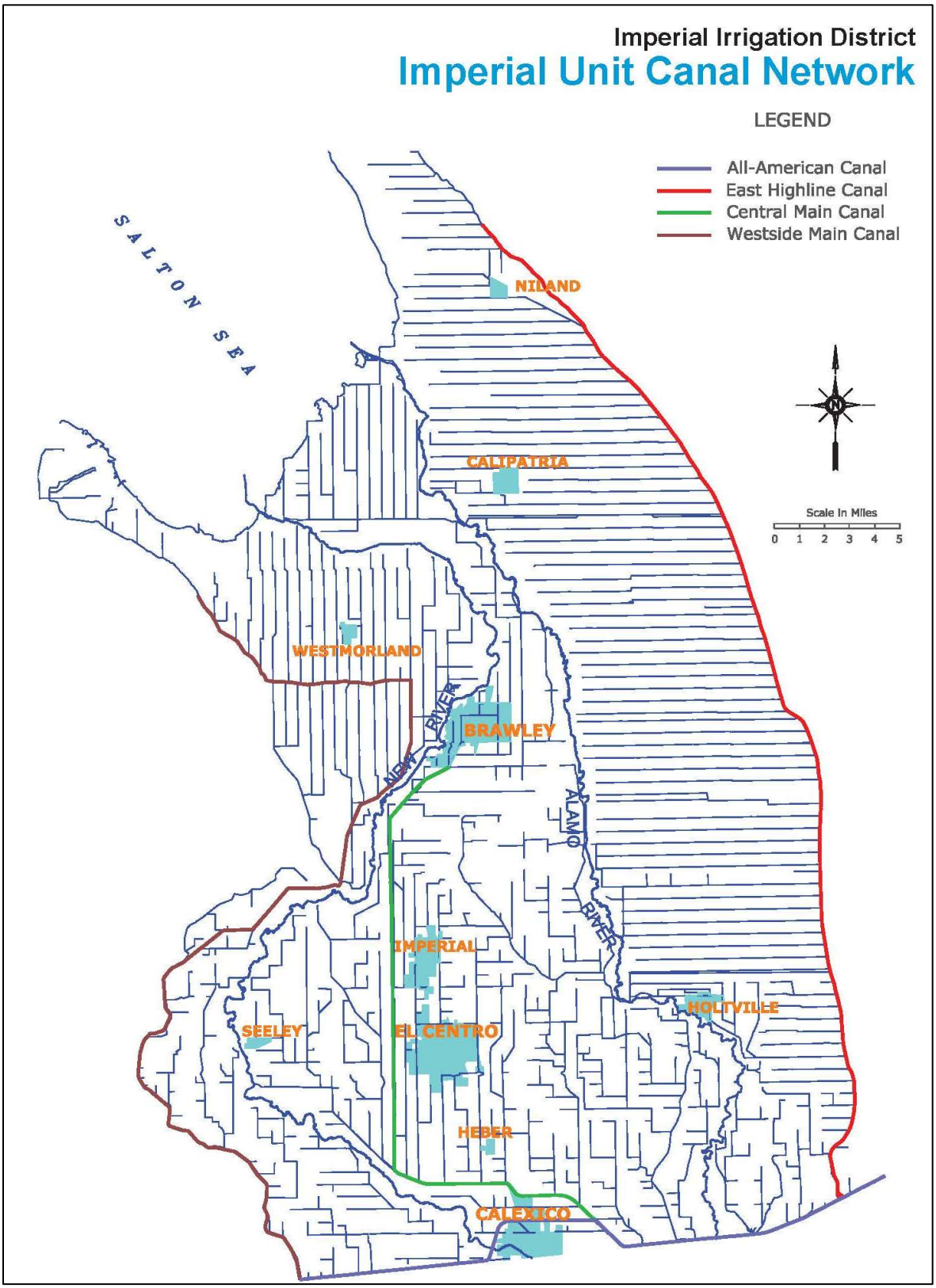


Figure 4. IID Imperial Unit Boundary and Canal Network

2.51 inches, see **Table 3** and **Table 4**. This record shows that while average annual rainfall has fluctuated, the 10-year average temperatures have slightly increased over the 30-year averages.

Table 1. Climate Characteristics, Imperial, CA 100-Year Record, 1923-2022

Climate Characteristic	Annual Value
Average Precipitation (100-year record, 1923-2022)	2.75 inches (In)
Minimum Temperature, Jan 1937	16 ºF
Maximum Temperature, July 1995	121 ºF
Average Minimum Temperature, 1923-2022	48.4 ºF
Average Maximum Temperature, 1923-2022	98.4 ºF
Average Temperature, 1923-2022	73.1 ºF

Source: IID Imperial Weather Station Record

Table 2. IID Areawide Annual Precipitation (In), (1990-2022)

1990	1991	1992	1993	1994	1995	1996
1.646	3.347	4.939	2.784	1.775	1.251	0.685
1997	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
1.328	2.604	1.399	0.612	0.516	0.266	2.402
2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
4.116	4.140	0.410	1.331	1.301	0.619	3.907
2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
2.261	2.752	2.772	1.103	2.000	1.867	2.183
2018	**2019**	**2020**	**2021**	**2022**		
1.305	3.017	2.685	1.688	1.265		

Source: Computation based on polygon average of CIMIS as station came online in the WIS.[5]

Notable from Table 2 (above) and Table 3 (below) is that while average annual rainfall measured at IID Headquarters in Imperial, California, has been decreasing, monthly average temperatures are remarkably consistent.

Table 3. Monthly Mean Temperature (ºF) – Imperial, CA 10-Year, 30-Year & 100-Year (2013-2022, 1993-2022, 1923-2022)

	Jan			Feb			Mar			Apr		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	81	33	57	87	37	62	94	43	68	101	49	74
30-year	81	34	57	84	36	60	93	41	66	99	47	72
100-year	80	31	56	84	35	59	91	40	65	99	46	71
	May			**Jun**			**Jul**			**Aug**		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	105	55	77	116	62	89	115	72	94	114	72	93
30-year	106	54	78	113	60	87	115	69	92	114	70	92
100-year	105	53	78	113	59	86	114	68	92	113	68	91
	Sep			**Oct**			**Nov**			**Dec**		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	111	64	88	100	53	77	91	40	65	81	34	57
30-year	111	62	87	102	50	76	90	39	64	80	33	56
100-year	110	61	86	101	49	75	89	38	63	80	32	56

[5] From 1/1/1990-3/23/2004, 3 CIMIS stations: Seeley, Calipatria/Mulberry, Meloland; 3/24/2004-7/5/2009, 4 CIMIS stations (added Westmorland N.); 7/6/2009-12/1/2009, 3 CIMIS stations: Westmorland N. offline; 12/2/2009-2/31/2009, 4 CIMIS stations, Westmorland N. back online; 1/1/2010-9/20/2010.

Source: IID Imperial Headquarters Station Record (Data provided by IID staff)

Table 4. Monthly Mean Rainfall (In) – Imperial, CA 10-Year, 30-Year & 100-Year (2013-2022, 1993-2022, 1923-2022)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
10-year	0.47	0.13	0.23	0.11	0.08	0.01	0.08	0.32	0.39	0.12	0.25	0.37	2.47
30-year	0.51	0.38	0.23	0.09	0.06	0.00	0.13	0.20	0.29	0.17	0.21	0.32	2.51
100-year	0.39	0.37	0.25	0.11	0.03	0.00	0.11	0.30	0.37	0.26	0.21	0.49	2.75

Source: IID WIS: CIMIS stations polygon calculation (Data provided by IID staff).

Imperial Valley depends on the Colorado River for its water, which IID transports, untreated, to delivery gates for agricultural, municipal, industrial (including geothermal and solar energy), environmental (managed marsh), recreational (lakes), and other non-agricultural uses. IID supplies the cities, communities, institutions, and Golden State Water (which includes all or portions Calipatria, Niland, and some land adjacent within Imperial County territory) with untreated water that they treat to meet state and federal drinking water guidelines before distribution to their customers. Industries outside the municipal areas treat the water to required standards of their industry. To comply with U.S. Environmental Protection Agency (USEPA) requirements and avoid termination of canal water service, residents in the IID water service area who do not receive treated water service must obtain alternative water service for drinking and cooking from a state-approved provider. To avoid penalties that could exceed $25,000 a day, IID strictly enforces this rule. The IID Water Department tracks nearly 3,200 raw water service accounts required by the State Water Resources Control Board's Department of Drinking Water to have alternate state approved drinking water service. IID maintains a small-acreage pipe and drinking water database and provides an annual compliance update to the Department of Drinking Water.

Imperial Valley Historic and Future Land and Water Uses

Agricultural development in the Imperial Valley began at the turn of the twentieth century. In 2021, gross agricultural production for Imperial County was valued at $2,287,312,000, of which approximately $2.1 billion was produced in the IID water service area.[6] While the agriculture-based economy is expected to continue, land use is projected to change somewhat over the years as industrial and/or alternative energy development and urbanization occur in rural areas and in areas adjacent to existing urban centers, respectively.

- The Hell's Kitchen PowerCo 1 and LithiumCo 1 Project would provide geothermal power to the Imperial Irrigation District and would produce renewable energy jobs to the area. Additionally, the project would provide a sustainable domestic source of lithium, a designated critical material identified by the U.S. Department of Energy and would minimize the distance between the geothermal power plant and lithium extraction plant for production efficiency.

[6] 2021 Imperial County Crop and Livestock Report

Imperial Valley's economy is gradually diversifying. Agriculture will likely continue to be the primary industry within the valley; however, two principal factors anticipated to reduce crop acreage are renewable energy (geothermal and solar) and urban development. Over the next twenty years, urbanization is expected to slightly decrease agriculture land use to provide space for an increase in residential, commercial, and industrial uses. The transition from agricultural land use typically results in a net decrease in water demand for municipal, commercial, and solar energy development; and a net increase in water demand for geothermal energy development. Local energy resources include geothermal, wind, biomass and solar. The County General Plan provides for development of energy production centers or energy parks within Imperial County. Alternative energy facilities will help California meet its statutory and regulatory goals for increasing renewable power generation and use and decrease water demands in Imperial County.

The IID Board has adopted the following policies and programs to address how to accommodate water demands under the terms of the QSA/ Transfers Agreements and minimize potential negative impacts on agricultural water uses:

Imperial Integrated Regional Water Management Plan: adopted by the board on December 18, 2012, and by the County, the City of Imperial, to meet the basic requirement of California Department of Water Resources (CDWR) for an IRWM plan. In all, 14 local agencies adopted the 2012 Imperial IRWMP.

Interim Water Supply Policy for Non-Agricultural Projects: adopted by the board on September 29, 2009, to ensure sufficient water will be available for new development, in particular, anticipated renewable energy projects until the board selects and implements capital development projects such as those considered in the Imperial IRWMP.

Temporary Land Conversion Fallowing Policy: adopted by the board on May 8, 2012, and revised on March 29, 2016, to provide a framework for a temporary, long-term fallowing program to work in concert with the IWSP and IID's coordinated land use/water supply strategy.

Equitable Distribution Plan: adopted by the board on June 21, 2022, to provide a mechanism for IID to administer apportionment of the district's quantified annual supply of Colorado River water.

In addition, water users within the IID service area are subject to the statewide requirement of reasonable and beneficial use of water under the California Constitution, Article X, section 2.

Imperial Integrated Regional Water Management Plan (October 2012)

The Imperial IRWMP serves as the governing document for regional water planning to meet present and future water resource needs and demands by addressing such issues as additional water supply options, demand management and determination and prioritization of uses and classes of service provided. In November 2012, the Imperial County Board of Supervisors approved the Imperial IRWMP, and the City of Imperial City Council and the IID Board of Directors approved it in December 2012. Approval by these three (3) stakeholders meets the basic requirement of California Department of Water Resources (CDWR)

for an IRWMP. Through the IRWMP process, IID presented to the region stakeholders options in the event long-term water supply augmentation is needed, such as water storage and banking, recycling of municipal wastewater, and desalination of brackish water.[7] As discussed herein, long term water supply augmentation is not anticipated to be necessary to meet proposed Project demands.

Chapter 5 of the 2012 Imperial IRWMP addresses water supplies (Colorado River and groundwater), demand, baseline and forecasted through 2050; and IID water budget. Chapter 12 addresses projects, programs and policies, and funding alternatives. Chapter 12 of the IRMWP lists, and Appendix N details, a set of capital projects that IID might pursue, including the amount of water that might result (AFY) and cost ($/AF) if necessary. These also highlight potential capital improvement projects that could be implemented in the future.

Imperial Valley historic 2015 and 2020 and the forecasted future for 2025 to 2055 non-agricultural water demand, are provided in **Table 5** in five-year increments. Total water demand for non-agricultural uses is projected to be 201.4 KAF in the year 2055. This is a forecasted increase in the use of non-agricultural water of 94 KAF from 107.4 KAF for the period of 2015 to 2055. These values were modified from Chapter 5 of the Imperial IRWMP to reflect updated conditions from the IID Provisional Water Balance for calendar year 2015 and 2020. Due to the recession in 2009, state policies affecting municipal water use in relation to the drought and other factors, non-agricultural growth projections have lessened since the 2012 Imperial IRWMP. Projections in **Table 5** have been adjusted (reduced by 3% for Municipal and Industrial uses and applied a flat 0.5 AF increase for Recreation use) to reflect IID 2015 and 2020 delivery data adjustments. Even with these adjustments, the Table 5 projections for non-agricultural water demand within the IID water service area continue to reflect an unlikely aggressive growth.

Table 5. Non-Agricultural Water Demand within IID Water Service Area, 2015-2055 (KAFY)

	2015	2020	2025	2030	2035	2040	2045	2050	2055
Municipal	30.0	30.9	36.8	39.8	41.5	46.3	51.7	57.8	61.9
Industrial	26.4	28.7	39.8	46.5	53.2	59.9	66.6	73.3	80.0
Other	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Feedlots/Dairies	17.8	19.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Envr. Resources	8.3	9.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recreation	7.4	9.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Service Pipes	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Total NonAg	**107.4**	**115.1**	**136.1**	**145.8**	**154.2**	**165.7**	**177.8**	**190.6**	**201.4**

Notes: 2015 non-agricultural water demands are from IID 2015 Provisional Water Balance rerun 01/25/2021 2020-2055 demands are modified from 2012 Imperial IRWMP Chapter 5, Table 5-22 p 5-50 based on IID 2015 Provisional Water Balance. 2020 non-agricultural water demands are from IID 2020 Provisional Water Balance rerun on 01/31/2022. 2025-2055 demands are modified from 2012 Imperial IRWMP Chapter 5, Table 5-22 p 5-50 based on IID 2020 Provisional Water Balance. Industrial Demand includes geothermal, but not solar, energy production.

Agricultural evapotranspiration (ET) demand of approximately 1,476.4 KAF in 2015, decreased in 2020 to approximately 1,442.2 KAF. The termination of fallowing programs provided 103.5 KAF of water for Salton

[7] October 2012 Imperial Integrated Regional Water Management Plan, Chapter 12.

Sea mitigation in 2017. Forecasted agricultural ET remains constant, as reductions in water use are to come from efficiency conservation not reduction in agricultural production. Market forces and other factors may impact forecasted future water demand.

Table 6 provides the 2015 and 2020 historic and 2025-2055 forecasted agricultural consumptive use and delivery demand within the IID water service area. When accounting for agriculture ET, tailwater and tilewater, total agricultural consumptive use (CU) demand ranges from 2,157.9 KAF in 2015 to 2,208.5 KAF in 2055. Forecasted total agricultural delivery demand is around 1 KAFY higher than the CU demand, ranging from 2,158.9 KAF in 2015 to 2,209.5 KAF in 2055.

