

Appendix A

NOP and Scoping Comments



NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND NOTICE OF SCOPING MEETING

Date: March 7, 2022

To: Agencies and interested parties

Lead agency: SMUD
6201 S Street, MS B203
Sacramento, CA 95817-1899
Contact: Rob Ferrera at (916) 732-6676

Subject: Cordova Park Underground Cable Replacement Project Environmental Impact Report

Review period: March 7, 2022 to April 6, 2022

SMUD replaces aging electrical infrastructure as part of its routine maintenance and upgrade protocols. Accordingly, SMUD proposes to install approximately 0.6 miles of 12 kilovolt (kV) underground cable, approximately 2.12 miles of 69kV underground cable and up to 13 new utility vaults in the City of Rancho Cordova, near the location of existing 12kV and 69kV underground cables that are approaching the end of their operational lives. Installation of the new cable, conduit and utility vaults would be done by open trenching. Where possible, the new conduit will be installed to align with the existing cable, which would be abandoned in place.

As the lead agency for California Environmental Quality Act (CEQA) compliance, SMUD is responsible for considering whether to certify the Environmental Impact Report (EIR) and determining if the project should be approved. SMUD will prepare an EIR to satisfy the requirements of the CEQA Public Resources Code (PRC) (Section 21000 et seq.)

Purpose of notice: In accordance with CEQA, SMUD is distributing this notice of preparation (NOP) to solicit comments on the scope of the EIR that is being prepared for the Cordova Park Underground Cable Replacement Project.

This NOP has been prepared pursuant to the CEQA Guidelines, 14 California Code of Regulations Sections 15082 and 15083. The release of this NOP starts a 30-day public scoping period that begins on March 7, 2022 and ends on April 6, 2022. The purpose of the NOP is to provide sufficient information describing the proposed project and its potential environmental effects to allow agencies and interested parties the opportunity to

provide a meaningful response regarding the scope and content of the EIR, including possible environmental impacts, mitigation measures and alternatives.

Project location: The project is in the City of Rancho Cordova (see Figure 1). The proposed 12kV path begins at SMUD's Cordova Park Substation located near the intersection of Ambassador Drive and Trails Court. The 12kV path travels to Ambassador Drive where it follows the road for approximately 0.6 miles until it connects to existing riser poles just east of Ellison Drive.

The proposed 69kV path begins on the northwest side of Coloma Road, approximately 200 feet southeast of Sierra Madre Court. The 69kV path heads northwest from Coloma Road, crossing through the property of Mills Middle School and Cordova High School, until it connects to SMUD's Cordova Park Substation. From the substation, the 69kV path heads northeast nearly adjacent to, but outside, the backyards of homes facing Ambassador Drive until it reaches Rossmoor Drive. At Rossmoor Drive, the 69kV path turns and heads north towards the American River. The 69kV path stays along Rossmoor Drive until its termination near the American River, when the 69kV path connects to existing riser poles located between the boundaries of Rossmoor Drive and the American River. The proposed 69kV path is approximately 2.12 miles in length.

The existing 12kV and 69kV lines that run through the American River Parkway would be abandoned in place, and new conduit containing the new lines would be installed in separate trenches within the paths described above. The proposed 12kV and 69kV paths are highly disturbed due to vehicle traffic, including areas of pavement and dirt. There are residences adjacent to portions of the proposed 12kV and 69kV paths. Along Ambassador Drive, the 12kV circuit would be installed beneath existing roadways, sidewalks, or curbs and gutters. Along Rossmoor Drive, the 69kV circuit would be installed beneath existing pavement or within an existing fuel break adjacent to the pavement.

Project objectives: SMUD's objectives for the proposed project are to:

- Provide safe and reliable electrical service to existing and proposed development in the Rancho Cordova area.
- Facilitate efficient maintenance of underground cables and infrastructure.
- Maximize the use of available SMUD property and resources.
- Minimize impacts to nearby sensitive receptors.
- Minimize potential conflicts with existing planning efforts within the City of Rancho Cordova.

Figure 1: Project location

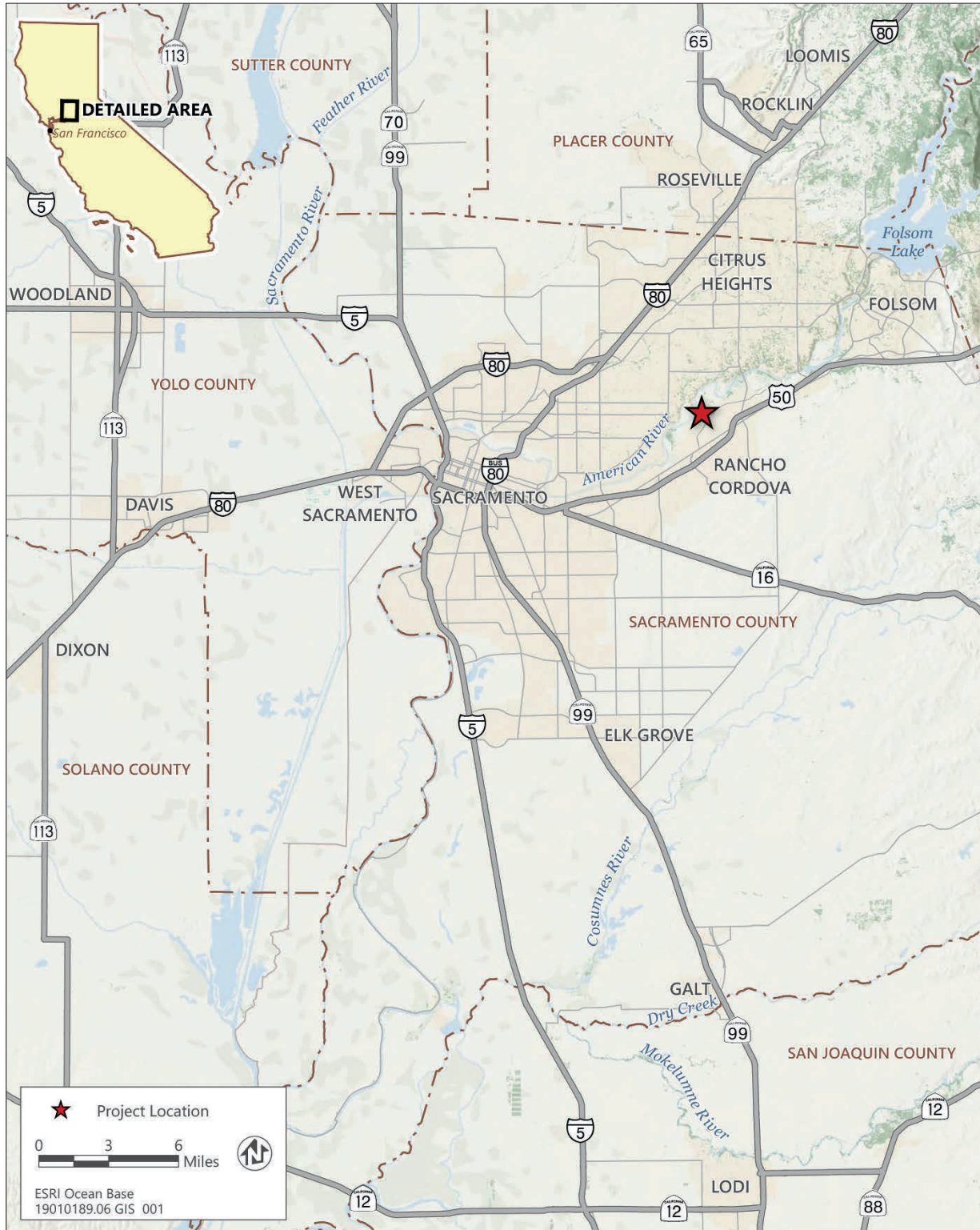


Figure 2: Project paths



Proposed project: The project involves the installation of approximately 0.6 miles of new underground 12kV electrical lines (cable) and approximately 2.12 miles of new underground 69kV cable to replace existing underground 12kV and 69kV cable buried directly in the ground (direct-buried) that was installed in the 1970s. The new 12kV cable also would be direct-buried while the new 69kV cable would be installed in conduits housed in concrete-encased duct banks to provide pathways and adequate spacing. The proposed project also involves installation of up to 13 new utility vaults along the 69kV path to allow access for electric cable pulling, splicing and maintenance.

The existing direct-buried 12kV cable begins at SMUD's Cordova Park Substation and extends approximately 0.6 miles east, where it connects to existing riser poles.

The existing direct-buried 69kV cable begins on the northwest side of Coloma Road, approximately 200 feet southeast of Sierra Madre Court, and extends north across the eastern property lines of Mills Middle School, Cordova High School and Hagen Park until it enters SMUD's Cordova Park Substation located near the intersection of Ambassador Drive and Trails Court (approximately 0.45 miles). From SMUD's substation, the existing 69kV cable extends east beneath a dirt path for approximately 0.70 miles when it turns north and cuts across the American River Parkway towards the American River for approximately 0.75 miles. Note that the total existing 69kV path is approximately 1.9 miles and the proposed 69kV path is approximately 2.12 miles. The extra mileage is due to deviating from the existing route to align with Rossmoor Drive.