Table 6. Historic and forecasted Agricultural Water Consumptive Use and Delivery Demand within IID Water Service Area, 2015-2055 (KAFY)

	2015	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**	**2055**
Ag ET from Delivered & Stored Soil Water	1,476.4	1,442.2	1,567.5	1,567.5	1,567.5	1,567.5	1,567.5	1,567.5	1,567.5
Ag Tailwater to Salton Sea	282.9	312.9	268.0	218.0	218.0	218.0	218.0	218.0	218.0
Ag Tilewater to Salton Sea	398.6	410.2	423.0	423.0	423.0	423.0	423.0	423.0	423.0
Total Ag CU Demand	**2,157.9**	**2,165.4**	**2,258.5**	**2,208.5**	**2,208.5**	**2,208.5**	**2,208.5**	**2,208.5**	**2,208.5**
Subsurface Flow to Salton Sea	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*
Total Ag Delivery Demand	**2,158.9**	**2,166.4**	**2,259.5**	**2,209.5**	**2,209.5**	**2,209.5**	**2,209.5**	**2,209.5**	**2,209.5**

Notes: 2015 record from IID 2015 Provisional Water Balance rerun 06/28/2019; 2020 record from IID 2020 Provisional Water Balance rerun 01/25/2021; 2020-2055 forecasts from spreadsheet used to develop Figure 19, et seq. in Imperial IRWMP Chapter 5 (Data provided by IID staff). **Next Update 2026.**

In addition to agricultural and non-agricultural water demands, system operation demand must be included to account for operational discharge, main and lateral canal seepage, including seepage along the All-American Canal (AAC); and for AAC seepage, river evaporation and phreatophyte ET from Imperial Dam to IID's measurement site at AAC Mesa Lateral 5. These system operation demands are shown in **Table 7** for 2021**.** IID measures system operational uses and at All-American Canal Station 2900 just upstream of Mesa Lateral 5 Heading. Total system operational use for 2020 was 167.8 KAF, including 10 KAF of LCWSP input, 39 KAF of seepage interception input, and 40 KAF of unaccounted canal water input.

Table 7. IID System Operations Consumptive Use within IID Water Service Area and from AAC at Mesa Lateral 5 to Imperial Dam, (KAF), 2020

Delivery System Evaporation	24.4
Canal Seepage	90.8
Main Canal Spill	10.1
Lateral Spill	121.5
QSA & IID Seepage Interception	-39.0
Unaccounted Canal Water	-40.0
Total System Operational Use, In valley	167.8
Imperial Dam to AAC @ Mesa Lat 5 *(Dam-Mesa Lat 5) (2,552,674-2,546,152)*	9.2
LCWSP	-10
Total System Operational Use in 2020	167.0
Source: 2020 IID Water Balance rerun 01/25/2021	

IID Interim Water Supply Policy for Non-Agricultural Projects (September 2009)

The IID IWSP provides a mechanism to address water supply requests for new non-agricultural projects being developed within the IID service area. The IWSP designates up to 25,000 AFY of water to be conserved from IID's annual Colorado River water supply, consumptive use cap, for new non-agricultural projects. The IWSP provides a mechanism and process to develop a water supply agreement for any appropriately permitted project, and establishes a framework and set of fees to ensure the supplies used to meet new demands do not adversely affect existing users by funding water conservation or augmentation projects as needed to offset the new demand. [8]

The environmental impacts of conserving up to the 25,000 acre-feet of IWSP water were analyzed in the *Imperial Irrigation District Interim Water Supply Policy for Non-Agricultural Projects* Negative Declaration, State Clearinghouse No. 2009061103 dated June 25, 2009. The IID Board adopted this Negative Declaration on September 29, 2009.

Depending on the nature, complexity and water demands of the proposed project, new projects may be charged a one-time Reservation Fee and annual Water Supply Development Fees for the contracted water volume used solely to assist in funding new water supply projects. The applicability of the fee to certain projects will be determined by IID on a case-by-case basis, depending on the proportion of types of land uses and water demand proposed for a project. The 2023 IWSP fee schedule is shown in Table 8.

Table 8. Interim Water Supply Policy 2023 Annual Non-Agricultural Water Supply Development Fee Schedule

Annual Demand (AF)	Reservation Fee ($/AF)*	Development Fee ($/AF)*
0-500	$85.26	$341.03
501-1000	$120.04	$480.17
1001-2500	$150.74	$602.94
2501-5000	$186.20	$744.81

Adjusted annually in accordance with the Consumer Price Index (CPI).

[8] *IID website: Municipal, Industrial and Commercial Customers.*

IID customers with new projects receiving water under the IWSP will be charged the appropriate water delivery rate based on measured deliveries, see IID Water Rate Schedules. As of January 2023, IID has issued one water supply agreement under the IWSP for 1,980 AFY, leaving a balance of 23,020 AFY of potential water supply available for additional contracting under the IWSP.

IID Temporary Land Conversion Fallowing Policy (May 2012)

Imperial County planning officials determined that renewable energy facilities were consistent with the county's agricultural zoning designation and began issuing CUPs for these projects with 30-year terms with a 10-year extension (40 years in total). These longer-term, but temporary, land use designations were not conducive to a coordinated land use/water supply policy as envisioned in the Imperial IRWMP, because temporary water supply assignments during a conditional use permit (CUP) term were not sufficient to meet the water supply verification requirements for new project approvals. Agricultural landowners also sought long-term assurances from IID that, at project termination, irrigation service would be available for them to resume their farming operations.

Based on these conditions, IID determined it had to develop a water supply policy that conformed to the local land use decision-making in order to facilitate new development and economic diversity in Imperial County which resulted in the IID Temporary Land Conversion Fallowing Policy (TLCFP).[9] IID concluded that certain lower water use projects could still provide benefits to local water users. The resulting benefits; however, may not be to the same categories of use (e.g., municipal, commercial, and industrial) but to the district as a whole.

At the general manager's direction, IID staff developed a framework for a fallowing program that could be used to supplement the IWSP and meet the multiple policy objectives envisioned for the coordinated land use/water supply strategy. Certain private projects that, if implemented, will temporarily remove land from agricultural production within the district's water service area include renewable solar energy and other non-agricultural projects. Such projects may need a short-term water supply for construction and decommissioning activities and longer-term water service for facility operation and maintenance or for treating to potable water standards. Conserved water will be credited to the extent that water use for the new project is less than the historic water use for the project site's footprint as determined by the ten-year water use history.[10]

Water demands for certain non-agricultural projects are typically less than that required for agricultural production; this reduced demand allows conserved water to be made available for other users under IID's annual consumptive use cap. This allows the district to avail itself of the ability during the term of the QSA/Transfer Agreements under CWC Section 1013 to create conserved water through projects such

[9] *IID website: Temporary Land Conversion Fallowing Policy (TLCFP), and The TLCFP are the sources of the text for this section.*
[10] For details of how water conservation yield attributable to land removed from agricultural production and temporarily fallowed is computed, see TLCFP for Water Conservation Yield.

as temporary land fallowing conservation measures. This conserved water can then be used to satisfy the district's conserved water transfer obligation and for environmental mitigation purposes.

Under the terms of the legislation adopted to facilitate the QSA/Transfer Agreements and enacted in CWC Section 1013, the TLCFP was adopted by the IID board on May 8, 2012 and revised on March 29, 2016 to update the fee schedule for 2016. This policy provides a framework for a temporary, long-term fallowing program to work in concert with the IWSP. While conserved water generated from the TLCFP is limited by law for use for water transfer or environmental purposes, by satisfying multiple district objectives the TLCFP serves to reduce efficiency conservation and water use reduction demands on IID water users, thus providing district wide benefits.

IMPERIAL IRRIGATION DISTRICT'S WATER RIGHTS

The laws and regulations that influence IID's water supply are noted in this section. The Law of the River (as described below), along with the 2003 Quantification Settlement Agreement and Related Agreements serve as the laws, regulations and agreements that primarily influence the findings of this WSA. These agreements grant California the most senior water rights along the Colorado River and specify that IID has access to 3.1 MAF per year. These two components will influence future decisions in terms of water supply availability during periods of shortages.

California Law

IID has a longstanding right to divert Colorado River water, and IID holds legal titles to all of its water and water rights in trust for landowners within the district (CWC §20529 and §22437; *Bryant v. Yellen*, 447 U.S. 352, 371 (1980), fn.23.). Beginning in 1885, a number of individuals, as well as the California Development Company, made a series of appropriations of Colorado River water under California law for use in the Imperial Valley. The rights to these appropriations were among the properties acquired by IID from the California Development Company.

Law of the River

Colorado River water rights are governed by numerous compacts, state and federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River." Together, these documents form the basis for allocation of the water, regulation of land use, and management of the Colorado River water supply among the seven basin states and Mexico.

Of all regulatory literature that governs Colorado River water rights, the following are the specifics that impact IID:

- Colorado River Compact (1922)
- Boulder Canyon Project Act (1928)
- California Seven-Party Agreement (1931)

- Arizona v. California US Supreme Court Decision (1964, 1979)
- Colorado River Basin Project Act (1968)
- Quantification Settlement Agreement and Related Agreements (2003)
- 2003 Colorado River Water Delivery Agreement: Federal QSA for purposes of Section 5(b) Interim Surplus Guidelines (CRWDA)
- 1970 Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs
- Annual Operating Plan (AOP) for Colorado River Reservoirs
- 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead (2007 Interim Guidelines)

Colorado River Compact (1922)

With authorization of their legislatures and urging of the federal government, representatives from the seven Colorado River basin states began negotiations regarding distribution of water from the Colorado River in 1921. In November 1922, an interstate agreement called the "Colorado River Compact" was signed by the representatives giving the Lower Basin perpetual rights to annual apportionments of 7.5 million acre-feet (MAF) of Colorado River water (75 MAF over ten years). The Upper Basin was to receive the remainder, which based on the available hydrological record was also expected to be 7.5 MAF annually, with enough left over to provide 1.5 MAF annually to Mexico.

Boulder Canyon Project Act (1928)

Provisions in the 1928 Boulder Canyon Project Act made the compact effective and authorized construction of Hoover Dam and the All-American Canal, and served as the United States' consent to accept the Compact. Through a Presidential Proclamation on June 25, 1929, this act resulted in ratification of the Compact by six of the basin states and required California to limit its annual consumptive use to 4.4 MAF of the lower basin's apportionment plus not less than half of any excess or surplus water unapportioned by the Compact. A lawsuit was filed by the State of Arizona after its refusal to sign. Through the implementation of its 1929 Limitation Act, California abided by this federal mandate. The Boulder Canyon Act authorized the Secretary of the Interior (Secretary) to "contract for the storage of water… and for the delivery thereof… for irrigation and domestic uses," and additionally defined the lower basin's 7.5 MAF apportionment split, with an annual allocation 0.3 MAF to Nevada, 2.8 MAF to Arizona, and 4.4 MAF to California. Even though the three states never formally settled or agreed to these terms, a 1964 Supreme Court decision (*Arizona v. California*, 373 U.S. 546) declared the three states' consent to be insignificant since the Boulder Canyon Project Act was authorized by the Secretary.

California Seven-Party-Agreement (1931)

Following implementation of the Boulder Canyon Project Act, the Secretary requested that California make recommendations regarding distribution of its apportionment of Colorado River water. In August 1931, under chairmanship of the State Engineer, the California Seven-Party Agreement was developed and authorized by the affected parties to prioritize California water rights. The Secretary accepted this agreement and established these priorities through General Regulations issued in September of 1931. The first four (4) priority allocations account for California's annual apportionment of 4.4 MAF, with

agricultural entities using 3.85 MAF of that total. Additional priorities are defined for years in which the Secretary declares that excess waters are available.

Arizona v. California U.S. Supreme Court Decision (1964, 1979)

The 1964 Supreme Court decision settled a 25-year disagreement between Arizona and California that stemmed from Arizona's desire to build the Central Arizona Project to enable use of its full apportionment. California's argument was that as Arizona used water from the Gila River, which is a Colorado River tributary, it was using a portion of its annual Colorado River apportionment. An additional argument from California was that it had developed a historical use of some of Arizona's apportionment, which, under the doctrine of prior appropriation, precluded Arizona from developing the project. California's arguments were rejected by the U.S. Supreme Court. Under direction of the Supreme Court, the Secretary was restricted from delivering water outside of the framework of apportionments defined by law. Preparation of annual reports documenting consumptive use of water in the three lower basin states was also mandated by the Supreme Court. In 1979, present perfected water rights (PPRs) referred to in the Colorado River Compact and in the Boulder Canyon Project Act were addressed by the Supreme Court in the form of a Supplemental Decree.

In March of 2006, a Consolidated Decree was issued by the Supreme Court to provide a single reference to the conditions of the original 1964 decrees and several additional decrees in 1966, 1979, 1984 and 2000 that stemmed from the original ruling. The Consolidated Decree also reflects the settlements of the federal reserved water rights claim for the Fort Yuma Indian Reservation.

Colorado River Basin Project Act (1968)

In 1968, various water development projects in both the upper and lower basins, including the Central Arizona Project (CAP) were authorized by Congress. Under the Colorado River Basin Project Act, priority was given to California's apportionment over (before) the CAP water supply in times of shortage. Also under the act, the Secretary was directed to prepare long-range criteria for the Colorado River reservoir system in consultation with the Colorado River Basin States.

Quantification Settlement Agreement and Related Agreements (2003)

With completion of a large portion of the CAP infrastructure in 1994, creation of the Arizona Water Banking Authority in 1995, and the growth of Las Vegas in the 1990s, California encountered increasing pressure to live within its rights under the Law of the River. After years of negotiating among Colorado River Compact States and affected California water delivery agencies, a Quantification Settlement Agreement and Related Agreements and documents were signed on October 10, 2003, by the Secretary of Interior, IID, Coachella Valley Water District (CVWD), Metropolitan Water District of Southern California (MWD), San Diego County Water Authority (SDCWA), and other affected parties.

The Quantification Settlement Agreement and Related Agreements (QSA/Transfer Agreements) are a set of interrelated contracts that resolve certain disputes among the United States, the State of California, IID, MWD, CVWD and SDCWA, for a period of 35 to 75 years, regarding the reasonable and beneficial use of

Colorado River water; the ability to conserve, transfer and acquire conserved Colorado River water; the quantification and priority of Priorities 3(a) and 6(a)[11] within California for use of Colorado River water; and the obligation to implement and fund environmental impact mitigation.

Conserved water transfer agreements between IID and SDCWA, IID and CVWD, and IID and MWD are all part of the QSA/Transfer Agreements. For IID, these contracts identify conserved water volumes and establish transfer schedules along with price and payment terms. As specified in the agreements, IID will transfer nearly 415,000 AF annually over a 35-year period (or longer), as follows:

- to MWD 110,000 AF [modified to 105,000 AF in 2007],
- to SDCWA 205,000 AF,
- to CVWD and MWD combined 103,000 AF, and
- to certain San Luis Rey Indian Tribes 11,500 AFY of water.

All the conserved water will ultimately come from IID system and on-farm efficiency conservation improvements. In the interim, IID has implemented a Fallowing Program to generate water associated with Salton Sea mitigation related to the impacts of the IID/SDCWA water transfer, as required by the State Water Resources Control Board, which is to run from 2003 through 2017. In return for its QSA/Transfer Agreements programs and deliveries, IID will receive payments totaling billions of dollars to fund needed efficiency conservation measures and to pay growers for conserved on-farm water, so IID can transfer nearly 14.5 MAF of water without impacting local productivity. In addition, IID will transfer to SDCWA 67,700 AFY annually of water conserved from the lining of the AAC in exchange for payment of lining project costs and a grant to IID of certain rights to use the conserved water. In addition to the 105,000 acre-feet of water currently being conserved under the 1988 IID/MWD Conservation Program, these more recent agreements define an additional 303,000 AFY to be conserved by IID from on-farm and distribution system conservation projects for transferred to SDCWA, CVWD, and MWD.

***Colorado River Water Delivery Agreement (2003)*[12]**

As part of QSA/Transfer Agreements among California and federal agencies, the Colorado River Water Delivery Agreement: Federal QSA for purposes of Section 5(b) Interim Surplus Guidelines (CRWDA) was entered into by the Secretary of the Interior, IID, CVWD, MWD and SDCWA. This agreement involves the federal government because of the change in place of diversion from Imperial Dam into the All-American Canal to Parker Dam into MWD's Colorado River Aqueduct.

The CRWDA assists California to meet its "4.4 Plan" goals by quantifying deliveries for a specific number of years for certain Colorado River entitlements so transfers may occur. In particular, for the term of the CRWDA, quantification of Priority 3(a) was effected through caps on water deliveries to IID (consumptive

[11] *Priorities 1, 2, 3(b), 6(b), and 7 of current Section 5 Contracts for the delivery of Colorado River water in the State of California and Indian and miscellaneous Present Perfected Rights within the State of California and other existing surplus water contracts are not affected by the QSA Agreement.*

[12] *CRWDA: Federal QSA accessed 7 June 2017.*

use of 3.1 MAF per year) and CVWD (consumptive use of 330 KAF per year). In addition, California's Priority 3(a) apportionment between IID and CVWD, with provisions for transfer of supplies involving IID, CVWD, MWD and SDCWA are quantified in the CRWDA for a period of 35 years or 45 years (assumes SDCWA does not terminate in year 35) or 75 years (assumes SDCWA and IID mutually consent to renewal term of 30 years).