Since installation of the existing 12kV and 69kV cable in the 1970s, native trees have established within the existing path along the Parkway. SMUD has coordinated with Sacramento County to install the new conduit outside of the existing path to avoid potential impacts to these trees and other biological resources within the American River Parkway and to facilitate easier access for future maintenance.

Accordingly, SMUD proposes to direct-bury the new 12kV cable beneath the pavement, sidewalks, or curbs and gutters of Ambassador Drive. The proposed 69kV path would deviate from the existing path by continuing east until it heads north at Rossmoor Drive. While the exact location of the 69kV path along Rossmoor Drive is not yet known and would be determined once existing utilities beneath the pavement are identified, the 69kV path would generally be within Rossmoor Drive or the fuel break immediately west of the pavement. The 69kV path would continue along Rossmoor Drive as it intersects with the American River Parkway bike trail and continue beyond the edge of pavement at the end of Rossmoor Drive. The 69kV path would connect to existing riser poles located between the boundaries of Rossmoor Drive and the edge of the American River. Within the American River Parkway, the existing direct-buried 69kV cable would be abandoned in place.

The project would include up to 13 utility vaults to be installed at various points along the 69kV path. The proposed utility vaults would consist of pre-cast concrete, measuring 8 feet x 14 feet x 8 feet inside, requiring an excavation area of approximately 15 feet x 20 feet x 15 feet, and would generally be spaced evenly throughout the path to allow for cable pulling, splicing and maintenance.

Construction activities would occur in two phases. Phase 1 would include the 12kV path, while Phase 2 would include the 69kV path and utility vaults. Construction for Phase 1 is anticipated take up to 3 months and would begin in the summer of 2022. Phase 2 construction would take approximately 12 months once initiated and is anticipated to begin in the next 5 to 7 years. Construction activities would occur during hours identified in City of Rancho Cordova Zoning Code Section 6.68.090(E). If there is a need for work

to occur outside of these hours, SMUD will provide additional notification to customers adjacent to the project boundary.

Most construction would include open trenching to a maximum depth of 7 feet, though some deeper excavation may be necessary to avoid conflicts with existing utility lines. Removing water from the construction area (dewatering) may be necessary due to the high water-table of the area. SMUD would use Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the existing storm drain system in a manner consistent with regulatory requirements. For the 12kV path, the 12kV cable would be direct-buried in the trenches. The 69kV electrical cable would be placed in a duct bank, which is a series of conduits encased in concrete. The trenches would then be backfilled with a cement-like slurry mixture or compacted aggregate base to the roadway subgrade elevation followed by replacement of the appropriate cover (e.g., pavement or dirt). Construction activities would generally be conducted in existing pathways or along the roadway and would include the temporary closure of footpaths and roads. Alternative routes of travel will be provided where feasible. Following construction activities each day, the open trenches would be covered, and equipment removed to allow safe use of footpaths and roadways.

Potential approvals and permits required: Elements of the project could be subject to permitting and/or approval authority of other agencies. Potential permits required from other agencies could include:

State

- **California Department of Transportation:** Permits for movement of oversized or excessive loads on state highways.

Local

- **Sacramento Metropolitan Air Quality Management District (SMAQMD):** Authority to Construct/Permit to Operate pursuant to SMAQMD Regulation 2 (Rule 201 et seq.).
- **City of Rancho Cordova:**
 - Tree removal permit.
 - Encroachment permit.
- **County of Sacramento:** Encroachment permit.

Probable environmental effects: The EIR will describe the significant direct and indirect potential environmental impacts of the project. It also will evaluate the potential cumulative impacts of the project, defined as impacts that could be created as a result of the combination of the proposed project with other past, present, and reasonably foreseeable future projects causing related impacts. While not required by CEQA, the EIR will present a discussion of environmental justice issues related to the proposed project. SMUD anticipates that the project could result in the following potentially

significant environmental effects, which will be assessed and discussed in detail in the EIR. Feasible and practicable mitigation measures will be recommended to reduce any identified significant impacts.

- **Tribal Cultural Resources:** Potential disturbance of tribal cultural resources. This issue will be addressed in the EIR.
- **Cultural Resources:** Potential disturbances of known and unknown historic and/or archaeological resources. This issue will be addressed in the EIR.

SMUD anticipates that the project would not result in significant environmental impacts in the following resource areas, which therefore will not be discussed in detail in the EIR. Evaluation of impacts to the following resources will be presented in an Initial Study, which will be appended to the EIR.

- **Aesthetics:** Where there are views of the American River and the adjacent American River Parkway, the proposed project would not change or degrade the existing visual character or introduce a new source of light or glare.
- **Agriculture and Forestry Resources:** The project would not result in any change in use or other physical environmental change to agricultural resources in the project area.
- **Air Quality:** Construction activities could result in emissions of criteria air pollutants and toxic air contaminants. SMUD will evaluate the anticipated construction emissions associated with the proposed project and adopt mitigation measures as necessary to reduce impacts to a less-than-significant level.
- **Biological Resources:** Construction activities could impact biological resources within the project paths. SMUD will evaluate the potential for effects on biological resources and adopt mitigation measures as necessary to reduce impacts to a less-than-significant level.
- **Energy:** The project would help SMUD provide safe and reliable electrical service to its customers, without creating new or increased energy demand or wasteful, inefficient, or unnecessary energy consumption.
- **Geology and Soils:** Construction activities would disturb soil, possibly resulting in erosion or loss of topsoil. While effects related to seismicity may be possible, the project paths are in the Sacramento Valley, which has historically experienced a low level of seismic ground-shaking. Given the project's close proximity to the American River, it is possible that previously undiscovered paleontological resources could be discovered. SMUD will evaluate potential effects and adopt mitigation measures as necessary to reduce impacts.
- **Greenhouse Gas Emissions:** Construction activities would result in the generation of greenhouse gas (GHG) emissions from the use of heavy-duty off-road construction equipment and vehicle use during worker commutes. SMUD will evaluate the

potential for generation of GHG emissions and adopt mitigation measures as necessary to reduce GHG impacts to a less-than-significant level.

- **Hazards and Hazardous Materials:** Construction activities would involve the use of hazardous materials, such as fuels, solvents, gasoline, asphalt and oil. SMUD will evaluate the potential for effects related to hazards and hazardous materials and adopt mitigation measures if needed to reduce impacts to a less-than-significant level.
- **Hydrology and Water Quality:** Project construction would involve earth-moving activities that could result in effects related to hydrology and water quality. Following construction, the project path would be returned to its pre-project condition.
- **Land Use and Planning:** The project would not physically divide and established community, nor would it conflict with land use plans, policies or regulations.
- **Mineral Resources:** The City of Rancho Cordova includes areas of identified mineral deposits. SMUD will evaluate whether the project would result in impacts related to mineral resources and would adopt mitigation measures if needed to reduce impacts to a less-than-significant level.
- **Noise and Vibration:** There would be temporary noise and vibration impacts related to construction equipment. Following construction, the project path would be returned to its pre-project conditions and would not include new sources of noise or vibration. SMUD will evaluate the potential for impacts related to noise and vibration that would occur during project construction and would adopt mitigation measures if needed to reduce impacts to a less-than-significant level.
- **Population and Housing:** The project would not generate any new residents in the area nor provide any new jobs within the Sacramento region.
- **Public Services:** The project would not generate any new residents to the area, so there would not be any effects related to fire protection, law enforcement, schools or other public services.
- **Recreation:** The project would not generate any new residents or recreational users in the area. Project construction activities could require temporary detours of local trails, but any detours would be removed following project construction. SMUD will evaluate the potential for impacts related to recreation that would occur during project construction and would adopt mitigation measures if needed to reduce impacts to a less-than-significant level.
- **Traffic and Transportation:** The project would generate new vehicle trips during construction activities and could cause temporary disruptions to the local roadway network. SMUD will evaluate potential impacts related to traffic and transportation and will adopt mitigation measures as necessary to ensure that impacts would be reduced to a less-than-significant level.

- **Utilities:** The project would install new conduit duct banks and manholes throughout the cable paths. The project would not require potable water, disposal of wastewater, or other utility use following project construction.
- **Wildfire:** While the project paths include areas of trees and brush, the project involves the underground installation of conduit duct banks and would not increase wildfire risk in the area.

Comment period: Written comments on the NOP can be sent anytime during the NOP review period, which begins March 7, 2022 and ends on April 6, 2022. Emailed comments must be received by 5 p.m. on April 6, 2022. Written comments must be postmarked no later than April 6, 2022. Please send your written or electronic (email) responses to the following address:

Rob Ferrera
Sacramento Municipal Utility District
Environmental Management
P.O. Box 15830 MS B203
Sacramento, CA 95852-1830
rob.ferrera@smud.org

Digital copies of the NOP are available at: **smud.org/CordovaParkCableReplacement**.
Hard copies of the NOP are available for public review at the following locations:

Sacramento Municipal Utility District
Customer Service Center
6301 S Street
Sacramento, CA 95817

Sacramento Municipal Utility District
East Campus Operations Center
4401 Bradshaw Road
Sacramento, CA 95827

Scoping meeting: Comments on the NOP may also be provided during the virtual open house scoping meeting to be held **Thursday, March 24, 2022** at 5:30 p.m. During the scoping meeting, information on the proposed project and CEQA review process will be provided by SMUD. If you have questions regarding the NOP or the scoping meeting, please contact Rob Ferrera at the email address shown above. A link to access the scoping meeting is available at **smud.org/CordovaParkCableReplacement**.