Allocations for consumptive use of Colorado River water by IID, CVWD and MWD that will enable California to stay within its basic annual apportionment (4.4 MAF plus not less than half of any declared surplus) are defined by the terms of the QSA/Transfer Agreements (**Table 9**). As specified in the QSA/Transfer Agreements, by 2026, IID annual use within (Imperial Valley) is to be reduced to just over 2.6 MAF of its 3.1 MAF quantified annual apportionment. The remaining nearly 500,000 AF (which includes the 67,000 AF from AAC lining) are to be transferred annually to urban water users outside of the Imperial Valley.

Table 9. CRWDA Annual 4.4 MAF Apportionment (Priorities 1 to 4) for California Agencies (AFY)

User	Apportionment (AFY)
Palo Verde Irrigation District and Yuma Project*	420,000
Imperial Irrigation District	3,100,000
Coachella Valley Water District	330,000
Metropolitan Water District of Southern California*	550,000
Total:	**4,400,000**

* PVID and Yuma Project did not agree to a cap; value represents a contractual obligation by MWD to assume responsibility for any overages or be credited with any volume below this value.
Notes: All values are consumptive use at point of Colorado River diversion: Palo Verde Diversion Dam (PVID), Imperial Dam (IID and CVWD), and Parker Dam (MWD). Source: IID Annual Water Report

Quantification of Priority 6(a) was effected through quantifying annual consumptive use amounts to be made available in order of priority to MWD (38 KAF), IID (63 KAF), and CVWD (119 KAF) with the provision that any additional water available to Priority 6(a) be delivered under IID's and CVWD's existing water delivery contract with the Secretary[13]. The CRWDA provides that the underlying water delivery contract with the Secretary remain in full force and effect. (*Colorado River Documents 2008*, Chapter 6, pages 6-12 and 6-13). The CRWDA also provides a source of water to effect a San Luis Rey Indian Water Rights settlement. Additionally, the CRWDA satisfies the requirement of the 2001 Interim Surplus Guidelines (ISG) that a QSA be adopted as a prerequisite to the interim surplus determination by the Secretary in the ISG.

Inadvertent Overrun Payback Policy (2003)

The CRWDA Inadvertent Overrun Payback Policy (IOPP), adopted by the Secretary contemporaneously with the execution of the CRWDA, provides additional flexibility to Colorado River management and applies to entitlement holders in the Lower Division States (Arizona, California and Nevada)[14] The IOPP defines inadvertent overruns as "Colorado River water diverted, pumped, or received by an entitlement

[13] When water levels in the Colorado River reservoirs are low, Priority 5, 6 and 7 apportionments are not available for diversion.
[14] *USBR, 2003 CRWDA ROD Implementation Agreement, IOPP and Related Federal Actions Final EIS. Section IX. Implementing the Decision A. Inadvertent Overrun and Payback Policy. Pages 16-19 of 34.*

holder of the Lower Division States that is in excess of the water users' entitlement for the year." An entitlement holder is allowed a maximum overrun of 10 percent (10%) of its Colorado River water entitlement.

In the event of an overrun, the IOPP provides a mechanism to payback the overrun. When the Secretary has declared a normal year for Colorado River diversions, a contractor has from one to three years to pay back its obligation, with a minimum annual payback equal to 20 percent of the entitlement holder's maximum allowable cumulative overrun account or 33.3 percent of the total account balance, whichever is greater. However, when Lake Mead is below 1,125 feet on January 1, the terms of the IOPP require that the payment of the inadvertent overrun obligation be made in the calendar year after the overrun is reported in the USBR Lower Colorado Region Colorado River Accounting and Water Use Report [for] Arizona, California, and Nevada (Decree Accounting Report).[15]

1970 Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs

The 1970 Operating Criteria control operation of the Colorado River reservoirs in compliance with requirements set forth in the Colorado River Compact of 1922, the United States-Mexico Water Treaty of 1944, the Colorado River Storage Project Act of 1956, the Boulder Canyon Projects Act (Lake Mead) and the Colorado River Basin Project Act (Upper Basin Reservoirs) of 1968, and other applicable federal laws. Under these Operating Criteria, the Secretary makes annual determinations published in the USBR Annual Operating Plan for Colorado River Reservoirs (discussed below) regarding the release of Colorado River water for deliveries to the lower basin states. A requirement to equalize active storage between Lake Powell and Lake Mead when there is sufficient storage in the Upper Basin is included in these operating criteria. **Figure 5** identifies the major storage facilities at the upper and lower basin boundaries.

[15] *2003 CRWDA ROD. Section IX. A.6.c, page 18 of 34.*

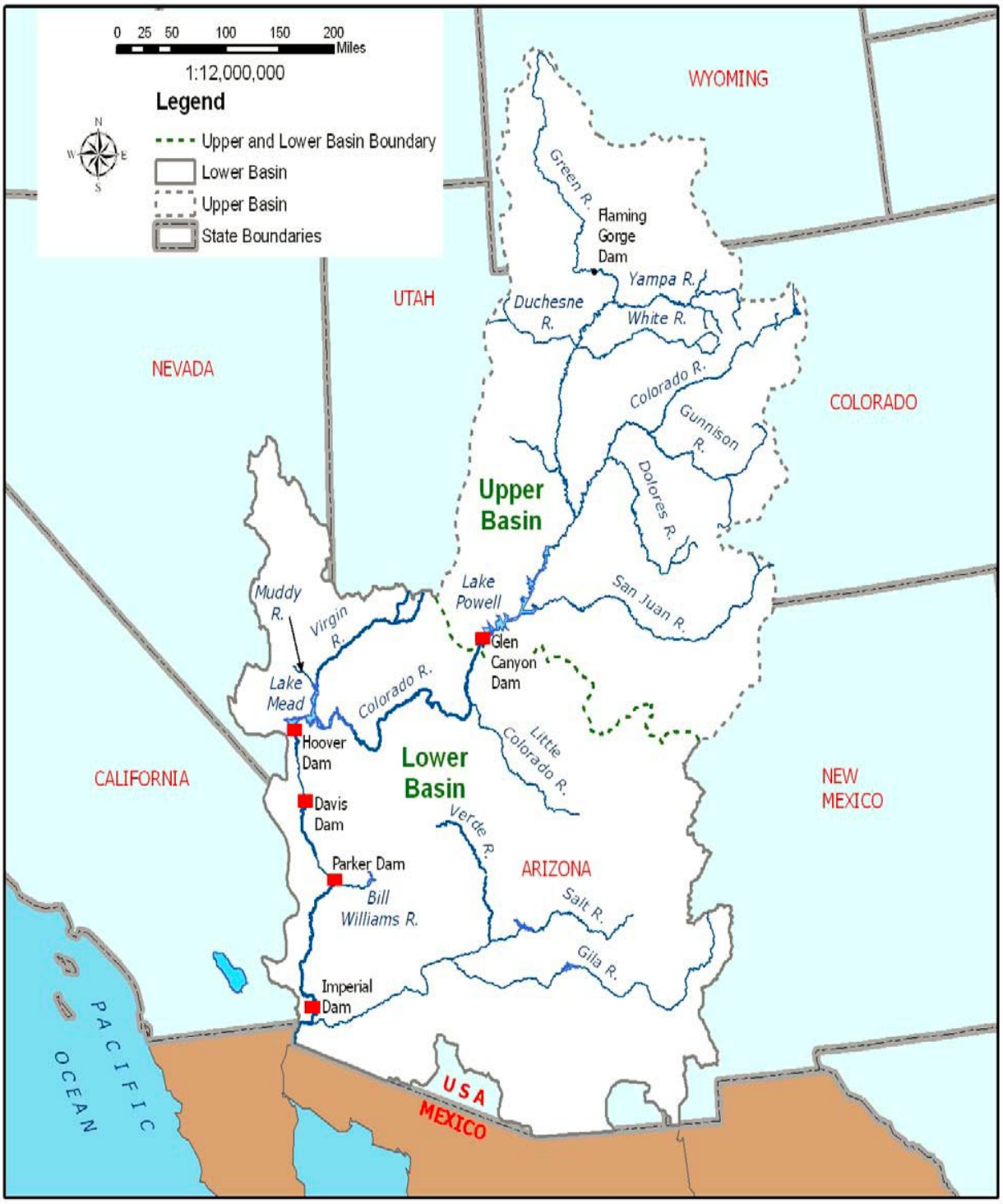


Figure 5. Major Colorado River Reservoir Storage Facilities and Basin Location Map

Source: Final EIS – Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Volume 1 Chapter 1 Purpose and Need , p I-10.

Annual Operating Plan for Colorado River Reservoirs (*Applicable when Lake Mead Surplus/Shortage)*

The AOP is developed in accordance with Section 602 of the Colorado River Basin Project Act (Public Law 90-537); the Criteria for Coordinated Long-Range Operations of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of 1968, as amended, promulgated by the Secretary of the Interior; and Section 1804(c)(3) of the Grand Canyon Protection Act (Public Law 102-575). As part of the AOP process, the Secretary makes determinations regarding the availability of Colorado River water for deliveries to the lower basin states, including whether normal, surplus, and shortage conditions are in effect on the lower portion of the Colorado River.

2007 Colorado River Interim Guidelines for Lower Basin Shortages (2007 Interim Guidelines)

A multi-year drought in the Colorado River Upper Basin triggered the need for the 2007 Interim Shortage Guidelines. In the summer of 1999, Lake Powell was essentially full with reservoir storage at 97 percent of capacity. However, precipitation fell off starting in October 1999 and 2002 inflow was the lowest recorded since Lake Powell began filling in 1963.[16] By August 2011, inflow was 279 percent (279%) of average; however, drought resumed in 2012 and continued through calendar year 2022. Using the record in **Table 10,** average unregulated inflow to Lake Powell for water years 2000-2022 is 70 percent (69.96%); or if 2011 is excluded, 67 percent (66.95%) of the historic average, see **Table 10**.

Table 10. Unregulated Inflow to Lake Powell, Percent of Historic Average, 2000-2022

2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
62%	59%	25%	51%	49%	105%	73%	68%	102%	88%	73%
2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
136%	35%	49%	90%	83%	80%	101%	36%	120%	54%	36%
2022										
34%										

Source: UCR Water Operations: Historic Data (2000-2022)

In the midst of the drought period, USBR developed 2007 Interim Guidelines with consensus from the seven basin states, which selected the Draft EIS Preferred Alternative as the basis for USBR's final determination. The basin states found the Preferred Alternative best met all aspects of the purpose and need for the federal action. [17]

The 2007 Interim Guidelines Preferred Alternative highlights the following:

1. The need for the Interim Guidelines to remain in place for an extended period of time.
2. The desirability of the Preferred Alternative based on the facilitated consensus recommendation from the basin states.
3. The likely durability of the mechanisms adopted in the Preferred Alternative in light of the extraordinary efforts that the basin states and water users have undertaken to develop

[16] Water Year: October 1 through September 30 of following year, so water year ending September 30, 1999

[17] USBR *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* <http://www.usbr.gov/lc/region/programs/strategies.html>

implementing agreements that will facilitate the water management tools (shortage sharing, forbearance, and conservation efforts) identified in the Preferred Alternative

4. That the range of elements in the Preferred Alternative will enhance the Secretary's ability to manage the Colorado River reservoirs in a manner that recognizes the inherent tradeoffs between water delivery and water storage.

In June 2007, USBR announced that a preferred alternative for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lake Powell and Lake Mead (Final Preferred Alternative) had been determined. The Final Preferred Alternative, based on the basin states' consensus alternative and an alternative submitted by the environmental interests called "Conservation Before Shortage," is comprised of four key operational elements which are to guide operations of Lake Powell and Lake Mead through 2026 are:

1. Shortage strategy for Lake Mead and Lower Division states: The Preferred Alternative proposed discrete levels of shortage volumes associated with Lake Mead elevations to conserve reservoir storage and provide water users and managers in the Lower Basin with greater certainty to know when, and by how much, water deliveries will be reduced during low reservoir conditions.
2. Coordinated operations of Lake Powell and Lake Mead: The Preferred Alternative proposed a fully coordinated operation of the reservoirs to minimize shortages in the Lower Basin and to avoid risk of curtailments of water use in the Upper Basin.
3. Mechanism for storage and delivery of conserved water in Lake Mead: The Preferred Alternative proposed the Intentionally Created Surplus (ICS) mechanism to provide for the creation, accounting, and delivery of conserved system and non-system water thereby promoting water conservation in the Lower Basin. Credits for Colorado River or non-Colorado River water that has been conserved by users in the Lower Basin creating an ICS would be made available for release from Lake Mead at a later time. The total amount of credits would be 2.1 MAF, but this amount could be increased up to 4.2 MAF in future years.
4. Modifying and extending elements of the Interim Surplus Guidelines (ISG). The ISG determines conditions under which surplus water is made available for use within the Lower Division states. These modifications eliminate the most liberal surplus conditions thereby leaving more water in storage to reduce the severity of future shortages.

With respect to the various interests, positions, and views of the seven basin states, this provision adds an important element to the evolution of the legal framework for prudent management of the Colorado River. Furthermore, the coordinated operation element allows for adjustment of Lake Powell releases to respond to low reservoir storage conditions in either Lake Powell or Lake Mead. States found the Preferred Alternative best met all aspects of the purpose and need for the federal action.[18] The 2007

[18] *USBR Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.*

Interim Guidelines are in place from 2008 through December 31, 2025 (through preparation of the 2026 Annual Operating Plan).

Lower Colorado Region Water Shortage Operations

The Colorado River Basin is experiencing a prolonged period of drought and record-low runoff conditions that have resulted in historically low reservoir levels in both Lake Powell (upper Basin) and Lake Mead (lower Basin). The period from 2000 through 2021 was the lowest 22-year inflow into Lake Powell in the historical record and has strained the Colorado River system. The drought in the Colorado River watershed has continued through 2022. Despite an increase in observed runoff in August 2011 when unregulated inflow to Lake Powell was 279 percent of the average. Since 2000, Lake Mead has been below the "average" level of lake elevations (see Figure 6 Such conditions have caused the activation of shortage plans for waters users in Arizona and Nevada, and in Mexico. By May of 2022 Lake Meads elevation had declined to 1,048 feet. These conditions resulted in the U.S. Secretary of the Interior declaring the first-ever Tier 2a Shortage on the Colorado River.

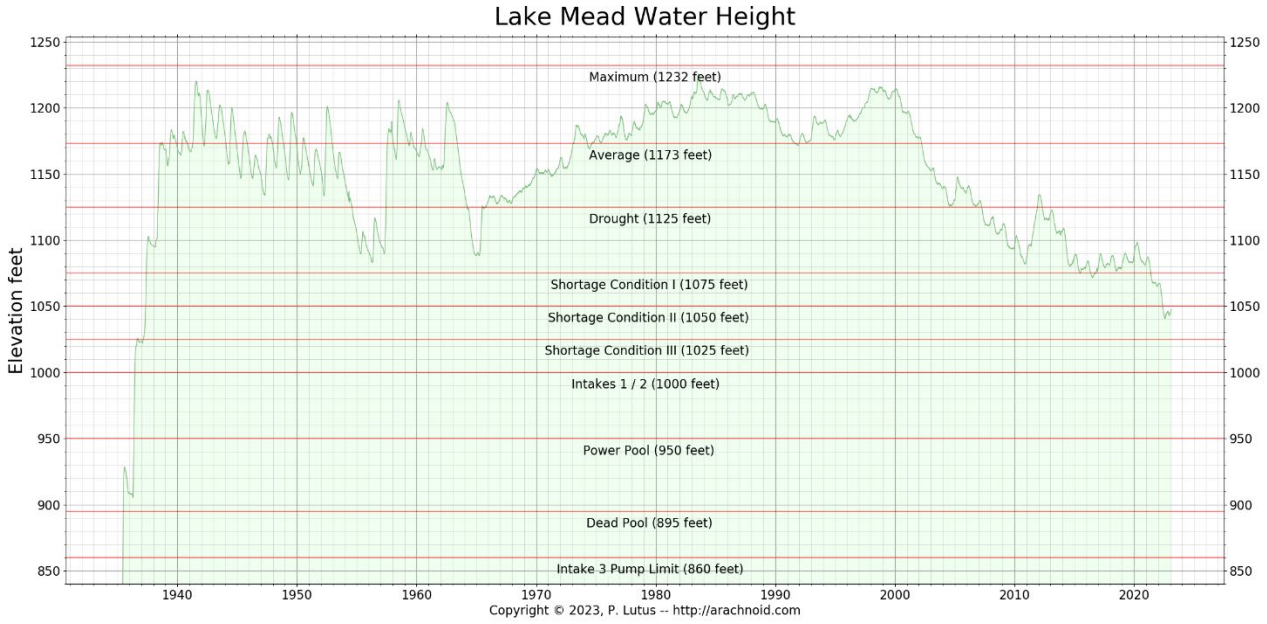


Figure 6. Lake Mead Water Elevation Levels January 2022

Source: <http://www.arachnoid.com/NaturalResources/index.html>

According to guidelines put in place in 2007, Arizona and Nevada begin to take shortages when the water elevation in Lake Mead falls below 1,075 feet. The volumes of shortages increase as water levels fall to 1,050 feet and again at 1,025 feet. In 2012, Mexico agreed to participate in a 5-year pilot agreement to share specific volumes of shortages at the same elevations. The 2007 interim shortage guidelines contain no reductions for California, which has senior water rights to the Central Arizona Project water supply, through 2025 when the guidelines expire. If Lake Mead's elevation drops to 1,025 feet, a re-consultation process would be triggered among the basin states to address next steps. Consultation would start out

within each state, then move to the three lower basin states, followed by all seven states and the USBR. Mexico will then be brought into the process unless they choose to participate earlier. In total, 721,000 acre-feet of reductions will be implemented in the Lower Basin and Mexico in 2023 consistent with various agreements that dictate the operation of the Colorado River.