NATIVE AMERICAN HERITAGE COMMISSION

March 7, 2022

Rob Ferrera
 Sacramento Municipal Utility District
 6201 S Street
 Sacramento, CA 95817

Re: 2022030186, Cordova Park Underground Cable Replacement Project, Sacramento County

Dear Mr. Ferrera:

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.



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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, subs. (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: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



April 4, 2022

Rob Ferrera
Sacramento Municipal Utility District (SMUD)
6201 S Street
Sacramento, CA 95817
Rob.ferrera@smud.org

Subject: CORDOVA PARK UNDERGROUND CABLE REPLACEMENT PROJECT
SCH# 2022030186

Dear Mr. Ferrera:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Preparation of an Environmental Impact Report (EIR) from SMUD for the Cordova Park Underground Cable Replacement Project (Project) in Sacramento County pursuant to the California Environmental Quality Act (CEQA) statute and guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish, wildlife, plants and their habitats. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code (Fish & G. 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 provides, 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 may also act 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

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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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

SMUD proposes to install approximately 0.6 miles of 12 kilovolt (kV) underground cable, approximately 2.12 miles of 69kV underground cable and up to 13 new utility vaults in the City of Rancho Cordova, near the location of existing 12kV and 69kV underground cables that are approaching the end of their operational lives. Installation of the new cable, conduit and utility vaults would be done by open trenching. Where possible, the new conduit will be installed to align with the existing cable, which would be abandoned in place.

The Project description should include the whole action as defined in the CEQA Guidelines § 15378 and should include appropriate detailed exhibits disclosing the Project area including temporary impacted areas such as equipment stage area, spoils areas, adjacent infrastructure development, staging areas and access and haul roads if applicable.

As required by § 15126.6 of the CEQA Guidelines, the EIR should include an appropriate range of reasonable and feasible alternatives that would attain most of the basic Project objectives and avoid or minimize significant impacts to resources under CDFW's jurisdiction.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations presented below to assist SMUD in adequately identifying and/or mitigating the Project's significant, or potentially significant, impacts on biological resources. The comments and recommendations are also offered to enable CDFW to adequately review and comment on the proposed Project with respect to impacts on biological resources. CDFW recommends that the forthcoming EIR 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 EIR should include a complete assessment of the flora and fauna within and adjacent to the Project footprint, with emphasis on identifying rare, threatened, endangered, and other sensitive species and their associated habitats. CDFW recommends that the EIR specifically include:

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1. An assessment of all 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 2009). 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 recommends that the California Natural Diversity Database (CNDDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. A nine United States Geologic Survey 7.5-minute quadrangle search is recommended to determine what may occur in the region, larger if the Project area extends past one quad (see *Data Use Guidelines* on the Department webpage www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data). Please review the webpage for information on how to access the database 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 Project. CDFW recommends that CNDDDB Field Survey Forms be completed and submitted to CNDDDB to document survey results. Online forms can be obtained and submitted at: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>.

Please note that CDFW's CNDDDB 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. Other sources for identification of species and habitats near or adjacent to the Project area should include, but may not be limited to, State and federal resource agency lists, California Wildlife Habitat Relationship System, California Native Plant Society Inventory, agency contacts, environmental documents for other projects in the vicinity, academics, and professional or scientific organizations.

3. A complete and 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 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. The EIR should include the results of 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. Species-specific surveys should be conducted in order to ascertain the presence of species with the

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potential to be directly, indirectly, on or within a reasonable distance of the Project activities. CDFW recommends the lead agency rely on survey and monitoring protocols and guidelines available at: www.wildlife.ca.gov/Conservation/Survey-Protocols. Alternative survey protocols may be warranted; justification should be provided to substantiate why an alternative protocol is necessary. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Some aspects of the 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 or deluge.

4. A thorough, recent (within the last two years), floristic-based assessment of special-status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see www.wildlife.ca.gov/Conservation/Plants).
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]).

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

The EIR should provide a thorough discussion of the Project's potential direct, indirect, and cumulative impacts on biological resources. To ensure that Project impacts on biological resources are fully analyzed, the following information should be included in the EIR:

1. The EIR should define the threshold of significance for each impact and describe the criteria used to determine whether the impacts are significant (CEQA Guidelines, § 15064, subd. (f)). The EIR must demonstrate that the significant environmental impacts of the Project were adequately investigated and discussed and it must permit the significant effects of the Project to be considered in the full environmental context.
2. A discussion of potential impacts from lighting, noise, human activity, and wildlife-human interactions created by Project activities especially those adjacent to natural areas, exotic and/or invasive species occurrences, and drainages. The EIR should address Project-related changes to 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.
3. 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. National Forests, State Parks, etc.), open space, adjacent

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natural habitats, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or mitigation lands (e.g., preserved lands associated with a Conservation or Recovery Plan, or other conserved lands).

4. A cumulative effects analysis developed as described under CEQA Guidelines section 15130. The EIR should discuss the Project's cumulative impacts to natural resources and determine if that contribution would result in a significant impact. The EIR should include a list of present, past, and probable future projects producing related impacts to biological resources or shall include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect. The cumulative analysis shall include impact analysis of vegetation and habitat reductions within the area and their potential cumulative effects. Please include all potential direct and indirect Project-related impacts to riparian areas, wetlands, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and/or special-status species, open space, and adjacent natural habitats in the cumulative effects analysis.

Mitigation Measures for Project Impacts to Biological Resources

The EIR should include appropriate and adequate avoidance, minimization, and/or mitigation measures for all direct, indirect, and cumulative impacts that are expected to occur as a result of the construction and long-term operation and maintenance of the Project. CDFW also recommends that the environmental documentation provide scientifically supported discussion regarding adequate avoidance, minimization, and/or mitigation measures to address the Project's significant impacts upon fish and wildlife and their habitat. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines § § 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions. When proposing measures to avoid, minimize, or mitigate impacts, CDFW recommends consideration of the following:

1. *Fully Protected Species*: Several Fully Protected Species (Fish & G. Code § 3511) have the potential to occur within or adjacent to the Project area, including, but not limited to: white-tailed kite (*Elanus leucurus*). Fully protected species may not be taken or possessed at any time. Project activities described in the EIR 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 EIR 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 SMUD include in the analysis how appropriate avoidance, minimization and mitigation measures will reduce indirect impacts to fully protected species.

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2. *Species of Special Concern*: Several Species of Special Concern (SSC) have the potential to occur within or adjacent to the Project area, including, but not limited to: western pond turtle (*Actinemys marmorata*). Project activities described in the EIR should be designed to avoid any SSC that have the potential to be present within or adjacent to the Project area. CDFW also recommends that the EIR fully analyze potential adverse impacts to SSC due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends SMUD include in the analysis how appropriate avoidance, minimization and mitigation measures will reduce impacts to SSC.
3. *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 CNDDDB and are included in *The Manual of California Vegetation* (Sawyer 2009). The EIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts.
4. *Mitigation*: CDFW considers adverse Project-related impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the EIR 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, enhancement, or permanent protection should be evaluated and discussed in detail. If onsite mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, offsite mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.

The EIR 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.

5. *Habitat Revegetation/Restoration Plans*: Plans for restoration and revegetation should be prepared by persons with expertise in the regional 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)

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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 appropriately timed to ensure the viability of the seeds when planted. 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 may include retention of woody material, logs, snags, rocks, and brush piles. Fish and Game Code sections 1002, 1002.5 and 1003 authorize CDFW to issue permits for the take or possession of plants and wildlife for scientific, educational, and propagation purposes. Please see our website for more information on Scientific Collecting Permits at www.wildlife.ca.gov/Licensing/Scientific-Collecting#53949678-regulations-.

6. *Nesting Birds*: Please note that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Migratory non-game native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). CDFW implemented the MBTA by adopting the Fish and Game Code section 3513. Fish and Game Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Sections 3503, 3503.5, and 3513 of the Fish and Game Code afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Fish and Game Code or any regulation made pursuant thereto; section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Fish and Game Code or any regulation adopted pursuant thereto; and section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA 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 MBTA.

Potential habitat for nesting birds and birds of prey is present within the Project area. The Project should disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the Project footprint and its vicinity.

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Appropriate avoidance, minimization, and/or mitigation measures to avoid take must be included in the EIR.

CDFW recommends that the EIR include specific avoidance and minimization measures to ensure that impacts to nesting birds or their nests 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 EIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the Project site. In addition to larger, protocol level survey efforts (e.g. Swainson's hawk surveys) and scientific assessments, CDFW recommends a final preconstruction survey 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 earlier.

7. *Moving out of Harm's Way*: The Project is anticipated to result in the clearing of natural habitats that support native species. To avoid direct mortality, SMUD should state in the EIR a requirement for a qualified biologist with the proper handling permits be retained to be onsite prior to and during all ground- and habitat-disturbing activities. The qualified biologist with the proper permits may 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, as needed. The EIR should also describe the biologist qualifications and authorities to stop work to prevent direct mortality of special-status species. CDFW recommends fish and wildlife species be allowed to move out of harm's way on their own volition, if possible, and to assist their relocation as a last resort. It should be noted that the temporary relocation of onsite wildlife does not constitute effective mitigation for habitat loss.
8. *Translocation of Species*: CDFW generally does not support the use of relocation, salvage, and/or transplantation as the sole mitigation for impacts to rare, threatened, or endangered species as these efforts are generally experimental in nature and largely unsuccessful. Therefore, the EIR should describe additional mitigation measures utilizing habitat restoration, conservation, and/or preservation, in addition to avoidance and minimization measures, if it is determined that there may be impacts to rare, threatened, or endangered species.

The EIR should incorporate mitigation performance standards that would ensure that impacts are reduced to a less-than-significant level. Mitigation measures proposed in the EIR should be made a condition of approval of the Project. Please note that obtaining a permit from CDFW by itself with no other mitigation proposal may constitute mitigation deferral. CEQA Guidelines section 15126.4, subdivision (a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time. To avoid deferring mitigation in this way, the EIR should describe avoidance, minimization and mitigation measures that would be implemented should the impact occur.

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California Endangered Species Act

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to the CESA. CDFW recommends that a CESA Incidental Take Permit (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-listed species that are known in the area include but are not limited to: Swainson’s hawk (*Buteo swainsoni*).

The EIR should disclose the potential of the Project to take CESA-listed species and how the impacts will be avoided, minimized, and mitigated. Please note that mitigation measures that are adequate to reduce impacts to a less-than significant level to meet CEQA requirements may not be enough for the issuance of an ITP. To issue an ITP, CDFW must demonstrate that the impacts of the authorized take will be minimized and fully mitigated (Fish & G. Code §2081 (b)). To facilitate the issuance of an ITP, if applicable, CDFW recommends the EIR include measures to minimize and fully mitigate the impacts to any State-listed species the Project has potential to take. CDFW encourages early consultation with staff to determine appropriate measures to facilitate future permitting processes and to engage with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service to coordinate specific measures if both state and federally listed species may be present within the Project vicinity.

American River Parkway Plan and American River Natural Resources Management Plan

The Project is within the boundaries of the American River Parkway managed by Sacramento County Department of Regional Parks, and as such, is managed under the American River Parkway Plan and forthcoming American River Natural Resources Management Plan. CEQA Guidelines section 15125(d) states that EIRs must discuss any inconsistencies between projects and applicable plans (including habitat conservation plans/natural community conservation plans). CDFW recommends that the EIR include a discussion of each Project alternative’s consistency with American River Parkway Plan and forthcoming American River Natural Resources Management Plan and how SMUD will ensure that implementation of the Project alternatives do not impede the plan’s goals and biological objectives.

Native Plant Protection Act

The Native Plant Protection Act (Fish & G. Code §1900 *et seq.*) prohibits the take or possession of State-listed rare and endangered plants, including any part or product thereof, unless authorized by CDFW or in certain limited circumstances. Take of State-listed rare and/or endangered plants due to Project activities may only be permitted

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through an ITP or other authorization issued by CDFW pursuant to California Code of Regulations, Title 14, section 786.9 subdivision (b).

Lake and Streambed Alteration Program

The EIR should identify all perennial, intermittent, and ephemeral rivers, streams, lakes, other hydrologically connected aquatic features, and any associated biological resources/habitats present within the entire Project footprint (including utilities, access and staging areas). The environmental document should analyze all potential temporary, permanent, direct, indirect and/or cumulative impacts to the above-mentioned features and associated biological resources/habitats that may occur because of the Project. If it is determined the Project will result in significant impacts to these resources the EIR shall propose appropriate avoidance, minimization and/or mitigation measures to reduce impacts to a less-than-significant level.

Section 1602 of the Fish and Game Code 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 and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.

If upon review of an entity's notification, CDFW determines that the Project activities may substantially adversely affect an existing fish or wildlife resource, a Lake and Streambed Alteration (LSA) Agreement will be issued which will include reasonable measures necessary to protect the resource. 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 one is necessary, the EIR 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 Project may avoid or reduce impacts to fish and wildlife resources. To submit an LSA Notification package, please go to <https://www.wildlife.ca.gov/Conservation/Environmental-Review/LSA>.

Please note that other agencies may use specific methods and definitions to determine impacts to areas subject to their authorities. These methods and definitions often do not include all needed information for CDFW to determine the extent of fish and wildlife resources affected by activities subject to Notification under Fish and Game Code section 1602. Therefore, CDFW does not recommend relying solely on methods developed specifically for delineating areas subject to other agencies' jurisdiction (such as United States Army Corps of Engineers) when mapping lakes, streams, wetlands, floodplains, riparian areas, etc. in preparation for submitting a Notification of an LSA.

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CDFW relies on SMUD's environmental document analysis when acting as a responsible agency issuing an LSA Agreement. CDFW recommends lead agencies coordinate with us as early as possible, since potential modification of the proposed Project may avoid or reduce impacts to fish and wildlife resources and expedite the Project approval process.

The following information will be required for the processing of an LSA Notification and CDFW recommends incorporating this information into any forthcoming CEQA document(s) to avoid subsequent documentation and Project delays:

1. Mapping and quantification of lakes, streams, and associated fish and wildlife habitat (e.g., riparian habitat, freshwater wetlands, etc.) that will be temporarily and/or permanently impacted by the Project, including impacts from access and staging areas. Please include an estimate of impact to each habitat type.
2. Discussion of specific avoidance, minimization, and mitigation measures to reduce Project impacts to fish and wildlife resources to a less-than-significant level. Please refer to section 15370 of the CEQA Guidelines.

Based on review of Project materials, aerial photography and observation of the site from public roadways, the Project site supports unnamed tributaries to the Cosumnes River and its associated riparian habitat. CDFW recommends that the EIR fully identify the Project's potential impacts to the stream and/or its associated vegetation and wetlands.

CHEMICAL USE

Rodenticides that control small mammal populations would also reduce available burrows, making the habitat less suitable for burrowing owl and other sensitive wildlife species. Lack of underground refugia could result in increase exposure to predators, heat, and other elements. The use of rodenticides may also result in impact to non-target wildlife. Anticoagulant rodenticides, including diphacinone, have been detected in the majority of predators and scavengers in California (Hosea 2000), including bobcats (*Lynx rufus*) (Serieys et al.) and raptors (Kelley et al. 2015). Since animals dependent on small mammals for habitat and for food sources are present in the American River Parkway CDFW recommends the project avoid use of chemical rodenticides and if they cannot be avoided, then the EIR should analyze the impact of their use to the ecosystem over the life of the Project.

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 CNDDDB. The CNDDDB field survey form can be found at the following link:

<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be

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submitted online or mailed electronically to CNDDDB at the following email address:

CNDDDB@wildlife.ca.gov.

FILING FEES

The Project, as proposed, would have an effect on fish and wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by SMUD 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

Pursuant to Public Resources Code sections 21092 and 21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the Project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670.

CDFW appreciates the opportunity to comment on the Notice of Preparation of the EIR for the Cordova Park Underground Cable Replacement Project and recommends that SMUD address CDFW's comments and concerns in the forthcoming EIR. CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts.

If you have any questions regarding the comments provided in this letter or wish to schedule a meeting and/or site visit, please contact Dylan Wood, Environmental Scientist at (916) 358-2384 or dylan.a.wood@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Kelley Barker

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Kelley Barker

Environmental Program Manager

ec: Tanya Sheya, Senior Environmental Scientist (Supervisory)
Dylan Wood, Environmental Scientist
CEQACommentLetters
Department of Fish and Wildlife

Office of Planning and Research, State Clearinghouse, Sacramento

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Central Valley Regional Water Quality Control Board

6 April 2022

Rob Ferrera
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COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, CORDOVA PARK UNDERGROUND CABLE REPLACEMENT PROJECT, SCH#2022030186, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse's 4 March 2022 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Cordova Park Underground Cable Replacement Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has

adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:

https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_2018_05.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the

State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act

¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at:

https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board’s Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage

under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wgo/wgo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:

https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: <https://www.waterboards.ca.gov/centralvalley/help/permit/>

If you have questions regarding these comments, please contact me at (916) 464-4709 or Greg.Hendricks@waterboards.ca.gov.



Greg Hendricks
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research,
Sacramento



April 6, 2022

Rob Ferrera
Sacramento Municipal Utility District
6201 S Street, MS B203
Sacramento, CA 95817-1899
Rob.ferrera@smud.org

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Cordova Park Underground Cable Replacement Project

Rob Ferrera,

The Sacramento Metropolitan Air Quality Management District has reviewed the Notice of Preparation (NOP) for the Cordova Park Underground Cable Replacement Project. The project proposes to install approximately 0.6 miles of 12 kilovolt (kV) underground cable, approximately 2.12 miles of 69kV underground cable, and up to 13 new utility vaults in the City of Rancho Cordova, near the location of existing 12kV and 69kV underground cables that are approaching the end of their operational lives. Sac Metro Air District comments follow.

Please refer to the Sac Metro Air District's [Guide to Air Quality Assessment in Sacramento County](#)¹ (CEQA Guide) when preparing the draft environmental impact assessment (DEIR). The CEQA Guide provides guidance on criteria and greenhouse gas analysis methodologies.

When available, please send a copy of the DEIR to projectreview@airquality.org.

Please contact me if you have questions at (279) 207 – 1127 or rdubose@airquality.org.

Sincerely,

A handwritten signature in black ink that reads "RDuBose".