California has no stipulated reduction to its water supplies under a Tier 2a Shortage declaration. While not directly affected by the shortage reductions announced by Reclamation, the Shortage condition does prevent IID from overrunning its approved water order and, as stated earlier, contributions to address Lake Mead water elevation are anticipated by IID. IID is considering voluntary water conservation for the benefit of Lake Mead, up to 250,000 AFY, as long as there are no obligatory reductions.

IMPERIAL IRRIGATION DISTRICT WATER SUPPLY AND DEMAND

SB 610 requires an analysis of a normal, single dry, and multiple dry water years to show that adequate water is available for the proposed Project in various climate scenarios. Water availability for this Project in a normal year is no different from water availability during a single-dry and multiple-dry year scenarios. This is due to the small effect rainfall has on water availability in IID's arid environment along with IID's strong entitlements to the Colorado River water supply. Local rainfall does have some impact on how much water is consumed (i.e., if rain falls on agricultural lands, those lands will not demand as much irrigation), but does not impact the definition of a normal year, a single-dry year, or a multiple-dry year scenario.

WATER AVAILABILITY – NORMAL YEAR

IID is entitled to annual net consumptive use of 3.1 MAF of Colorado River, less its QSA/Transfer Agreement obligations. Imperial Dam, located north of Yuma, Arizona, serves as a diversion structure for water deliveries throughout southeastern California, Arizona, and Mexico. Water is transported to the IID water service area through the AAC for use throughout the Imperial Valley. IID historic and forecast net consumptive use volumes at Imperial Dam from CRWDA Exhibit B are shown in **Table** 11. Volumes 2003-2021 are adjusted for USBR Decree Accounting historic records. Volumes for 2022-2077 are from CRWDA Exhibit B modified to reflect 2014 Letter Agreement changes to the 1988 IID/MWD Water Conservation Agreement.[19]

Due to limits on annual consumptive use of Colorado River water under the QSA/Transfer Agreements, IID's water supply during a normal year is best represented by the CRWDA Exhibit B Net Available for Consumptive Use (**Table 11** , Column 11). The annual volume is IID Priority 3(a) Quantified Amount of 3.1

[19] 2014 Imperial Irrigation District Letter Agreement for Substitution and Conservation Modifications to the IID/MWD Water Conservation Agreement - December 17, 2014.

million acre-feet (MAF) (**Table 11** , Column 2) less the IID transfer program reductions for each year (**Table 11** , Columns 3-9). IID suggests **Table 10**, which assumes full use of IID's quantified water supply, be used in determining base normal year water availability.

Table 11. IID Historic and Forecast Net Consumptive Use for Normal Year, Single-Dry Year and Multiple-Dry Year Water Supply, 2003-2037, et seq. (CRWDA Exhibit B)

IID Quantification and Transfers, Volumes in KAF at Imperial Dam [1]										
Col 1	2	3	4	5	6	7	8	9	10	11
	IID Priority 3(a)									
		IID Reductions								**IID Net [Available for] Consumptive Use (Col 2 - 10)**
Year	**IID 3(a) Quantified Amount**	**1988 MWD Transfer [2]**	**SDCWA Transfer**	**AAC Lining**	**Salton Sea Mitigation SDCWA Transfer [3]**	**Intra-Priority 3 CVWD Transfer**	**MWD Transfer w\ Salton Sea Restoration [4]**	**Misc. PPRs**	**IID Total Reduction (Σ Cols 3-9) [5]**	
2003	3,100	105.1	10.0	0.0	0.0	0.0	0.0	11.5	126.6	2978.2
2004	3,100	101.9	20.0	0.0	15.0	0.0	0.0	11.5	148.4	2743.9
2005	3,100	101.9	30.0	0.0	15.0	0.0	0.0	11.5	158.4	2756.8
2006	3,100	101.2	40.0	0.0	20.0	0.0	0.0	11.5	172.7	2909.7
2007	3,100	105.0	50.0	0.0	25.0	0.0	0.0	11.5	191.5	2872.8
2008	3,100	105.0	50.0	8.9	26.0	4.0	0.0	11.5	205.4	2825.1
2009	3,100	105.0	60.0	65.5	30.1	8.0	0.0	11.5	280.1	2566.7
2010	3,100	105.0	70.0	67.7	33.8	12.0	0.0	11.5	294.8	2540.5
2011	3,100	103.9	63.3	67.7	0.0	16.0	0.0	11.5	262.4	2915.8
2012	3,100	104.1	106.7	67.7	15.2	21.0	0.0	11.5	326.2	2,903.2
2013	3,100	105.0	100.0	67.7	71.4	26.0	0.0	11.5	381.6	2,554.9
2014	3,100	104.1	100.0	67.7	89.2	31.0	0.0	11.5	403.5	2,533.4
2015	3,100	107.82	100.0	67.7	153.3	36.0	0.0	11.5	476.3	2,480.9
2016	3,100	105.0	100.0	67.7	130.8	41.0	0.0	11.5	456.0	2,504.3
2017	3,100	105.0	100.0	67.7	105.3	45.0	0.0	9.9	432.9	2,667.1
2018	3,100	105	130	67.7	0.1	63	0.0	9.7	375.5	2,724.5
2019 [6]	3,100	105	160	67.7	46.55	68	0.0	6.9	454.2	2,645.8
2020	3,100	105	192.5	67.7	0.0	73	0.0	9.1	448.0	2,652.0
2021	3,100	105	205	67.7	0.0	78	0.0	9.3	465.0	2,635.0
2022	3,100	105	202.5	67.7	0	83	0.0	9.8	468.0	2,632.0
2023	3,100	105	200	67.7	0	88	0.0	11.5	472.2	2,627.8
2024	3,100	105	200	67.7	0	93	0.0	11.5	477.2	2,622.8
2025	3,100	105	200	67.7	0	98	0.0	11.5	482.2	2,617.8
2026	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2027	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2028	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2029-37	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2038-47 [7]	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2048-77 [8]	3,100	105	200	67.7	0	50	0.0	11.5	434.2	2,665.8

1. 2003 through 2022, volumes are adjusted for actual USBR Decree Accounting values; IID Total Reduction and Net Available for Consumptive Use may not equal Col 2 minus Col 10, if IID conservation/use was not included in Exhibit B.
2. 2014 Letter of Agreement provides that, effective January 2016 total amount of conserved water available is 105 KAFY
3. Salton Sea Mitigation volumes may vary based on conservation volumes and method of conservation.
4. *This transfer is not likely given lack of progress on Salton Sea restoration as of 2018; shaded entries represent volumes that may vary.*
5. Reductions include conservation for 1988 IID/MWD Transfer, IID/SDCWA Transfer, AAC Lining; SDCWA Transfer Mitigation, MWD Transfer w/Salton Sea Restoration (if any); Misc. PPRs. Amounts are independent of increases and reductions as allowed by the IOPP.
6. In order to resolve the outstanding 2010 Salton Sea mitigation water pre-delivery issue, IID left 46,546 AF of extraordinary conservation in Lake Mead. See IIID's December 19, 2019, revised 2019 water order and Reclamation's March 10, 2020, approval letter.
7. Assumes SDCWA does not elect termination in year 35.
8. Assumes SDCWA and IID mutually consent to renewal term of 30 years.
9. Modified from 100 KAFY in CRWDA Exhibit B; stating in 2018 MWD will provide CVWD 50 KAFY of the 100 KAFY.

Source: CRWDA: Federal QSA Exhibit B, p 13; updated values from 2021 Annual Water & QSA Implementation Report

CRWDA Exhibit B Net Available for Consumptive Use volumes less system operation demand represents the amount of water available for delivery by IID Water Department to its customers each year. In a normal year, perhaps 50,000 to 100,000 AF of effective rainfall would fall in the IID water service area. However, rainfall is not evenly distributed throughout the IID water service area and is not taken into account by IID in the submittal of its Estimate of Diversion (annual water order) to the USBR.

EXPECTED WATER AVAILABILITY – SINGLE DRY AND MULTIPLE DRY YEARS

Historically, when drought conditions exist within the IID water service area, as has been the case for the past two decades, the water supply available to meet agricultural and non-agricultural water demands remains the same as normal year water supply because IID historically relied solely on its entitlement for Colorado River water. Due to the priority of IID water rights and other agreements, drought conditions affecting Colorado River water supplies cause shortages for Arizona, Nevada, and Mexico, before impacting California and IID. Accordingly, the Net Available for Consumptive Use volumes in **Table** , Column 11 represents the water supply at Imperial Dam available for diversion by IID in single-dry year and multiple-dry year scenarios, consistent with IID's senior water rights. The runoff declines in the upper basin and prolonged drought conditions throughout the west have resulted, for the first time, in the Colorado River operating under a Tier 2a Shortage Condition in 2023, creating long-term water supply uncertainties throughout the Basin states.

Water Management under a Suspended Inadvertent Overrun Payback Policy (IOPP)

Under normal operating conditions, the CRWDA Inadvertent Overrun Payback Policy (IOPP), provided IID with some flexibility to manage its water use. When the water level in Lake Mead is above 1,125 feet, an overrun of its USBR approved annual water order was permissible, and IID had up to three years to pay water use above the annual water order. When Lake Mead's water level is at or below 1,125 feet on January 1 in the calendar year after the overrun is reported in the USBR Lower Colorado Region Decree Accounting Report, the IOPP prohibits additional overruns and requires that outstanding overruns be paid back in the subsequent calendar year rather than in three years as allowed under normal conditions; that is, the payback is to be made in the calendar year following publication of the overrun in the USBR Decree Accounting Report. The IOPP is suspended during shortage conditions. For historic IID annual rainfall, net consumptive use, transfers and IID underrun/overrun amounts, see **Table 12**.

Table 12. IID Annual Rainfall (In), Net Consumptive Use and Underrun/Overrun Amounts (AF), 1988-2022

Year	IID Total Annual Rainfall	IID Water Users	IID/MWD Transfer	IID/ SDCWA Transfer	SDCWA Transfer Salton Sea Mitigation	IID Underrun / Overrun	IID/CVWD Transfer	AAC Lining
1988		2,947,581						
1989		3,009,451						
1990	91,104	3,054,188	6,110					
1991	192,671	2,898,963	26,700					
1992	375,955	2,575,659	33,929					
1993	288,081	2,772,148	54,830					
1994	137,226	3,048,076	72,870					
1995	159,189	3,070,582	74,570					
1996	78,507	3,159,609	90,880					
1997	64,407	3,158,486	97,740					
1998	100,092	3,101,548	107,160					
1999	67,854	3,088,980	108,500					
2000	29,642	3,112,770	109,460					
2001	12,850	3,089,911	106,880					
2002	12,850	3,152,984	104,940					
2003	116,232	2,978,223	105,130	10,000	0	**6,555**		
2004	199,358	2,743,909	101,900	20,000	15,000	-166,408		
2005	202,983	2,756,846	101,940	30,000	15,000	-159,881		
2006	19,893	2,909,680	101,160	40,000	20,000	**12,414**		
2007	64,580	2,872,754	105,000	50,000	25,021	**6,358**		
2008	63,124	2,825,116	105,000	50,000	26,085	-47,999	4,000	8,898
2009	30,0354	2,566,713	105,000	60,000	30,158	-237,767	8,000	65,577
2010	189,566	2,545,593	105,000	70,000	33,736	-207,925	12,000	67,700
2011	109,703	2,915,784	103,940	63,278	0	**82,662**	16,000	67,700
2012	133,526	2,903,216	104,140	106,722	15,182	**134,076**	21,000	67,700
2013	134,497	2,554,845	105,000	100,000	71,398	-64,981	26,000	67,700
2014	53,517	2,533,414	104,100	100,000	89,168	-797	31,000	67,700
2015	97,039	2,480,933	107,820	100,000	153,327	-90,025	36,000	67,700
2016	90,586	2,504,258	105,000	100,000	130,796	-62,497	41,000	67,700
2017	105,919	2,548,171	105,000	100,000	105,311	-30,591	45,000	67,700
2018	63,318	2,625,422	105,000	130,000	0	0	63,000	67,700
2019	146,384	2,558,136	105,000	160,000	46,555	-34,215	68,000	67,700
2020	130,275	2,493,623	105,000	192,500	0	-98,073	73,000	67,700
2021	81,901	2,552,674	105,000	205,000	0	-37,737	78,000	67,700
2022	61,377	2,577,164	105,000	202,500	0	-2,299	83,000	67,700

Notes: Volumes in acre-feet and except Total Annual Rainfall are USBR Decree Accounting Report record at Imperial Dam.
IID Total Annual Rainfall from IID Provisional Water Balance, first available calculations are for 1990.
Not all IID QSA programs are shown on this table.
Source: USBR Decree Accounting reports, except IID Total Rainfall and IID Overrun/Underrun is a separate calculation
Source: 2021 IID Annual Water & QSA Implementation Report and 2022 IID SWRCB Report; IID Total Rainfall and IID Overrun/ Underrun is a separate calculation

On August 16, 2021, the water level in Lake Mead was 1,060 feet and for the first time since the IOPP came into effect, the Secretary of the Interior declared the first-ever, Tier 1 shortage condition for Colorado River operations, elevations reaching 1,045 as of mid-2022 (Figure 7). For IID, this meant that no overruns would be allowed to IID's approved water order.

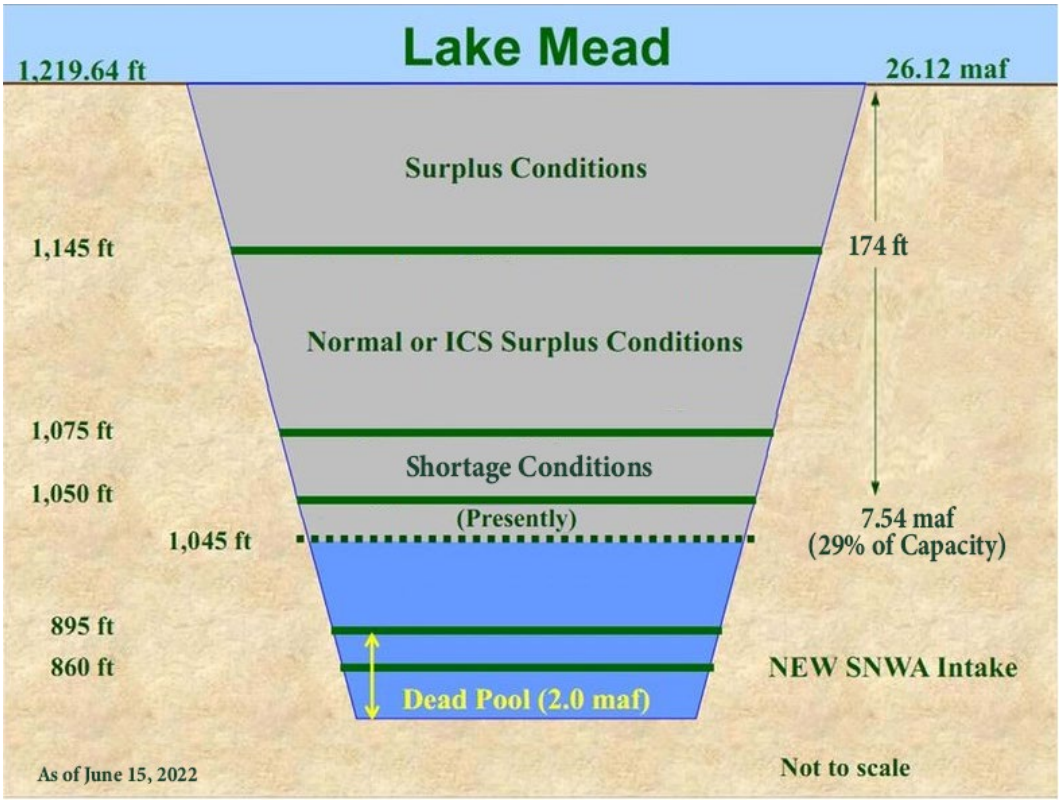


Figure 7. Lake Mead Schematic (June 15, 2022)

The flexibility that IID was allowed in 2013 and 2014 is no longer available to the district. Under the terms of the IOPP, no overruns are allowed in a year when payback is required. IID has not experienced any overrun pay back since 2014 as noted in **Table 13**. Under shortage conditions, IID would use any conserved water stored in a non-System reservoir, if available, to prevent any overrun.

Table 13. IID Inadvertent Overrun Payback to the Colorado River under the IOPP, 2012-2022

Calendar Year of Payback	2011 Overrun Payback (AF)	2012 Overrun Payback (AF)	Payback Total for Calendar Year (AF)
2013	55,710	-	55,710
2014	20,662	134,076	154,738
Total Payback	**76,372**	**134,076**	**210,448**

Notes: All values are consumptive use volumes at Imperial Dam (AF).
2013 Payback Total was 62 KAF, but in 2012 IID had 6,290 AF of early payback, reducing volume to 55,710 AF

The 2013 IOPP payback obligation, prohibition on overruns in payback years, and suspension of this flexibility during shortage conditions led the IID Board to implement an apportionment program pursuant to the 2007 EDP, which has been subsequently revised and modified over the years. The Revised 2022 EDP is a version approved and adopted by the IID Board on June 21, 2022 (see Attachment B). The Revised 2022 EDP also establishes a water exchange clearinghouse to facilitate the movement of water supply between all water users and water user categories. The established water user categories are 1) agricultural water users, 2) industrial/commercial water users and 3) potable water users. As designed, the clearinghouse will allow IID and its water customers to balance water demands with the water supplies that are available to all users.

Generally, the EDP Apportionment, as discussed in the proceeding section, is not expected to impact industrial/commercial uses. However, given the certainty of continuing drought on the Colorado River through 2026 and other stressors, provisions such as the 2012 IWSP Water Agreement sections 3.7 and 3.8 as well for dry and multiple dry year water assessment may come into effect. IID has agreed to work with Project proponents to ensure to the extent possible that the IWSP Water Supply Agreement terms will not adversely impact Project operation. For purposes of this WSA, years with a shortage condition that impacts non-agricultural projects such as an IOPP payback obligation constitute "dry" years for IID. For single-dry year and multiple-dry water year assessments, IID's EDP shall govern.

Equitable Distribution Plan (EDP) History

A 2006 study by Hanemann and Brookes suggested that overrun conditions were likely to occur 40-50 percent of the years during the decade following the report. Under such conditions a supply/demand imbalance would occur resulting in a need to apportion water consistent with state law. Under California state law, water must be distributed equitably as determined by the IID Board of Directors.

On November 28, 2006, the IID Board of Directors adopted Resolution No 22-2006 approving development and implementation of an Equitable Distribution Plan to address times when customers' demand would exceed IID's Colorado River supply. The EDP, adopted in 2007 allowed the IID Board to institute an apportionment program. As part of this resolution, the IID Board directed the General Manager to prepare the rules and regulations necessary or appropriate to implement the plan within the district. The EDP Regulations were created to enable IID to implement a water management tool (apportionment) to address years in which water demand is expected to exceed supply.

It was expected that an annual EDP Apportionment would be established for each of the next several years, if not for the duration of the QSA. However, the implementation of the EDP apportionment was legally challenged in 2013 with litigation ensuing through 2017 when a statement of decision was issued by the trial court, followed by a writ of mandate and a declaratory judgment later that year. The writ of mandate directed IID to repeal the EDP. On February 6, 2018, the IID board approved a resolution repealing the EDP while the case was on appeal. On July 16, 2020, the appellate court reversed the writ of mandate and declaratory judgment on almost all grounds, including declaratory relief on the water rights issue and IID's discretion to determine the method of apportionment except for a provision as to how water was prioritized

among water user categories. The court ruled that the district is required to distribute water equitably for all categories of users.

On June 21, 2022, IID adopted a revised EDP to address the single outstanding legal issue with respect to prioritization of apportionments among categories of water users. The revised EDP also updated certain operational provisions and most importantly, to the extent feasible, provides for a defined quantity of available, annual water supply apportioned to each water user to prevent cumulative demands from exceeding IID's available, authorized annual Colorado River supply (Appendix B-Equitable Distribution Plan). Implementation of the EDP will resume January 1, 2023, and continue annually thereafter consistent with the adopted EDP. For details regarding the EDP and its implementation, including related forms, please visit IID's website at Equitable Distribution | Imperial Irrigation District (iid.com).

Projected Water Supplies

The projected and continued decline in runoff and prolonged drought conditions in the West are expected to contribute to even lower water elevation levels at Lakes Powell and Mead. The Department of the Interior made the decision in early 2022 to protect critical Lake Powell elevations above Glen Canyon Dam by adding 500,000 AF of water from Flaming Gorge reservoir and temporarily reducing the 2022 annual operational release to Lake Mead by 480,000 AF. These conditions resulted in a reduced water apportionment to most of the Lower Division States and Mexico for 2022, but did not affect IID's water supply for consumptive use.

Despite the Department's extraordinary actions, the hydrological forecasts and reservoir elevations have continued to decline. Basin states have been asked to develop a plan in 2022 to reduce demands by 2-4 million acre-feet per year through 2026 or the Secretary of the Interior would take regulatory action to force these reductions in order to protect the Colorado River system from the prolonged drought conditions and climate change impacts. California reductions, or the potential for regulatory reductions by the Secretary of the Interior remain undefined as of the date of this water supply assessment for the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project.

IID is working diligently with federal agencies and Colorado River contractors to minimize impacts to the local community. In this vein, IID recognizes the need for significant response actions to protect the long-term water supply certainty for the Imperial Valley as the Colorado River operates under these unprecedented conditions. On October 5, 2022 the Colorado River Board of California, in partnership with representatives of the four primary California Section 5 contractors (IID, Palo Verde Irrigation District, Coachella Valley Water District and Metropolitan Water District of Southern California) submitted a letter to the Department of Interior proposing for California to conserve up to an additional 400,000 AF of water in Lake Mead each year, beginning in 2023 and extending through 2026, to assist with stabilizing Colorado River reservoir elevations. IID has gone on record that its share of the California proposal would not exceed 250,000 AFY. IID proposes to conserve its contribution to Lake Mead via system and on-farm efficiency conservation and temporary fallowing.

PROJECT WATER AVAILABILITY FOR A 20-YEAR PERIOD TO MEET PROJECTED DEMANDS

The proposed Project will obtain drinking water from a certified State of California provider. The primary source of fresh water for the facility is anticipated to be irrigation water made available under a supply contract and purchased through IID. Water will be obtained from the "Q" and "R" laterals adjacent to the Project site. Water will be transferred to a water storage pond, with a capacity of approximately 18 acre-feet (AF), located adjacent to the Q Drain. The water would then be transferred to 100,000-gallon aboveground water storage tank via an aboveground fresh-water pipeline. Additional pipelines will be constructed to transport the water from the water storage tank to the power plant facility. The water will be used for steam wash water, purged water for pump seals, and the RO potable water system, process wash water, and, at times, cooling water makeup. The project is designed to minimize reliance on external sources of water supply for process needs as well by using condensed steam from the geothermal steam condensate to the greatest extent practical. A filtration-based or RO potable water system will be used to process IID fresh water for the non-drinking potable water needs at the site. A Nontransient-Noncommunity Water System Permit will be obtained from ICPHD for the onsite potable water system. Bottled drinking water will be purchased for consumption.

Untreated Colorado River water will be supplied to the project via the adjacent "Q" and "R" laterals under a(n) Industrial Water Supply Agreement with IID. The Project is located on vacant land that is generally undeveloped. On June 14, 2017, the County authorized Geothermal CUP #16-0001, which allowed construction of up to four well pads as well as drilling and maintenance of up to six separate geothermal exploratory wells on the Project site. A well pad, Well Pad 1, north of Alcott Road and west of Davis Road, and two geothermal wells were constructed on the site in 2021. Rough grading for Well Pad 3, south of Noffsigner Road and east of Davis Road began in November 2021. The remaining Project site is undeveloped. Areas to the north and south of the Project site consist of undeveloped open space. Area to the west is open space followed by the Salton Sea. The State of California manages a wildlife management area, including waterfowl ponds to the east of the Project site. The Project is not currently receiving water from IID but will receive water from gates Q-28 and R-24 which are currently in working condition. As the Project site is largely undeveloped at this time, water use will increase with implementation of proposed project.

As noted previously, under the terms of California legislation adopted to facilitate the QSA/Transfer Agreements and enacted in CWC Section 1013, the IID board adopted the TLCFP to address how to deal with any such temporary reduction of water use by projects such as solar projects that are developed under a CUP.

While conserved water generated from the TLCFP is limited by law for use for water transfer or environmental purposes, by satisfying multiple district objectives the TLCFP serves to reduce the need for

efficiency conservation and other water use reduction practices on the part of IID and its water users providing the district with wide benefits. One of the considerations in developing the TLCFP was to provide agricultural landowners with long-term assurances from IID that, at Project termination, irrigation service would be available for them to resume farming operations.

IWSP Water

At the present time, IID is providing water delivery service for use by solar energy generation projects under Water Rate Schedule 7 General Industrial Use. If IID determines that the proposed Project should obtain water under IID's Interim Water Supply Policy (IWSP) for non-agricultural projects in addition to delivery rates under Schedule 7 General Industrial Use, the Applicant may need to initiate the process to secure a water supply agreement. IID will determine whether the Project should obtain water under IID's Interim Water Supply Policy (IWSP) for non-agricultural projects in addition to Schedule 7 General Industrial Water.

The IWSP, provided herein as Attachment A, designates up to 25,000 AFY of water for potential Non-Agricultural Projects within IID's water service area. As of January 2023, IID has up to 23,020 AF that it may make available under the IWSP for new projects such as the proposed project. The IWSP establishes a schedule for Processing Fees, Reservation Fees, and Connection Fees that change each year for all non-agricultural projects, and annual Water Supply Development fees for some non-agricultural projects. The proposed Project's water use will be subject to the annual Water Supply Development fee if IID determines that water for the Project is to be supplied under the IWSP.

Given the Colorado River conditions, the likelihood that IID will not receive its annual 3.1 MAF apportionment less QSA/Transfer Agreement obligations of Colorado River water is no longer low despite the high priority of the IID entitlement relative to other Colorado River contractors, see IID's Water Rights section on page 22 and projected water supplies. Given the prolonged drought conditions and recent communication from the Department of the Interior, reductions to all basin contractors, including IID, are increasingly likely. If such obligatory reductions were to come into effect within the 20-year Project life, the Applicants are to work with IID to ensure any anticipated reduction can be managed.

The County of Imperial as the lead agency has a responsibility to determine if the current and projected demands and water supply conditions, including projected uncertainties of Colorado River hydrology are sufficient to enable the County to make the findings necessary to approve this WSA. IID, like any water provider, has jurisdiction to manage the water supply within its service area and impose conservation measures during a period of temporary water shortage, such as the one we are experiencing now.

Hell's Kitchen PowerCo 1 and LithiumCo 1

Water for construction (primarily for dust control) would be obtained from IID canals or laterals in conformance with IID rules and regulations for MCI temporary water use.[20] Water would be picked up

[20] *Complete the Application for Temporary Water Use and submit to Division office. Complete encroachment permit through Real Estate – non-*

from a nearby canal or lateral and delivered to the construction location by a water truck capable of carrying approximately 4,000 gallons per load. To obtain water delivery service, the Project proponent will complete an IID-410 Certificate of Ownership and Authorization (Water Card), which allows the Water Department to provide the district with information needed to manage the district apportioned water supply. Water cards are used for Agriculture, Municipal, Industrial and Service Pipe accounts. If water is to be provided under IWSP in addition to Schedule 7. General Industrial Use, the Applicant may also need to enter into a IWSP Water Supply Agreement.

refundable application fee of $250, se. IID website: Real Estate / Encroachments, Permissions, and Other Permitting. Fee for temporary service water: Schedule No. 7 General Industrial Use / Temporary Service Minimum charge for up to 5 AF, pay full flat fee for 5 AF at General Industrial Use rate ($425); use more than 5 AF, pay fee for actual use at General Industrial Rate ($85/AF).

EXPECTED WATER DEMANDS FOR THE PROPOSED PROJECT

Water for the proposed Project will be needed on-site for The water will be used for steam wash water, purged water for pump seals, and the RO potable water system, process wash water, and, at times, cooling water makeup. use. Untreated Colorado River water will be supplied to the project via the adjacent "Q" and "R" laterals under a(n) Industrial Water Supply Agreement with IID. The Project is located on vacant land that is generally undeveloped. On June 14, 2017, the County authorized Geothermal CUP #16-0001, which allowed construction of up to four well pads as well as drilling and maintenance of up to six separate geothermal exploratory wells on the Project site. A well pad, Well Pad 1, north of Alcott Road and west of Davis Road, and two geothermal wells were constructed on the site in 2021. Rough grading for Well Pad 3, south of Noffsigner Road and east of Davis Road began in November 2021. The remaining Project site is undeveloped. Areas to the north and south of the Project site consist of undeveloped open space. Area to the west is open space followed by the Salton Sea. The State of California manages a wildlife management area, including waterfowl ponds to the east of the Project site. The Project is not currently receiving water from IID but will receive water from gates Q-28 and R-24 which are currently in working condition. As the Project site is largely undeveloped at this time, water use will increase with implementation of proposed project.

Project raw water uses are summarized in **Table 14**.

Table 14. Project Operational Water Uses (AFY)

Use	Acre-Feet per Year
Raw Water for Construction (2 years @ 240 AFY)	480
Raw Water for HKP1 Operations (46 years @ 200 AFY)	9,200
Raw Water for HKL1 Operations (46 years @ 6,300 AFY)	289,800
Raw Water for Decommissioning (2 years @ 240 AFY)	480
TOTAL RAW WATER USAGE OVER 50-YEAR LIFE OF PROJECT[21]	299,960

IID delivers untreated Colorado River water to the proposed Project site for agricultural uses through the following gates and laterals. The 10-year record for 2013-2022 of water delivery accounting is shown in **Table 15.** The data documents a 10-year average of 131.3 AFY.

Table 15. Ten-Year Historic Delivery (AFY), 2013-2022

Canal/Gate	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Q-28	193.2	83.1	119.3	111.9	95.2	102	148.4	120	122.3	94.3
R-24	14.3	0	0	0	0	0	0	0	8.2	100.5
TOTAL	207.5	83.1	119.3	111.9	95.2	102	148.4	120	130.5	194.8

Source: IID Staff, 2023 (Contact Justina Gamboa-Arce)

The proposed Project has an estimated total operational water demand (includes 2 years of construction and 18 years of operation) of 117,480 AF or 5,874 AFY amortized over a 20-year term (for all delivery gates for Project). Thus, the proposed Project demand is a increase of 5,742.7 AFY from the historical

[21] Includes water for fire suppression.

10-year average or 4,373.7 percent (4,373.7 %) more than the historic 10-year average annual delivery for agricultural uses at the proposed Project site. The proposed Project's estimated operational water demand represents only 25.5 percent (25.5%) of the 23,020 AYF balance of water supply that may be available for contracting under the IWSP.

IID's Ability to Meet Demands With Water Supply

Under normal operating conditions, non-agricultural water demands for the IID water service area are projected for 2025-2055 in **Table 5**, and IID agricultural demands including system operation are projected for 2025-2055 in **Table 6**, all volumes within the IID water service area. IID water supplies available for consumptive use after accounting for mandatory transfers are projected to 2077 in **Table 11** (Column 11), volumes at Imperial Dam.

To assess IID's ability to meet future water demands, IID historic and forecasted demands are compared with CRWDA Exhibit B net availability under its water supply entitlement, volumes at Imperial Dam Table (Column 11). The analysis requires accounting for system operation consumptive use within the IID water service area, from AAC at Mesa Lateral 5 to Imperial Dam, and for water pumped for use by the USBR Lower Colorado Water Supply Project (LCRWSP), an IID consumptive use component in the USBR Decree Accounting Report. IID system operation consumptive use for 2021 is provided in **Table 16** to show the components to be included in the calculation of 2021 volumes in comparison to 2020.