Rachel DuBose
Air Quality Planner / Analyst

C: Paul Phillely, AICP, Land Use, and Transportation

¹ <http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>

Appendix B

Initial Study

Sacramento Municipal Utility District

Cordova Park Underground Cable Replacement Project

Initial Study •
April 2022



Powering forward. Together.



Sacramento Municipal Utility District

Cordova Park Underground Cable Replacement Project

Initial Study • April 2022

Lead Agency:

Sacramento Municipal Utility District
6201 S Street, MS B209
Sacramento, CA 95817

or

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Sacramento, CA 95852-0830
Attn: Rob Ferrera
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ACRONYMS AND OTHER ABBREVIATIONS

BMP	best management practice
CAA	Clean Air Act
Cal EPA	California Environmental Protection Agency
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH ₄	methane
CO ₂	carbon dioxide
dB	decibels
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
EO	Executive Order
FTA	Federal Transit Authority
HFC	hydrofluorocarbons
IS	Initial Study
kV	kilovolt
L _{dn}	Day-Night Level
L _{eq}	Equivalent Continuous Sound Level
L _{max}	Maximum Noise Level
MMRP	mitigation monitoring and reporting program
MS4	Municipal Separate Storm Sewer
MTCO _{2e}	metric tons of carbon dioxide equivalent

MW	megawatts
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Natural Resources Conservation Service
PFC	perfluorocarbons
PPV	peak particle velocity
PRC	Public Resources Code
RCPD	Rancho Cordova Police Department
RMS	root-mean-square
SB	Senate Bill
SF ₆	sulfur hexafluoride
SMFD	Sacramento Metropolitan Fire District
SMUD	Sacramento Municipal Utility District
SPL	sound pressure level
SQIP	Stormwater Quality Improvement Plan
SVAB	Sacramento Valley Air Basin
SWPPP	stormwater pollution prevention plan
UST	underground storage tank
VdB	vibration decibels
WDR	waste discharge requirements

1.0 INTRODUCTION

1.0 Project Overview

The Sacramento Municipal Utility District (SMUD) replaces aging electrical infrastructure as part of its routine maintenance and upgrade protocols. Accordingly, SMUD proposes to install approximately 0.6 miles of 12 kilovolt (kV) underground cable, approximately 2.12 miles of 69kV underground cable and up to 13 new utility vaults in the City of Rancho Cordova, near the location of existing 12kV and 69kV underground cables that are approaching the end of their operational lives. Installation of the new cable, conduit and utility vaults would be done by open trenching. Where possible, the new conduit will be installed to align with the existing cable, which would be abandoned in place.

1.1 Purpose of Document

This Initial Study (IS) has been prepared by SMUD to evaluate potential environmental effects resulting from the Cordova Park Underground Cable Replacement Project (project). Chapter 2, “Project Description,” presents the detailed project information.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.). Under CEQA, an IS can be prepared by a lead agency to determine if a project may have a significant effect on the environment (CEQA Guidelines Section 15063[a]), and thus to determine the appropriate environmental document. For this project, the lead agency has prepared the following analysis that identifies potential physical environmental impacts and mitigation measures that would reduce impacts to a less-than-significant level. SMUD is the lead agency responsible for complying with the provisions of CEQA.

In accordance with provisions of CEQA, SMUD distributed a Notice of Preparation (NOP) of an environmental impact report (EIR) to solicit comments on the scope and analysis of the EIR. The NOP was distributed to property owners within 500 feet of the project alignment, as well as to the State Clearinghouse/ Governor’s Office of Planning and Research and each responsible and trustee agency. The NOP was available for a 30-day scoping period during which time comments were submitted to SMUD. The scoping period began on March 7, 2022 and ended on April 6, 2022.

This IS was prepared by SMUD to identify technical resources areas where the project may have a significant environmental impact, and to identify mitigation measures where needed to reduce impacts to a less-than-significant level. This IS will be included as an appendix to the Draft EIR.

1.2 CEQA Process

The purpose of an NOP is to provide sufficient information about the project and its potential environmental impacts to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed (CCR Section 15082[b]). Comments submitted in response to the NOP are used by the lead agency to identify broad topics to be addressed in the EIR. Comments on environmental issues received during the NOP public comment period are considered and addressed, where appropriate, in the Draft EIR.

The Draft EIR will be released for a 45-day public review period during which time agencies and individuals may submit written comments regarding the Draft EIR. Following public review of the Draft EIR, a Final EIR will be prepared that will include both written and oral comments on the Draft EIR that were received during the public review period. The Final EIR will also include responses to those comments and any revisions to the Draft EIR.

Before taking action on the project, the lead agency is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency.

1.3 SMUD Board Approval Process

The SMUD Board of Directors must certify the EIR and approve the mitigation monitoring and reporting program (MMRP) before it can approve the project. Prior to that, the project and relevant environmental documentation will be formally presented at a SMUD Environmental Resources and Customer Service Committee meeting for consideration, discussion, and recommendation to the Board. The SMUD Board of Directors will then consider certification of the EIR and adoption of the MMRP at its next regular meeting. Meetings of the SMUD Board of Directors are generally held on the third Thursday of each month.

1.4 Document Organization

This IS is organized as follows:

Chapter 1: Introduction. This chapter provides an introduction to the environmental review process and describes the purpose and organization of this document.

Chapter 2: Project Description. This chapter provides a detailed description of the project.

Chapter 3: Environmental Checklist. This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist and determines if the project would result in no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, or a potentially significant impact. Where needed to reduce impacts to a less-than-significant level, mitigation measures are presented.

Chapter 4: List of Preparers. This chapter lists the organizations and people that prepared the document.

Chapter 5: References. This chapter lists the references used in preparation of this Draft IS.

1.5 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.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology / Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation / Traffic | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |
| <input type="checkbox"/> None With Mitigation | | |

1.6 Determination

On the basis of this initial evaluation:

- I find that the proposed project could not have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find 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.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find 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.
- I find 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.



Signature

April 6, 2022

Date

Rob Ferrera

Printed Name

Environmental Specialist

Title

Sacramento Municipal Utility District

Agency

2.0 PROJECT DESCRIPTION

2.0 Introduction

SMUD replaces aging electrical infrastructure as part of its routine maintenance and upgrade protocols. Accordingly, SMUD proposes to install approximately 0.6 mile of 12 kilovolt (kV) underground cable, approximately 2.12 miles of 69kV underground cable and up to 13 new utility vaults in the City of Rancho Cordova, near the location of existing 12kV and 69kV underground cables that are approaching the end of their operational lives. Installation of the new conduit (cables would later be pulled through the conduit) and utility vaults would be done by open trenching. Where possible, the new conduit will be installed to align with the existing cable, which would be abandoned in place.

2.1 Project Objectives

SMUD's objectives for the project are to:

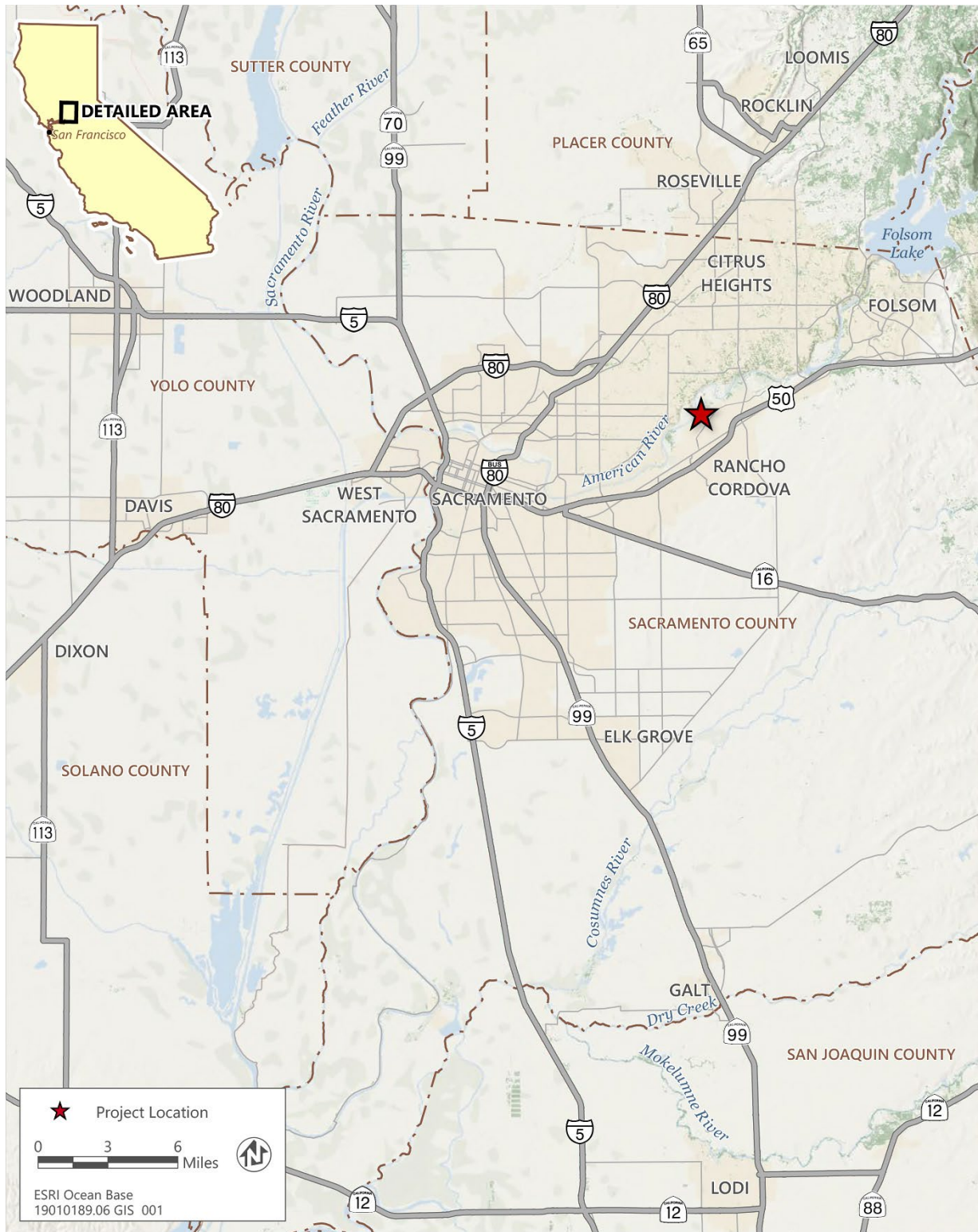
- Provide safe and reliable electrical service to existing and proposed development in the Rancho Cordova area.
- Facilitate efficient maintenance of underground cables and infrastructure.
- Maximize the use of available SMUD property and resources.
- Minimize impacts to nearby sensitive receptors.
- Minimize potential conflicts with existing planning efforts within the City of Rancho Cordova.

2.2 Project Location

The project is in the City of Rancho Cordova (see Figure 2-1). The proposed 12kV alignment begins at SMUD's Cordova Park Substation located near the intersection of Ambassador Drive and Trails Court. The 12kV path travels to Ambassador Drive where it follows the road for approximately 0.6 mile until it connects to existing riser poles just east of Ellison Drive.

The proposed 69kV alignment begins on the northwest side of Coloma Road, approximately 200 feet southeast of Sierra Madre Court. The 69kV alignment heads northwest from Coloma Road, crossing through the property of Mills Middle School and Cordova High School, until it connects to SMUD's Cordova Park Substation. From the substation, the 69kV alignment heads northeast nearly adjacent to, but outside, the backyards of homes facing Ambassador Drive until it reaches Rossmoor Drive. At Rossmoor Drive, the 69kV alignment turns and heads north towards the American River. The 69kV alignment stays along Rossmoor Drive until its termination near the American River, when the 69kV alignment connects to existing riser poles located between the boundaries of Rossmoor Drive and the American River. The proposed 69kV alignment is approximately 2.12 miles in length.

The existing 12kV and 69kV lines that run through the American River Parkway would be abandoned in place, and new conduit containing the new lines would be installed in separate



Source: adapted by Ascent Environmental in 2022

Figure 2-1. Regional Location

trenches within the alignments described above. The proposed 12kV and 69kV alignments are highly disturbed due to vehicle traffic, including areas of pavement and dirt. There are residences adjacent to portions of the proposed 12kV and 69kV alignments. Along Ambassador Drive, the 12kV circuit would be installed beneath existing roadways, sidewalks, or curbs and gutters. Along Rossmoor Drive, the 69kV circuit would be installed beneath existing pavement or within an existing fuel break adjacent to the pavement.

Figure 2-2 shows both the 12kV and 69kV proposed alignments.

2.3 Project Description

2.3.1 Project Elements

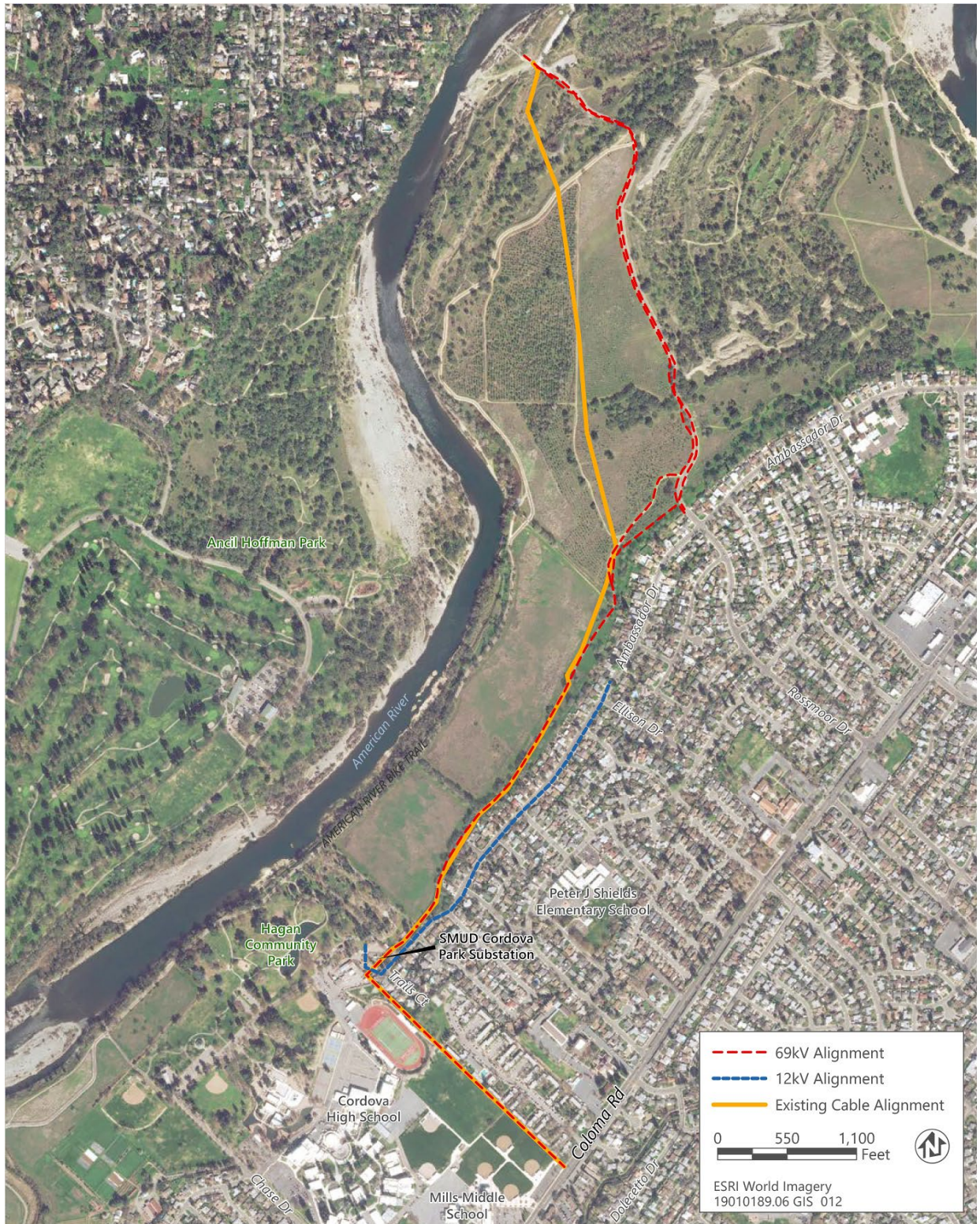
The project involves the installation of approximately 0.6 miles of new underground 12kV electrical lines (cable) and approximately 2.12 miles of new underground 69kV cable to replace existing underground 12kV and 69kV cable buried directly in the ground (direct-buried) that was installed in the 1970s. The new 12kV cable would be installed in conduits buried in dirt while the new 69kV cable would be installed in conduits housed in concrete-encased duct banks to provide pathways and adequate spacing. The proposed project also involves installation of up to 13 new utility vaults along the 69kV alignment to allow access for electric cable pulling, splicing and maintenance.

The existing direct-buried 12kV cable begins at SMUD's Cordova Park Substation and extends approximately 0.6 miles east, where it connects to existing riser poles.

The existing direct-buried 69kV cable begins on the northwest side of Coloma Road, approximately 200 feet southeast of Sierra Madre Court, and extends north across the eastern property lines of Mills Middle School, Cordova High School and Hagen Park until it enters SMUD's Cordova Park Substation located near the intersection of Ambassador Drive and Trails Court (approximately 0.45 mile). From SMUD's substation, the existing 69kV cable extends east beneath a dirt path for approximately 0.70 miles when it turns north and cuts across the American River Parkway towards the American River for approximately 0.75 mile. Note that the total existing 69kV alignment is approximately 1.9 miles and the proposed 69kV alignment is approximately 2.12 miles. The extra mileage is due to deviating from the existing route to align with Rossmoor Drive.

Since installation of the existing 12kV and 69kV cable in the 1970s, native trees have established within the existing alignment along the Parkway. SMUD has coordinated with Sacramento County to install the new conduit outside of the existing alignment to reduce potential impacts to these trees and other biological resources within the American River Parkway and to facilitate easier access for future maintenance.

Accordingly, SMUD proposes to install the conduit for the new 12kV cable beneath the pavement, sidewalks, or curbs and gutters of Ambassador Drive. The proposed 69kV alignment would deviate from the existing alignment by continuing east until it heads north at Rossmoor Drive. While the exact location of the 69kV alignment along Rossmoor Drive is not yet known and would be determined once existing utilities beneath the pavement are identified, the 69kV alignment would generally be within Rossmoor Drive or the fuel break immediately west of the pavement. The 69kV alignment would continue along Rossmoor Drive as it intersects with the American River Parkway bike trail and continue beyond the edge of pavement at the end of



Source: adapted by Ascent Environmental in 2022

Figure 2-2. Project Alignment

Rossmoor Drive. The 69kV alignment would connect to existing riser poles located between the boundaries of Rossmoor Drive and the edge of the American River. Within the American River Parkway, the existing direct-buried 69kV cable would be abandoned in place.