Table 16. IID System Operations Consumptive Use within IID Water Service Area and from AAC at Mesa Lateral 5 to Imperial Dam, (KAF), 2022

	2020 Operational Consumptive Use (KAF)	2022 Operational Consumptive Use (KAF)
IID Delivery System Evaporation	24.4	24.8
IID Canal Seepage	90.8	89.4
IID Main Canal Spill	10.1	10.6
IID Lateral Canal Spill	121.5	122.4
IID Seepage Interception	-39.0	-33.8
IID Unaccounted Canal Water	-40.0	-161.4
Total IID System Operational Use, within water service area	167.8	**52.0**
"Losses" from AAC @ Mesa Lat 5 to Imperial Dam	9.2	44.2
LCWSP pumpage	-10	-10
Total System Operational Use in 2020 and 2022	167.0	**86.2**

Sources: 2022 IID Water Balance Rerun 03/28/2023

Notwithstanding and regulatory water supply cuts from the Secretary of Interior, IID's ability to meet customer water demands through 2055 as shown in **Table 17** is based on the following:

- Non-agricultural use from **Table 5.**
- Agricultural and Salton Sea mitigation uses from **Table 6**.
- CRWDA Exhibit B net available for IID consumptive use from **Table 17** .
- System operation consumptive use from **Table 16** for 2022.

Table 17. IID Historic and Forecasted Consumptive Use vs CRWDA Exhibit B IID Net Available Consumptive Use, volumes at Imperial Dam (KAFY), 2015-2055

	2015	2020	2025	2030	2035	2040	2045	2050	2055
Non-Ag Delivery	110.1	113.2	133.1	142.9	151.4	163.2	175.4	188.4	199.3
Ag Delivery	2,156.8	2,165.4	2,259.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5
QSA SS Mitigation Delivery	153.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
System Op CU in IID & to Imperial Dam	220.2	167.0	230.5	225.4	225.4	225.4	225.4	225.4	225.4
IID CU at Imperial Dam	2,480.9	2,493.7	2,623.1	2,577.8	2,586.3	2,598.1	2,610.3	2,623.3	2,634.2
Exhibit B IID Net Available for CU at Imperial Dam	2,480.9	2,652.0	2,617.8	2,612.8	2,612.8	2,612.8	2,612.8	2,665.8	2,665.8
IID Underrun/Overrun at Imperial Dam	-90.0	-98.1	-5.30	35.00	26.50	14.70	2.50	42.50	31.60

Notes: 2015 Provisional Water Balance and 2020 Provisional Water Balance run on 1/25/21
Non-Ag Delivery CI 15.0%, Ag Delivery CI 3.0%, QSA SS mitigation CI 15%
QSA Salton Sea Mitigation Delivery terminated on 12/31/2017.
Underrun /Overrun = IID CU at Imperial Dam minus CRWDA Exhibit B Net Available
Notes: Ag Delivery for 2020-2055 does not take into account land conversion for solar use nor reduction in agricultural land area due to urban expansion. ***Next Update in 2026 through 2055.***

As shown above, IID forecasted demand has the potential to exceed CRWDA Exhibit B Net Consumptive Use volumes during several time intervals through the lifespan projection for the Project. However, due to temporary land conversion for solar use and urban land expansion that will reduce agricultural acres in the future, a water savings of approximately 217,000 AFY will likely be generated into the future and for the lifetime of the proposed Project.

In addition, USBR 2020 Decree Accounting Report states that IID Consumptive Use was 2,493.7 KAF (excludes 1,579 AF of ICS for storage in Lake Mead and an additional 49,444 AF of conserved water left on the Colorado River system) with an underrun of -98.1 KAF, as reported by IID in 2020 Annual SWRCB Report per WRO 2002-2013; that is, IID used less than the amount in its approved Water Order (2,615,300 AF). **Table 18**.

Table 18. 2020 Approved Water Order, Actual CU (Decree Accounting Report) and IID Underrun, KAF at Imperial Dam

IID Approved Water Order	2,625.3 less 10 supplied by LCWSP and less 26 of additional conserved water
IID Consumptive Use	2,493.7
IID Underrun /Overrun	**-98.1**
Sources: *2020 IID Revised Water Order, approved on March 10, 2020, 2020 Decree Accounting Report, and* *2020 Annual Report of IID Pursuant to SWRCB Revised Order WRO 2002-2013*	

As reported in the 2021 Annual Water & QSA Implementation Report and 2022 SWRCB Report and presented in **Table 12**, from 2013 to 2021 IID consumptive use (CU) resulted in underruns; i.e., annual CU was less than the district's QSA Entitlement of 3.1 MAFY minus QSA/Transfer Agreements obligations. This would indicate that even though **Table 17** shows IID Overrun/Underrun at Imperial Dam exceeding

CRWDA Exhibit B Net Available for CU, for the 50-year life of the proposed Project, IID consumptive use may be less than forecasted.

Meanwhile, forecasted Ag Delivery reductions presented in **Table 6** are premised on implementation of on-farm practices that will result in efficiency conservation. These reductions do not take into account land conversion for solar projects nor reduction in agricultural land area due to urban expansion; that is to say, the forecasted Ag Delivery is for acreage in 2003 with reduction for projected on-farm conservation efficiency. Thus, Ag Delivery demand may well be less than forecasted in **Table 6**. In any case, the proposed Project will use less water than the historical agricultural demand of proposed Project site, so the proposed Project will ease rather than exacerbate overall IID water demands.

In the event that IID has issued water supply agreements that exhaust the 25 KAFY IWSP set aside, and it becomes apparent that IID delivery demands due to non-agriculture use are going to cause the district to exceed its quantified 3.1 MAFY entitlement less QSA/Transfer Agreements obligations, IID has identified options to meet these new non-agricultural demands. These options include (1) tracking water yield from temporary land conversion from agricultural to non-agricultural land uses (renewable solar energy); and (2) only if necessary, developing conservation projects to expand the size of the district's water supply portfolio.

These factors will be discussed in the next two sections, Tracking Water Savings from Growth of Non-Agricultural Land Uses and Expanding Water Supply Portfolio**.**

Tracking Water savings from Growth of Non-Agricultural Land Uses

The Imperial County Board of Supervisors has targeted up to 25,000 acres of agricultural lands, about 5 percent (5%) of the farmable acreage served by IID, for temporary conversion to solar farms; because the board found that this level of reduction would not adversely affect agricultural production. As reported for IID's Temporary Land Conversion Fallowing Program, existing solar developments at the end of 2022 have converted 13,177 acres of farmland. These projects had a yield at-river of 69,898 AF of water in 2022. The balance of the 25,000-acre agriculture-to-solar policy is 11,823 acres. On average, each agricultural acre converted reduces agricultural demand by 5.1 AFY, which results in a total at-river yield (reduction in consumptive use) of 127,500 AFY.

However, due to the nature of the conditional use permits under which solar farms are developed, IID cannot rely on this supply being permanently available. In fact, should a solar project decommission early, that land may go immediately back to agricultural use (it remains zoned an agricultural land). Nevertheless, during their operation, the solar farms do ameliorate pressure on IID to implement projects to meet demand from new non-agricultural projects.

Unlike the impact of solar projects, other non-agricultural uses are projected to grow, as reflected in the nearly 87.5 percent (87.5%) increase in non-agricultural water demand from 107.4 KAF in 2015 to 201.4

KAF in 2055 reflected herein in **Table 5.**This increase in demand of 94 KAFY is likely to be offset by reductions in agricultural lands; however, as the land remains zoned as agricultural land, that source is not reliable to be permanently available to IID.

The amount of land developed for residential, commercial, and industrial purposes is projected to grow by 55,733 acres from 2015 to 2050[22] within the sphere of influence of the incorporated cities and specific plan areas in Imperial County. A conservative estimate is that such development will displace at least another 24,500 acres of farmland based on the Imperial Local Agency Formation Commission (LAFCO) sphere of influence maps and existing zoning and land use in Imperial County. At 5.13 AFY yield at-river, there would be a 125,000 AFY reduction IID net consumptive use. However, the total acreage from actual annexations that have resulted in reductions to agricultural acreage between 2015 and 2021 has been 2,224 acres, according to IID's annual inventory of total farmable land which is consistent with the acreage gain to non-agricultural land uses (2,224 acres) and based on annexation records obtained through the Imperial County Local Agency Formation Commission. This shift in acreage documents a growth rate of approximately 50 percent of the originally projected rate.

The total foreseeable solar project temporary yield at-river (91,800 AFY) and municipal development permanent yield at-river, conservatively adjusted (65,000 AFY) is to reduce forecasted IID net consumptive use at-river 156,800 AFY, which is more than enough to meet the forecast Demand minus Exhibit B Net Available volumes shown in **Table 10.** This Yield at-river is sufficient to meet the forecasted excess of non-agricultural use over Net Available supply within the IID service area for the next 20 years, as is required for SB 610 analysis (assuming there are no regulatory cuts to IID's full entitlement).

Farmland retirement associated with municipal development would reduce IID agricultural delivery requirements beyond the efficiency conservation projections shown in **Table 6** and **Table 17**. Therefore, in the event that Schedule 7 General Industrial Use water has exhausted its apportioned amount, the Applicants will rely on IID IWSP water to supply the Project, as discussed above in the Projected Water Availability section.

Expanding Water Supply Portfolio

While forecasted long-term annual yield-at-river from the reduction in agricultural acreage due to municipal development in the IID service area is sufficient to meet the forecasted excess of non-agricultural use over CRWDA Net Available supply (**Table 11**) without regulatory cuts and without expanding IID's Water Supply Portfolio, IID has also evaluated the feasibility of a number of capital projects to increase its water supply portfolio.

As reported in 2012 Imperial IRWMP Chapter 12, IID contracted with GEI Consultants, Inc. to identify a range of capital project alternatives that the district could implement. Qualitative and quantitative screening criteria and assumptions were developed in consultation with IID staff. Locations within the

[22] IRWMP, Chapter 5, Table 5-14.

IID water service area with physical, geographical, and environmental characteristics most suited to implementing short- and long-term alternatives were identified. Technical project evaluation criteria included volumes of water that could be delivered and/or stored by each project, regulatory and permitting complexity, preliminary engineering components, land use requirements, and costs.

After preliminary evaluation, a total of 27 projects were configured:

- 17 groundwater or drain water desalination
- 2 groundwater blending
- 6 recycled water
- 1 groundwater banking
- 1 IID system conservation (concrete lining)

Projects were assessed at a reconnaissance level to allow for comparison of project costs. IID staff and the board identified key factors to categorize project alternatives and establish priorities. Lower priority projects were less feasible due to technical, political, or financial constraints. Preferential criteria were features that increased the relative benefits of a project and grant it a higher priority. Four criteria were used to prioritize the IID capital projects:

1. **Financial Feasibility.** Projects whose unit cost was more than $600/AF were eliminated from further consideration.
2. **Annual Yield.** Project alternatives generating 5,000 AF or less of total annual yield were determined not to be cost-effective and lacking necessary economies of scale.
3. **Groundwater Banking.** Groundwater banking to capture and store underruns is recognized as a beneficial use of Colorado River water. Project alternatives without groundwater banking were given a lower priority.
4. **Partnering.** Project alternatives in which IID was dependent on others (private and/or public agencies) for implementation were considered to have a lower priority in the IID review; this criterion was reserved for the IRWMP process, where partnering is a desirable attribute.

Based on these criteria, the top ten included six desalination, two groundwater blending, one system conservation, and one groundwater storage capital projects. These capital projects are listed in **Table 19** which follows.

Table 19. IID Capital Project Alternatives and Cost (May 2009 price levels $)

Name	Description	Capital Cost	O&M Cost	Equivalent Annual Cost	Unit Cost ($/AF)	In-Valley Yield (AF)
GW 18	Groundwater Blending E. Mesa Well Field Pumping to AAC	$39,501,517	$198,000	$2,482,000	$99	25,000
GW 19	Groundwater Blending: E. Mesa Well Field Pumping to AAC w/Percolation Ponds	$48,605,551	$243,000	$3,054,000	$122	25,000
WB 1	Coachella Valley Groundwater Storage	$92,200,000	$7,544,000	$5,736,746	$266	50,000
DES 8	E. Brawley Desalination with Well Field and Groundwater Recharge	$100,991,177	$6,166,000	$12,006,000	$480	25,000
AWC 1	IID System Conservation Projects	$56,225,000	N/A	$4,068,000	$504	8,000
DES 12	East Mesa Desalination with Well Field and Groundwater Recharge	$112,318,224	$6,336,000	$12,831,000	$513	25,000
DES 4	Keystone Desalination with IID Drainwater/ Alamo River	$147,437,743	$15,323,901	$23,849,901	$477	50,000
DES 14	So. Salton Sea Desalination with Alamo River Water and Industrial Distribution	$158,619,378	$15,491,901	$24,664,901	$493	50,000
DES 15	So. Salton Sea Desalination with Alamo River Water and MCI Distribution	$182,975,327	$15,857,901	$26,438,901	$529	50,000
DES 2	Keystone Desalination with Well Field and Groundwater Recharge	$282,399,468	$13,158,000	$29,489,000	$590	50,000

Source: Imperial IRWMP, Chapter 12; see also Imperial IRWMP Appendix N, IID Capital Projects

IID Near Term Water Supply Projections

As mentioned above, IID's quantified Priority 3(a) water right under the QSA/Transfer Agreements secures 3.1 MAF per year, less transfer obligations of water for IID's use from the Colorado River, without relying on rainfall in the IID service area. Even with this strong entitlement to water, IID actively promotes on-farm efficiency conservation and is implementing system efficiency conservation measures including seepage recovery from IID canals and the All-American Canal (ACC) and measures to reduce operational discharge. As the IID website Water Department states:

> Through the implementation of extraordinary conservation projects, the development of innovative efficiency measures and the utilization of progressive management tools, the IID Water Department is working to ensure both the long-term viability of agriculture and the continued protection of water resources within its service area.

Overall, agricultural water demand in the Imperial Valley will decrease due to IID system and grower on-farm efficiency conservation measures that are designed to maintain agricultural productivity at pre-QSA levels while producing sufficient yield-at-river to meet IID's QSA/Transfer Agreements obligations. These efficiencies combined with the conversion of some agricultural land uses to non-agricultural land uses (both solar and municipal), ensure that IID can continue to meet the water delivery demand of its

existing and future agricultural and non-agricultural water users, including this Project for the next 20 years and for the life of the proposed Project under a water supply consistent with the district's full entitlement.

IMPERIAL COUNTY PLANNING AND DEVELOPMENT SERVICES (LEAD AGENCY) FINDINGS

IID serves as the regional wholesale water supplier, importing raw Colorado River water and delivering it, untreated, to agricultural, municipal, industrial, environmental, and recreational water users within its water service area. Imperial County Planning and Development Services serves as the responsible agency with land use authority over the proposed project. Imperial County Planning and Development Services Water Assessment findings are summarized as follows, based on the information contained herein and as supported by IID water supply data:

1. IID's annual entitlement to consumptive use of Colorado River water is capped at 3.1 MAF less water transfer obligations, pursuant to the QSA and Related Agreements. Under the terms of the CRWDA, IID is implementing efficiency conservation measure to reduce net consumptive use of Colorado River water needed to meet its QSA/Transfer Agreements obligations while retaining historical levels of agricultural productivity.
2. In 2022 IID consumptively used 2,577,164 AF of Colorado River water (volume at Imperial Dam); 2,486,061 AF were delivered to customers (including recreational and environmental water deliveries) of which 2,368,642 AF or 95 percent went to agricultural users as per IID's Water Balance run on 3/30/2023.
3. Reduction of IID's net consumptive use of Colorado River water under the terms of the Colorado River Water Delivery Agreement is to be the result of efficiency conservation measures. Crop water use in the Imperial Valley will not decline under these conditions, however IID operational spill and tailwater from field runoff will decline as efficiency conservation measures are implemented, impacting the Salton Sea.
4. The dependability of IID's water rights, Colorado River flows, and Colorado River storage facilities for Colorado River water alone are not sufficient to assure water availability for the Project. The prolonged drought conditions on the Colorado River Basin have made it increasingly likely that the water supply of IID may be disrupted, in dry years or/and under shortage conditions. Mexico, Arizona, and Nevada, which have lower priority than IID, have already experienced Tier 1 and Tier 2a reductions in 2022 as a result of the declared Colorado River water shortage.
5. Due to ongoing Colorado River drought conditions, Lake Mead's declining elevation, reduced inflows from Lake Powell, and the suspension of the federal Inadvertent Overrun and Payback Policy, which eliminates IID's ability to overrun its 3.1 MAF annual entitlement during water shortage conditions, the IID Board has implemented an annual apportionment program (otherwise known as the Equitable Distribution Plan or EDP).
6. IID's EDP apportions the available water supply among all its water users equitably and among three water user categories 1) agricultural water users, 2) commercial/industrial water users, and

3) potable water users. Apportionment into these categories as a whole is initiated after deducting from the available water supply water for operational system needs, system conservation yields, environmental mitigation requirements, recreational uses, and similar unmeasured small pipe account water uses. See Attachment B -Equitable Distribution Plan.