The project would include up to 13 utility vaults to be installed at various points along the 69kV alignment. The proposed utility vaults would consist of pre-cast concrete, measuring 8 feet x 14 feet x 8 feet inside, requiring an excavation area of approximately 15 feet x 20 feet x 15 feet, and would generally be spaced evenly throughout the alignment to allow for cable pulling, splicing and maintenance.

2.3.2 Project Construction

Construction activities would occur in two phases. Phase 1 would include the 12kV alignment, while Phase 2 would include the 69kV alignment and utility vaults. Construction activities would occur during hours identified in City of Rancho Cordova Zoning Code Section 6.68.090(E). If there is a need for work to occur outside of these hours, SMUD will provide additional notification to customers adjacent to the project boundary.

Most construction would include open trenching to a maximum depth of 7 feet, though some deeper excavation may be necessary to avoid conflicts with existing utility lines. Removing water from the construction area (dewatering) may be necessary due to the high water-table of the area. SMUD would use Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the existing storm drain system in a manner consistent with regulatory requirements. For the 12kV alignment, the 12kV cable would be installed in conduit in the trenches. The 69kV electrical cable would be placed in a duct bank, which is a series of conduits encased in concrete. The trenches would then be backfilled with a cement-like slurry mixture or compacted aggregate base to the roadway subgrade elevation followed by replacement of the appropriate cover (e.g., pavement or dirt). Construction activities would generally be conducted in existing alignments or along the roadway and would include the temporary closure of footpaths and roads. Alternative routes of travel will be provided where feasible. Following construction activities each day, the open trenches would be covered, and equipment removed to allow safe use of footpaths and roadways.

2.3.3 Project Operation

As the project includes construction and installation of underground utility infrastructure, project operation would include the active use of these facilities in replacement of existing infrastructure. There would not be any above-ground structures installed as part of the project, and operation of project elements would not create sources of noise, light, or other features that would be noticeable to residents and recreationists in the area.

2.3.4 Project Schedule

Construction for Phase 1 (12kV alignment) is anticipated take up to 3 weeks and would begin in the summer of 2022. Phase 2 (69kV alignment) construction would take approximately 12 months once initiated and is anticipated to begin in the next 5 to 7 years.

2.4 Potential Permits and Approvals Required

Elements of the project could be subject to permitting and/or approval authority of other agencies. As the lead agency pursuant to the CEQA, SMUD is responsible for considering the adequacy of the environmental impact report (EIR) and determining if the project should be approved. Other potential permits required from other agencies could include:

2.4.1 State

- State Water Resources Control Board/Central Valley Regional Water Quality Control Board: Construction Storm Water Discharge Permits for projects that disturb more than one acre of land.
- California Department of Transportation: permits for movement of oversized or excessive loads on State Highways.

2.4.2 Local

- Sacramento Metropolitan Air Quality Management District: Authority to Construct/Permit to Operate pursuant to Sacramento Metropolitan Air Quality Management District Regulation 2 (Rule 201 et seq.).
- City of Rancho Cordova:
 - Tree removal permit.
 - Encroachment permit.
- County of Sacramento:
 - Encroachment permit.

3.0 ENVIRONMENTAL IMPACT EVALUATION

3.0 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.

3.1 Aesthetics

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
I. Aesthetics				
Except as provided in Public Resources Code section 21099 (where aesthetic impacts shall not be considered significant for qualifying residential, mixed-use residential, and employment centers), would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.1.1 Environmental Setting

Topography within the project alignments is generally flat. The 12kV alignment extends through a residential neighborhood characterized by single-family homes and associated landscaping, mainly mature trees, shrubs, and lawns. The 69kV alignment runs between school and residential properties, as well as between the open space of the American River Parkway and single-family residences. Part of the 69kV alignment runs along Rossmoor Drive as it traverses the Parkway, until the alignment meets with existing riser poles near the edge of the American River. Most structures in the area are one to two stories tall. Landscaping along the 69kV alignment includes many mature trees and a variety of other medium and large trees, shrubs, and lawns.

The visual character of the project alignments and the surrounding area is typical of the City of Rancho Cordova’s residential areas, which includes school buildings, single and multi-family residential units, landscaping, lawns, and open space. Distant views consist of the Sierra Nevada foothills, although existing buildings, trees, and other city infrastructure preclude/limit these views in many locations. The American River is also visible from the northern end of the 69kV alignment, though the view is partially obscured by trees and vegetation along the river’s edge.

3.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than significant. A scenic vista is generally defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality, or a natural or cultural resource that is characteristic of the area. The Lower American River (from the Folsom Dam to its confluence with the Sacramento River) is classified as a “Recreation” river, as defined by the

Federal and State Wild and Scenic Rivers System due to its aesthetic qualities and wealth of recreational opportunities that it provides (City of Rancho Cordova 2006:4.13-2). Scenic vistas of the American River are provided at various public access points within the American River Parkway, including the areas of the project alignments. The *American River Parkway Plan 2008* recognizes the importance of the Parkway's aesthetic resources and includes policies that regulate uses within the Parkway (Sacramento County 2008).

The closest scenic resource to the project alignment is the American River, located approximately 200 feet from the riser pole at the northern terminus of the 69kV alignment. Between the project alignment and the American River, there is extensive open space and vegetation that blocks views of the American River. Views in the project area are limited to the open space and vegetation of the Parkway, primarily because of the flat terrain and the level of development/landscaping that preclude long-range views. Views along the 12kV alignment are short- to mid-range and typically reflect the suburban character of the surroundings, which are not considered scenic vistas. Views along the 69kV alignment within the American River Parkway are short- to mid-range views of Parkway vegetation and features. While project construction activities, particularly the temporary and short-term presence of construction equipment, would temporarily interfere with views of the river and the Parkway, these impacts would cease upon completion of construction. Further, the project would not involve the operation of above-ground facilities that could permanently impede long-distance views in the area. Therefore, the project would have a ***less-than-significant*** impact related to a substantial adverse effect on a scenic vista, and no mitigation is required.

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

No impact. The project alignments are not near any eligible or designated state scenic highways. The nearest designated scenic roadway is Route 160, more than 13 miles southwest of the project area (Caltrans 2022). Because there are no designated state scenic highways within, adjacent to, or visible from the project area, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. The project would have ***no impact***, and no mitigation is required.

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

Less than significant. During project construction, views in the area would be modified as a result of the temporary presence of construction equipment and activities. However, the appearance of construction equipment and activities would be a minor feature relative to the overall views of the Parkway. Once construction activities are complete, the project alignments would appear nearly identical to existing conditions, with no above ground structures installed as part of the project, though new utility vault covers would be visible to motorists, pedestrians, and bicyclists on road and trail surfaces along the project alignments. However, there are existing utility covers along the project alignments, and the addition of up to 13 more utility vault covers over a distance of more than two miles would not substantially degrade the existing visual character of the project area. Because impacts would be largely limited to construction, and the

project would be minimally visible during operation, the project would have a ***less-than-significant*** impact related to a scenic quality, and no mitigation is required.

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

No impact. Construction activities would occur during daylight hours and would not require nighttime lighting. Construction equipment is unlikely to have reflective surfaces and would not be a substantial source of glare in the area. During project operation, all project features would be underground or flush with the ground surface (i.e., utility vault covers) and would not require any lighting during operation or create substantial glare. Therefore, the project would have ***no impact*** related to light and glare, and no mitigation is required.

3.2 Agriculture and Forestry Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
II. Agriculture and Forest Resources.				
<p>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, as updated) 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 carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.</p> <p>Would the project:</p>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.1 Environmental Setting

The project alignments are within areas of Parks and Open Space (POS) and Residential, 5 units per acre (RD-5), according to the City of Rancho Cordova Zoning Code. There are no parcels designated for agricultural use within or adjacent to the project alignments.

The project alignments are in areas identified as Farmland of Local Importance, Urban and Built-Up Land, and Other Land by the California Department of Conservation (DOC 2016). No portions of the project alignments or adjacent parcels are held under Williamson Act contracts (DOC 2015).

There are no areas either within or adjacent to the project alignment that have been designated as forest land or timberland or support trees in the concentration or cover that would qualify them as such.

3.2.2 Discussion

- a-e) **Would the project 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 uses; conflict with existing zoning for agricultural use, or a Williamson Act contract; 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)); result in the loss of forest land or conversion of forest land to non-forest use; or 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?**

No impact. The project alignments do not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, or zoned as forest land or a timberland area. While an area of the project alignment is identified as Farmland of Local Importance, these areas are located within designated park and open space lands and are not actively used for or zoned for agricultural purposes. There are no active agricultural operations within or near the project alignments, and there are no Williamson Act contracts near the project alignments. No existing agricultural or timber-harvest uses are located on or near the project alignments. The project consists of underground cable replacement and installation of new underground utility vaults, and would not result in other changes in the environment that would result in the conversion of agricultural land uses. Therefore, the project would have **no impact** on agriculture or forest land, and no mitigation is required.