7. Historically, IID has never been denied the right to use the annual volume of water it has available for its consumptive uses under its entitlement. Nevertheless, IID is participating in discussions for possible actions in response to continued extreme drought on the Colorado River.

8. The proposed Project has an estimated total water demand of 117,480**Amount** AF or 5,874 AFY amortized over a 20-year term (for all delivery gates for Project). Thus, the proposed Project demand is an increase of 5,742.7 AFY from the historical 10-year average of 131.3 AFY, a 4,373.7 percent (4,373.7 %), increase from the historic 10-year average annual delivery for agricultural uses at the proposed Project site.

9. The Project's water delivery will be covered under the Schedule 7 General Industrial Use. In the event that IID determines that the proposed Project is to utilize IWSP for Non-Agricultural Projects water, the Applicant will also need to enter into an IWSP Water Supply Agreement with IID. In which case, the proposed Project would use 25.5 percent (25.5%) of the 23,020 AYF of IWSP water.

10. Based on the Environmental Impact Report (EIR) prepared for this proposed Project pursuant to the CEQA, California Public Resources Code sections 21000, *et seq*. (SCH No. _____), Imperial County Planning and Development Services hereby finds that the IID projected water supply is sufficient to satisfy the demands of this proposed Project in addition to existing and planned future uses, including agricultural and non-agricultural uses for a 20-year Water Supply Assessment period and for the 50-year proposed Project life.

ASSESSMENT CONCLUSION

This Water Supply Assessment has determined that IID water supply **is/is not** adequate for the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project (proposed Project). The Imperial Irrigation District's IWSP for Non-Agricultural Projects dedicates 25,000 AF of IID's annual water supply to serve new projects. As of January 2023, a total of 23,020 AF per year remain available for new projects providing reasonably sufficient supplies for new non-agricultural water users that enter into a Water Supply Agreement with IID. Imperial County Planning and Development Services estimates a cumulative, non-agricultural project water supply demand of approximately 5,874 AFY within the foreseeable 20-year planning period.

New, non-agricultural projects may be susceptible to delivery cutbacks when an EDP Apportionment is exhausted, thus all approved projects require best management practices and water use efficiency at all times. Given the prolonged drought conditions and recent communication to IID from the Department of the Interior, reductions to all basin contractors, including IID and its water customers, are increasingly likely. If such reductions were to come into effect within an approved project's 20-year life, the Applicants are to work with IID to ensure any anticipated reduction can be managed.

Under an authorized water supply agreement, the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project will be required to acknowledge and accept as a condition of water service that to the extent that IID receives an order or directive from a governmental authority, having appropriate jurisdiction, that reduces the total volume of water available to IID from the Colorado River during all or any part of their water service agreement, IID may reduce the water service agreement amount, as directed by the IID Board, as a proportionate reduction of the total volume of water available to IID. This reduction is separate from and in addition to any allocation authorized pursuant to the EDP.

The Project's water demand of approximately 117,480 AF and 5,874 AFY amortized over 20 years represents 25.5 % of the unallocated supply set aside in the IWSP for non-agricultural projects, and approximately 2.9 percent (2.9 %) of forecasted future non-agricultural water demands planned in the Imperial IRWMP by 2055 (201.4 KAFY). The water demand for the proposed Project represents a 4,373.7 % increase from the 10-year average historic average agricultural water use for 2013-2022 at the proposed Project site, a increase in water use of 5,742.7 AFY at full build-out.

For all the reasons described herein, the historical stability of the IID water supply, the amount of foreseeable water available, along with on-farm and system efficiency conservation and other measures being undertaken by IID and its customers suggest that the Hell's Kitchen PowerCo 1 and LithiumCo 1 Project's water needs will be reasonably met for the next 20 years as assessed for compliance under SB-610.

RESOURCES AND REFERENCES

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5. Imperial Irrigation District. (2022). IID Interactive GIS Water Service Area Map. Imperial, CA.

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7. Imperial Irrigation District. (2012). Temporary Land Conversion Fallowing Policy (TLFCP) for Water Conservation Yield Water conservation yield attributable to land removed from agricultural production and temporarily fallowed. Updated March 27, 2018.

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13. United States Bureau of Reclamation Lower Colorado Region Website: Boulder Canyon Operations Office – Programs and Activities, Lower Colorado River Water Accounting, Water Accounting Reports (1964 - 2015). Compilation of Records in Accordance with Article V of the Decree of the Supreme Court of the United States in Arizona v. California Dated March 9, 1964: Calendar Years 1964 - 2015 Boulder City, NV.

ATTACHMENTS

Attachments

Attachment A: IID Interim Water Supply Policy for Non-Agricultural Projects

Attachment B: IID 2022 Equitable Distribution Plan, revised June 21, 2022

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ATTACHMENT A: IID INTERIM WATER SUPPLY POLICY FOR NON-AGRICULTURAL PROJECTS[23]

1.0 Purpose.

Imperial Irrigation District (the District) is developing an Integrated Water Resources Management Plan (IWRMP) [24] that will identify and recommend potential programs and projects to develop new water supplies and new storage, enhance the reliability of existing supplies, and provide more flexibility for District water department operations, all in order to maintain service levels within the District's existing water service area. The first phase of the IWRMP is scheduled to be completed by the end of 2009 and will identify potential projects, implementation strategies and funding sources. Pending development of the IWRMP, the District is adopting this Interim Water Supply Policy (IWSP) for Non-Agricultural Projects, as defined below, in order to address proposed projects that will rely upon a water supply from the District during the time that the IWRMP is still under development. It is anticipated that this IWSP will be modified and/or superseded to take into consideration policies and data developed by the IWRMP.

2.0 Background.

The IWRMP will enable the District to more effectively manage existing water supplies and to maximize the District's ability to store or create water when the available water supplies exceed the demand for such water. The stored water can be made available for later use when there is a higher water demand. Based upon known pending requests to the District for water supply assessments/verifications and pending applications to the County of Imperial for various Non-Agricultural Projects, the District currently estimates that up to 50,000 acre feet per year (AFY) of water could potentially be requested for Non-Agricultural Projects over the next ten to twenty years. Under the IWRMP the District shall evaluate the projected water demand of such projects and the potential means of supplying that amount of water. This IWSP currently designates up to 25,000 AFY of water for potential Non-Agricultural Projects within IID's water service area. Proposed Non-Agricultural projects may be required to pay a Reservation Fee, further described below. The reserved water shall be available for other users until such Non-Agricultural projects are implemented and require the reserved water supply. This IWSP shall remain in effect pending the approval of further policies that will be adopted in association with the IWRMP.

3.0 Terms and Definitions.

3.1 Agricultural Use. Uses of water for irrigation, crop production and leaching.

[23] IID Board Resolution 31-2009. Interim Water Supply Policy for New Non-Agricultural Projects. September 29, 2009. < IID Interim Water Supply Policy for Non-Agricultural Projects>

[24] The 2009 Draft IID IWRMP has been superseded by the October 2012 Imperial IRWMP, which incorporates the conditions of the IWSP by reference.

3.2 Connection Fee. A fee established by the District to physically connect a new Water User to the District water system.

3.3 Industrial Use. Uses of water that are not Agricultural or Municipal, as defined herein, such as manufacturing, mining, cooling water supply, energy generation, hydraulic conveyance, gravel washing, fire protection, oil well re-pressurization and industrial process water.

3.4 Municipal Use. Uses of water for commercial, institutional, community, military, or public water systems, whether in municipalities or in unincorporated areas of Imperial County.

3.5 Mixed Use. Uses of water that involve a combination of Municipal Use and Industrial Use.

3.6 Non-Agricultural Project. Any project which has a water use other than Agricultural Use, as defined herein.

3.7 Processing Fee. A fee charged by the District Water Department to reimburse the District for staff time required to process a request for water supply for a Non-Agricultural Project.

3.8 Reservation Fee. A non-refundable fee charged by the District when an application for water supply for a Non-Agricultural Project is deemed complete and approved. This fee is intended to offset the cost of setting aside the projected water supply for the project during the period commencing from the completion of the application to start-up of construction of the proposed project and/or execution of a water supply agreement. The initial payment of the Reservation Fee will reserve the projected water supply for up to two years. The Reservations Fee is renewable for up to two additional two-year periods upon payment of an additional fee for each renewal.

3.9 Water Supply Development Fee. An annual fee charged to some Non-Agricultural Projects by the District, as further described in Section 5.2 herein. Such fees shall assist in funding IWRMP or related water supply projects,

3.10 Water User. A person or entity that orders or receives water service from the District.

4.0. CEQA Compliance.

4.1 The responsibility for CEQA compliance for new development projects within the unincorporated area of the County of Imperial attaches to the County of Imperial or, if the project is within the boundaries of a municipality, the particular municipality, or if the project is subject to the jurisdiction of another agency, such as the California Energy Commission, the particular agency. The District will coordinate with the County of Imperial, relevant municipality, or other agency to help ensure that the water supply component of their respective general plans is comprehensive and based upon current information. Among other things, the general plans should assess the direct, indirect, and cumulative potential impacts on the environment of using currently available water supplies for new industrial, municipal, commercial and/or institutional uses instead of the historical use of that water for agriculture. Such a change in land

use, and the associated water use, could potentially impact land uses, various aquatic and terrestrial species, water quality, air quality and the conditions of drains, rivers, and the Salton Sea.

4.2 When determining whether to approve a water supply agreement for any Non-Agricultural Project pursuant to this IWSP, the District will consider whether potential environmental and water supply impacts of such proposed projects have been adequately assessed, appropriate mitigation has been developed and appropriate conditions have been adopted by the relevant land use permitting/approving agencies, before the District approves any water supply agreement for such project.

5.0. Applicability of Fees for Non-Agricultural Projects.[25]

5.1 Pursuant to this Interim Water Supply Policy, applicants for water supply for a Non-Agricultural Project shall be required to pay a Processing Fee and may be required to pay a Reservation Fee as shown in Table A. All Water Users shall also pay the applicable Connection Fee, if necessary, and regular water service fees according to the District water rate schedules, as modified from time to time.

5.2 A Non-Agricultural Project may also be subject to an annual Water Supply Development Fee, depending upon the nature, complexity, and water demands of the proposed project. The District will determine whether a proposed Non-Agricultural Project is subject to the Water Supply Development Fee for water supplied pursuant to this IWSP as follows:

5.2.1. A proposed project that will require water for a Municipal Use shall be subject to an annual Water Supply Development Fee as set forth in Table B if the projected water demand for the project is in excess of the project's estimated population multiplied by the District-wide per capita usage. Municipal Use projects without an appreciable residential component will be analyzed under sub-section 5.2.3.

5.2.2. A proposed project that will require water for an Industrial Use located in an unincorporated area of the County of Imperial shall be subject to an annual Water Supply Development Fee as set forth in Table B.

5.2.3. The applicability of the Water Supply Development Fee set forth in Table B to Mixed Use projects, Industrial Use projects located within a municipality, or Municipal Use projects without an appreciable residential component, will be determined by the District on a case-by-case basis, depending upon the proportion of types of land uses and the water demand proposed for the project.

5.3. A proposed Water User for a Non-Agricultural Projects may elect to provide some or all of the required water supply by paying for and implementing some other means of providing water in a manner approved by the District, such as conservation projects, water storage projects and/or use of an alternative source of supply, such as recycled water or some source of water other than from the District water supply. Such election shall require consultation with the District regarding the details of such alternatives and a determination by the District, in its reasonable discretion, concerning how much credit,

[25] The most recent fee schedules can be found in a link at IID/Water/ Municipal, Industrial and Commercial Customers; or visit by URL at Imperial Irrigation District : Water Rate Schedules

if any, should be given for such alternative water supply as against the project's water demand for purposes of determining the annual Water Supply Development Fee for such project.

5.4 The District Board shall have the right to modify the fees shown on Tables A and B from time to time.

6. Water Supply Development Fees collected by the District under this IWSP shall be accounted for independently, including reasonable accrued interest, and such fees shall only be used to help fund IWRMP or related District water supply projects.

7. Any request for water service for a proposed Non-Agricultural Project that meets the criteria for a water supply assessment pursuant to Water Code Sections 10910-10915 or a water supply verification pursuant to Government Code Section 66473.7 shall include all information required by Water Code Sections 10910 –10915 or Government Code Section 66473.7 to enable the District to prepare the water supply assessment or verification. All submittals should include sufficient detail and analysis regarding the project's water demands, including types of land use and per capita water usage, necessary to make the determinations outlined in Section 5.2.

8. Any request for water service for a proposed Non-Agricultural Project that does not meet the criteria for a water supply assessment pursuant to Water Code Section 10910-10915 or water supply verification pursuant to Government Code Section 66473.7 shall include a complete project description with a detailed map or diagram depicting the footprint of the proposed project, the size of the footprint, projected water demand at full implementation of the project and a schedule for implementing water service. All submittals should include sufficient detail and analysis regarding the project's water demands, including types of land use and per capita water usage, necessary to make the determinations outlined in Section 5.2.

9. All other District rules and policies regarding a project applicant or Water User's responsibility for paying connection fees, costs of capital improvements and reimbursing the District for costs of staff and consultant's time, engineering studies and administrative overhead required to process and implement projects remain in effect.

10. Municipal Use customers shall be required to follow appropriate water use efficiency best management practices (BMPs), including, but not limited to those established by the California Urban Water Conservation Council BMP's (see http://www.cuwcc.org/mou/exhibit-1-bmp-definitions-schedules-requirements.aspx), or other water use efficiency standards, adopted by the District or local government agencies.

11. Industrial Use customers shall be required to follow appropriate water use efficiency BMP's, including but not limited to those established by the California Urban Water Conservation Council and California Energy Commission, as well as other water use efficiency standards, adopted by the District or local government agencies.

12. The District may prescribe additional or different BMPs for certain categories of Municipal and Industrial Water Users.

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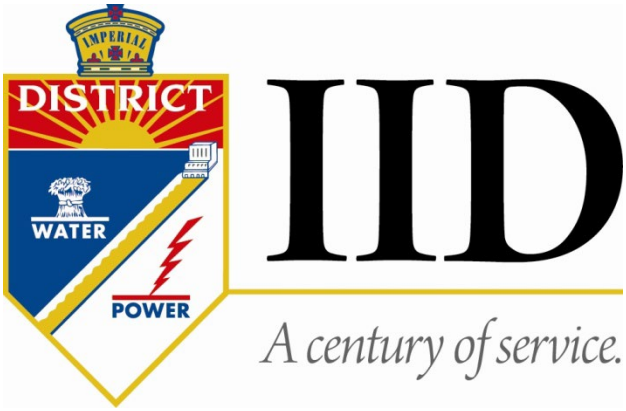
ATTACHMENT B: IID EQUITABLE DISTRIBUTION PLAN[26]

Adopted December 11, 2007
Revised November 18, 2008
Revised April 07, 2009
Revised April 23, 2013
Revised May 14, 2013
Revised October 28, 2013
Revised June 21, 2022

[26] Equitable Distribution Plan documents. June 21, 2022, https://www.iid.com/water/rules-and-regulations/equitable-distribution

Equitable Distribution Plan

Adopted December 11, 2007
Revised November 18, 2008
Revised April 07, 2009
Revised April 23, 2013
Revised May 14, 2013
Revised October 28, 2013
Revised June 21, 2022



1.0 **Purpose**.

1.1 Purpose. The Imperial Irrigation District ("District" or “IID”) is authorized by the Irrigation District Law, specifically California Water Code Section 22252, to adopt rules and regulations for the equitable distribution of water within the District. The IID Board of Directors has approved this plan for the equitable distribution of the available water supply (the "Equitable Distribution Plan"). This Equitable Distribution Plan is for the management of the District’s available water supply and does not transfer water and/or water rights outside the IID service area, but does allow for an intra-district clearinghouse for the movement of water within the IID water service area. Pursuant to Resolution No. 31-2022, the IID Board of Directors has adopted this revised Equitable Distribution Plan.

2.0 **Terms and Definitions**.

2.1 Agricultural Water. Water used for irrigation, related to agricultural purposes, duck ponds, and algae farming. Pipe and small parcel water service as identified by the District’s *Rules and Regulations Governing the Distribution and Use of Water* is not included in this definition pursuant to Section 2.22.

2.2 Agricultural Water User(s). A District Water User that uses Agricultural Water.

2.3 Agricultural Water Users Category. A category of District Water Users comprised of Agricultural Water Users.

2.4 Apportionment. The amount of water equitably apportioned among District Water Users within each Water User Category pursuant to Sections 3.2, 3.3, and 3.4.

2.5 Available Water Supply. Water available each Calendar Year for Apportionment, which shall not include Operational and System Water and may be subject to a Water Management Reduction.

2.6 Calendar Year. Each 12-month period that begins on January 1 and ends on December 31.

2.7 Category Apportionment. The amount of water equitably apportioned to each Water User Category as a category, which is calculated by the Calendar Year average of the historical water use for that Water User Category as a whole during the years 2003 to 2012, eliminating the highest Calendar Year and lowest Calendar Year of water use history.

2.8 Clearinghouse. A mechanism administered by the District or other entity authorized by the IID Board of Directors to provide a means by which qualified

District Water Users can transfer water within the IID water service area during a Calendar Year pursuant to Section 6.0.

2.9 Cropland. Irrigable acreage within the District service area divided into fields based on the [proprietary] District Geospatial Data Base compiled from IID records, inspections and U.S. Consolidated Farm Service Agency (CFSA) Common Land Unit (CLU) standards, or other defined acreage database such as the assessor's parcel records.

2.10 District or IID. The Imperial Irrigation District.

2.11 District Conservation Assignment. Apportionment contractually or automatically assigned to IID for water conservation purposes from lands participating in or designated for participation in any District On-Farm Efficiency Conservation Program, District Fallowing Program or other District conservation programs, or subject to the Temporary Land Conversion Fallowing Policy or Interim Water Supply Policy per the terms and conditions set forth in those program agreements and/or IID policies.

2.12 District Fallowing Program. Any program administered by the District to create conserved water by fallowing agricultural lands per the terms and conditions set forth in those program agreements and/or IID policies, including the Temporary Land Conversion Fallowing Policy.

2.13 District On-Farm Efficiency Conservation Program. Any program administered by the District to create conserved water by on-farm efficiency conservation measures and/or projects per the terms and conditions set forth in those program agreements and/or IID policies.

2.14 District System Conservation Program/Projects. An integrated package of system improvements to existing infrastructure and construction of new facilities designed to conserve water.

2.15 District Water User. Any user of water supplied by the District receiving an Apportionment.

2.16 Eligible Agricultural Acre(s). Acreage that is subject to the Temporary Land Conversion Fallowing Policy or meets all the following:

a. Cropland greater than 5 acres;

b. Used for crop production, duck ponds or algae farming;

c. Current with water availability charges and water bills; and

d. Connected to District water distribution system.

2.17 Farm Unit. A grouping of two or more Agricultural Water accounts of one or more fields leased or owned by the same Agricultural Water User; a single Agricultural Water account is automatically a Farm Unit.

2.18 Hybrid Apportionment. A Method of Apportionment used to calculate the Apportionment per Eligible Agricultural Acre within the Agricultural Water Users Category as set forth in Section 3.2.

2.19 Industrial/Commercial Water User(s). District Water Users receiving water directly from the District, and not from a Potable Water User, for industrial and commercial uses.

2.20 Industrial/Commercial Water Users Category. A category of District Water Users comprised of Industrial/Commercial Water Users.

2.21 Method of Apportionment. The method of apportionment used to calculate the Apportionment for District Water Users within each Water User Category during a Calendar Year.

2.22 Operational and System Water. Water not available for Apportionment because it is: (i) required by law, contract, and/or regulatory order or permit to be delivered or used for another use or user and failure to do so would impact the District's operations, maintenance and/or Available Water Supply; (ii) required for the District's operations and maintenance, including operational carriage and discharge water, system losses, seepage (excluding water from seepage interception conservation projects), evaporation or other losses in the District's distribution system, such as unmetered uses which cannot otherwise be calculated, including small parcel and pipe water service, recreation/lakes, and feedlots, adjusted for calculated losses from the District's point of diversion; or (iii) created by District System Conservation Program/Projects and absent the District System Conservation Program/Projects the water would not have been available for Apportionment because it would have been otherwise lost, such as through seepage or discharge.

2.23 Overrun Payback Program. A program consistent with the federal Inadvertent Overrun and Payback Policy or other federal policies or programs to which the District may be subject, by which the cost of and/or responsibility for any District payback obligation will be borne by those District Water Users responsible for exceeding the Apportionment in a Calendar Year (adjusted for any Clearinghouse water transferred) should a District overrun occur in that Calendar Year; provided that this Overrun Payback Program shall not be available to District Water Users in any Calendar Year the federal Inadvertent Overrun and Payback Policy is suspended and/or the District is not allowed to overrun pursuant to a federal law, rule, or regulation.

2.24 Potable Water User(s). District Water Users receiving water from the District and treating that water through a water treatment system to deliver potable water to its water users, including but not limited to municipalities and special districts.

2.25 Potable Water Users Category. A category of District Water Users comprised of Potable Water Users.

2.26 Take-or-Pay Basis. An obligation that District Water Users pay, pursuant to the District's Water Rate Schedules and *Rules and Regulations Governing the Distribution and Use of Water*, for all of the Apportionment accepted by the District Water User and not used during the Calendar Year.

2.27 Three-Year Average Apportionment. A Method of Apportionment used to calculate the Apportionment for each District Water User within the Potable Water Users Category and the Industrial/Commercial Water Users Category as set forth in Sections 3.3 and 3.4.

2.28 Water Card. The common term for the "Certificate of Ownership and Authorization of Owner Designee or Tenant" described in Regulation No. 3 of the District's *Rules and Regulations Governing the Distribution and Use of Water*. The Water Card provides information i.e., Cropland, name and address of owner and any lessees, APN, gate and canal providing water service, identity of person authorized to order water/receive notices from the District, who is obligated to pay, and similar information.

2.29 Water Management Reduction. A reduction in Available Water Supply for Apportionment, or a percentage reduction in each Category Apportionment, because of a District-wide overrun payback requirement mandatory program, or regulatory limitation of or reduction in the District's Colorado River water supply.

2.30 Water Users Category(ies). The Agricultural Water Users Category, the Potable Water Users Category, and the Industrial/Commercial Water Users Category.

3.0 **Equitable Distribution**.

3.1 Category Apportionment. Each Water User Category shall receive a Category Apportionment from the Available Water Supply to be distributed to the District Water Users within that Water User Category.

3.2 Agricultural Water User Apportionment. Apportionment models understood and discussed to date are historical, straight line, soil type and hybrids of a combination of these methods. The default Method of Apportionment for Agricultural Water Users is the Hybrid Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Hybrid Apportionment is comprised of a historical use component and a

straight line component and is calculated for each Eligible Agricultural Acre as the sum of:

a. One-half of the average amount of water used each Calendar Year between 2003 to 2012, excluding the highest and lowest Calendar Years, up to a maximum of 10 acre-feet (i.e., 5 acre-feet will be maximum 1/2 of 10 acre-feet limit); and

b. After the historical use component is calculated for every Eligible Agricultural Acre within the Agricultural Water User Category and that amount is subtracted from the Category Apportionment, the remaining amount of Category Apportionment for the Agricultural Water User Category is divided by the Eligible Agricultural Acres resulting in a flat amount for each Eligible Agricultural Acre.

3.3 Potable Water User Apportionment. The default Method of Apportionment for Potable Water Users is the Three-Year Average Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Three-Year Average Apportionment is calculated as the average amount of water used each of the most recent three Calendar Years that such data is available for each District Water User within the Potable Water User Category.

3.4 Industrial/Commercial Water User Apportionment. The default Method of Apportionment for Industrial/Commercial Water Users is the Three-Year Average Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Three-Year Average Apportionment is calculated as the average amount of water used each of the most recent three Calendar Years that such data is available for each District Water User within the Industrial/Commercial Water User Category.

4.0 **Apportionment Acceptance on Take-Or-Pay Basis**.

4.1 A written notice of the Apportionment for each District Water User shall be sent no later than October 31 prior to the beginning of the next Calendar Year. For Agricultural Water Users, the written notice of the Apportionment will be identified per Eligible Agricultural Acre and the number of Eligible Agricultural Acres per landowner, which shall be sent to the landowner, lessee and the authorized representative.

4.2 Prior to the start of the Calendar Year, the District Water User and/or, as applicable, the landowner or authorized representative (of Eligible Agricultural Acres for the Agricultural Water Users Category), with written consent of the lessee (if any), must, using a District form:

a. Accept some, all or none of the Apportionment on a Take-or-Pay Basis.

b. Reserve some or all of the Apportionment on a Take-or-Pay Basis for the use of a future lessee, if applicable. The landowner remains responsible for payment on a Take-or-Pay Basis for the amount reserved for the future lessee, if applicable, unless and until payment is made by the future lessee.

c. Designate the person or entity responsible for payment of accepted and unused Apportionment on the Take-or-Pay Basis.

d. For Agricultural Water Users only, approve or disapprove the use of the Apportionment on other fields within the Farm Unit.

e. Allow or disallow a lessee to offer accepted and unused Apportionment to the Clearinghouse.

4.3 The District Water User and/or landowner will only be responsible for payment on a Take-or-Pay Basis for Apportionment that is accepted and remains unused in the water account at the end of the Calendar Year. On December 31 of the Calendar Year, payment for any remaining amount of the unused Apportionment will be included in the year end invoice.

4.4 Apportionment not affirmatively rejected is considered accepted. In the event a District form accepting Apportionment is not received for a field, IID will provide water delivery service to an owner or lessee with a valid Water Card in an amount not to exceed the Apportionment.

5.0 **Farm Units**.

5.1 The Farm Unit allows for the creation of a master Agricultural Water account under which individual Agricultural Water accounts are aggregated. The District will continue to bill for delivered water by individual Agricultural Water account and not by the Farm Unit or “master water account.”

5.2 The primary purpose of a Farm Unit is to allow an Agricultural Water User to order water on any field within the Farm Unit as long as there is a remaining water balance for the Farm Unit greater than the water order. If water is not available within the Farm Unit, the water order will not be accepted, unless and until procedures are developed and implemented under this Equitable Distribution Plan, including procedures for the Overrun Payback Program, that allow for the acceptance of the water order.

5.3 The District will account for water and track a water balance for each field. Fields can move between Agricultural Water accounts when there is a change to the Water Card and the water balance for the field will move with the field.

5.4 Agricultural Water Users must complete and keep current the Water Card and any Farm Unit designations to receive an Apportionment and delivery of water. It is the Agricultural Water User's responsibility to keep Farm Unit designations current.

5.5 An Agricultural Water account may only be associated with a single Farm Unit at any one time. Any Agricultural Water account not designated as part of a Farm Unit will be tracked and identified as an individual Farm Unit comprised solely of that Agricultural Water account.

5.6 The amount of Apportionment available to an Agricultural Water User on leased fields included in a Farm Unit must be approved by the landowner and lessee of those fields.

5.7 Water can be added to a Farm Unit by transferring water through the Clearinghouse, but the transfer must be made to individual fields within the Farm Unit. If no particular fields are specified, the District will select a field within the Farm Unit to initially receive the water or (as closely as possible) equally divide the water among all Eligible Agricultural Acres within the Farm Unit.

5.8 An Agricultural Water User may designate multiple Farm Units. Apportionment may only be transferred between Farm Units via the Clearinghouse.

5.9 The priority of water use within a Farm Unit is (a) accepted Apportionment authorized for use on the field, (b) water from other fields authorized for transfer within the Farm Unit, and (c) water from the Clearinghouse; or as otherwise provided in procedures developed and implemented under and pursuant to this Equitable Distribution Plan. Water from a higher-priority category must be fully-used before water from a lower-priority category may be used within a Farm Unit.

6.0 **Clearinghouse**.

6.1 Purpose. The Clearinghouse is a mechanism to facilitate the movement of water between District Water Users and/or between Farm Units. Administration of the Clearinghouse may be delegated by the District to an entity authorized by the IID Board of Directors on a non-profit basis under rules approved by the IID Board of Directors, however all final transactions must be reported to the District for implementation.

6.2 Eligibility. Any District Water User may be a transferee. Any District Water User may be a transferor. All transferees and transferors must be current on their District water accounts and billings, including water availability charges.

6.3 Transfers. Water made available to the Clearinghouse for transfer will be assigned to Clearinghouse accounts and water shall be transferred through the Clearinghouse pursuant to procedures developed and implemented under and pursuant

to this Equitable Distribution Plan. Water available for transfer will be made on a first-come, first-serve basis for those District Water Users that have submitted an offer to transfer water or submitted a request for additional water.

6.4 Clearinghouse Notice of Transfer. The Notice of Transfer will be the Clearinghouse reporting mechanism to document all transfers of water including the relevant transactional information to execute the transaction between the transferor and transferee.

6.5 Water Transferred Through the Clearinghouse. The transferee shall be billed and shall pay the District the total payment amount due for the transferred water in the District billing issued for the same month the Notice of Transfer for the transferred water is made, or the next billing if that same month is infeasible due to the timing of the billing. The total amount due is based on the acre-feet of water transferred (not to exceed Clearinghouse Notice of Transfer) multiplied by the current District rate applicable to the District Water User pursuant to the District's Water Rate Schedules and *Rules and Regulations Governing the Distribution and Use of Water*. Such payment will be due regardless of whether the transferred water is used by the transferee. If the transferred water is used by the transferee before the District billing is issued, the District Water User will be billed only once for the current District rate applicable to the District Water User. After the District processes the Clearinghouse Notice of Transfer, the transferor shall have no further obligation for payment of that water on a Take-or-Pay Basis. Any supplemental transactional information or fees associated with the transfer of the water between the transferor and transferee but not relevant to the implementation of the transaction are a private matter and shall not be reported to the District. Any transfers of water through the Clearinghouse, whether within the Farm Unit or via the Clearinghouse, are only for the Calendar Year in which they occur and do not constitute a permanent transfer of water, or create a right to be apportioned water in future years.

6.6 Offers Remaining at Calendar Year End. Any offers for water to be transferred through the Clearinghouse not transferred by the end of the Calendar Year may be used by the District to meet the needs of other District Water Users, fulfilling conservation responsibilities, or for other District purposes. Use by the District in this manner will not relieve the District Water Users of payment required on the Take-or-Pay Basis.

7.0 **On-Farm Conservation and Land Fallowing Programs**.

7.1 An Agricultural Water User that participates in the District On-Farm Efficiency Conservation Program or District Fallowing Program is subject to a District Conservation Assignment of the Agricultural Water User's accepted Apportionment for the Farm Unit equal to the amount of water conserved by on-farm efficiency conservation measures or fallowing for which the Agricultural Water User is contracted.

7.2 If the Agricultural Water User's Apportionment is less than the District On-Farm Efficiency Conservation Program or District Fallowing Program contracted amount, the Agricultural Water User must procure this difference from either: the Agricultural Water User's accepted Apportionment on other Eligible Agricultural Acres within the Farm Unit, or the Clearinghouse.

7.3 If the Agricultural Water User's Apportionment is more than the District Fallowing Program contracted amount, the Agricultural Water User may use the difference on other Eligible Agricultural Acres within the Farm Unit not participating in a District Fallowing Program, on the fallowed field after the term of the District Fallowing Program, or offer it to the Clearinghouse.

8.0 **Miscellaneous**.

8.1 The IID Board of Directors, at its sole discretion, which may include consideration of recommendations by the Agricultural Water Advisory Committee, may declare a 15-day period in which all offers of water received by the Clearinghouse, of up to 7% (seven percent) of the District Water User's Apportionment, shall be accepted by the District thereby relieving the District Water Users of payment of that water on the Take-or-Pay Basis. This water accepted by the District will be offered back for transfer to other District Water Users via the Clearinghouse.

8.2 The General Manager is authorized and directed to do any and all things necessary to implement and effectuate these Regulations in a manner consistent with this policy, including the temporary modification of any dates necessary to facilitate implementation.

8.3 In the event of a Water Management Reduction, the IID Board of Directors, at its sole discretion, may take any actions it determines and finds are necessary to protect the public health and safety.

8.4 The IID Board of Directors may terminate the implementation of an annual Apportionment at any time at its discretion or upon recommendation of the Agricultural Water Advisory Committee. The District shall track actual water demands during the Calendar Year.