3.3 Air Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.				
Are significance criteria established by the applicable air district available to rely on for significance determinations?				
	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.3.1 Environmental Setting

The project alignment is located in the City of Rancho Cordova which is within the Sacramento Valley Air Basin (SVAB). The SVAB encompasses Butte, Colusa, Glenn, Tehama, Shasta, Yolo, Sacramento, Yuba, and Sutter Counties and parts of Placer, El Dorado, and Solano Counties. The SVAB is bounded on the north and west by the Coast Ranges, on the east by the southern portion of the Cascade Range and the northern portion of the Sierra Nevada, and on the south by the San Joaquin Valley Air Basin. Sacramento County is currently designated as nonattainment for both the federal and State ozone standards, the federal PM_{2.5} standard, and the State PM₁₀ standard. The region is designated as in attainment or unclassifiable for all other federal and State ambient air quality standards. (SMAQMD 2021)

3.3.2 Discussion

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- 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?
- c) Expose sensitive receptors to substantial pollutant concentrations?
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Potentially significant. A preliminary evaluation of the air quality impacts of the project indicate that project construction emissions could exceed local thresholds. Therefore, project impacts related to air quality could be ***potentially significant***. These issues will be analyzed further in the EIR.

3.4 Biological Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 the U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.4.1 Environmental Setting

Because the project alignments are adjacent to and within the American River Parkway, an area known for its biological resources, a biological resources technical report and arborist report were prepared for the project. These technical reports will be used in the Draft EIR and will be appended to that document.

3.4.2 Discussion

- 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 the U.S. Fish and Wildlife Service?**
- b) **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the 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?**
- d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**
- e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**
- f) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

Potentially significant. Because the 69kV alignment travels through the American River Parkway, a preliminary evaluation suggests that there could be special status species or other biological resources along the project alignments. Therefore, project impacts related to biological resources could be ***potentially significant***. These issues will be analyzed further in the EIR.

3.5 Tribal Cultural Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
V. Tribal Cultural Resources.				
Has a California Native American Tribe requested consultation in accordance with Public Resources Code section 21080.3.1(b)?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
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:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) 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 in 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.5.1 Environmental Setting

Tribal Consultation

On June 21, 2021, in response to a Sacred Lands File Search request from Ascent Environmental (Ascent) on behalf of SMUD, the Native American Heritage Commission (NAHC) notified Ascent that the records search results for the project alignment area were positive (NAHC 2021). The NAHC’s letter advised SMUD to contact the Native American Tribes identified on the list provided by NAHC, which provided contact information for Native American Tribes who may have interest in the project.

On August 19, 2021, SMUD sent emails and certified letters to the lone Band of Miwok Indians, United Auburn Indian Community of the Auburn Rancheria, and Wilton Rancheria. The EIR includes more discussion regarding the AB 52 process and the current status of consultation.

3.5.2 Discussion

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:

- a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?
- b) 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 in 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?

Potentially significant. The records search identified known Tribal cultural resources at the project site or within 1/8-mile of the project site (NCIC 2021). Currently, four Tribes are actively engaging in consultation with SMUD regarding potential Tribal cultural resources in the area of the project alignments. Therefore, impacts related to the project could be ***potentially significant***. These issues will be analyzed further in the EIR.

3.6 Cultural Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VI. Cultural Resources.				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.6.1 Environmental Setting

On August 2, 2021, a search of the project alignments and a one-half-mile radius was conducted at the North Central Information Center, at California State University, Sacramento (File no. SAC-21-150). This search expanded on an earlier record search conducted on May 20, 2021 (File no. SAC-21-102) for a smaller segment of the project alignment. The records search results identified that the entire project area is located within the boundaries of a large and complex historic-era archeological district, the Folsom Mining District (P-34-000335/CA-SAC-308H).

3.6.2 Discussion

a-c) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? Disturb any human remains, including those interred outside of formal cemeteries?

Potentially significant. The records search identified known archaeological and historic resources on the project site or within one-half-mile of the project site (NCIC 2021). Therefore, impacts related to the project could be **potentially significant**. These issues will be analyzed further in the EIR.

3.7 Energy

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Energy.				
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.7.1 Environmental Setting

California relies on a regional power system composed of a diverse mix of natural gas, petroleum, renewable, hydroelectric, and nuclear generation resources.

- Petroleum:** Petroleum products (gasoline, diesel, jet fuel) are consumed almost exclusively by the transportation sector, and account for almost 99 percent of the energy used in California by the transportation sector, with the rest provided by ethanol, natural gas, and electricity (Bureau of Transportation Statistics 2015). Between January 2007 and May 2016, an average of approximately 672 billion gallons of gasoline were purchased in California (California State Board of Equalization 2016). Gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet specific formulations required by the California Air Resources Board (CARB) (EIA 2018).
- Natural Gas:** Almost two-thirds of California households use natural gas for home heating, and about half of California’s utility-scale net electricity generation is fueled by natural gas (EIA 2018).
- Electricity and Renewables:** The California Energy Commission estimates that 34 percent of California’s retail electricity sales in 2018 will be provided by RPS-eligible renewable resources (CEC 2018). California regulations require that electricity consist of 33 percent renewables by 2020 and 50 percent renewables by 2030 for all electricity retailers in the state.
- Alternative Fuels:** Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many alternative transportation fuels (e.g., biodiesel, hydrogen, electricity, and others). Use of alternative fuels is encouraged through various statewide regulations and plans (e.g., Low Carbon Fuel Standard, AB 32 Scoping Plan).

Regional Energy Resources and Use

SMUD provides natural gas and electricity services to the larger Sacramento area, including the project area. SMUD’s service area encompasses approximately 900 square miles, including most of Sacramento County, and small portions of Placer, Amador, El Dorado, San Joaquin, and Yolo

Counties. SMUD obtains its power from various sources, including hydropower, natural-gas-fired generators, renewable energy resources (i.e., solar, wind, hydroelectric, and biomass), and power purchased through other utility companies. SMUD's biggest single source of energy is its natural-gas-fired Cosumnes Power Plant, which generates up to approximately 600 megawatts (MW) of energy, or enough electricity to power approximately 450,000 single-family homes (SMUD 2022). SMUD also gives customers the option to purchase energy from renewable energy resources. SMUD's Greenergy program allows customers to purchase their energy from a mix of renewable sources such as biomass, wind, and solar resources. In 2020, renewable power sources made up 60 percent of SMUD's total power supply.

Federal Regulations

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Under this act, the National Highway Traffic and Safety Administration, is responsible for revising existing fuel economy standards and establishing new vehicle economy standards. The Corporate Average Fuel Economy program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Three Energy Policy Acts have been passed, in 1992, 2005, and 2007, to reduce dependence on foreign petroleum, provide tax incentives for alternative fuels, and support energy conservation.

State Regulations

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the Energy Commission. The Act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

The Energy Commission is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 2003 California Energy Action Plan (2008 update). The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, and encouragement of urban design that reduces vehicle miles traveled and accommodates pedestrian and bicycle access.

Renewable Energy Regulations

The state has passed legislation requiring the increasing use of renewables to produce electricity for consumers. California utilities are required to generate 33 percent of their electricity from renewables by 2020 (SB X1-2 of 2011), 52 percent by 2027 (SB 100 of 2018), 60 percent by 2030 (also SB 100 of 2018), and 100 percent by 2045 (also SB 100 of 2018).

Regional Regulations

SMUD 2030 Zero Carbon Plan

SMUD adopted its 2030 Zero Carbon Plan to eliminate carbon emissions from its power supply by 2030. With the 2030 Zero Carbon Plan, SMUD intends to reduce carbon emissions by 90 percent through the adoption of 3,000 MW of new renewable energy sources including utility-scale wind, solar, batteries, hydroelectric power, biomass, geothermal, as well as customer-owned solar and battery storage; the closer of two power plants; and the integration of new technology into the grid.

City of Rancho Cordova

The City of Rancho Cordova General Plan includes policies related to energy use and resources under the Natural Resources element Goal NR. 7, Reduce per capita energy consumption, and Policy NR7.1, Increase energy conservation citywide.

3.7.2 Discussion

- a) **Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

Less than significant. Energy would be consumed during Phase 1 and Phase 2 construction to operate and maintain construction equipment, transport construction materials, and for worker commutes. Levels of construction-related energy consumption by the project were calculated using CalEEMod Version 2020.4.0 and from fuel consumption factors in the EMFAC and OFFROAD models (see Appendix C for detailed calculations). During Phase 1, an estimated 72,427 gallons of gasoline and 5,392 gallons of diesel would be consumed and during Phase 2, an estimated 1,254,910 gallons of gasoline and 89,721 gallons of diesel would be consumed, accounting for both onsite equipment use and offsite vehicle travel. This one-time energy expenditure required to construct the alignments would be nonrecoverable. The energy needs for project construction would be temporary and would not require additional capacity or increase peak or base period demands for electricity or other forms of energy.

The project would require minor operational activities similar to existing conditions and therefore would generate minor vehicle trips or energy consumption during operation. Therefore, the project would not result in an inefficient, wasteful, or unnecessary consumption of energy resources. This impact would be **less than significant**, and no mitigation would be required.

- b) **Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.**

No impact. As discussed above, the project would not result in inefficient, wasteful, or unnecessary consumption of energy resources. Furthermore, the project includes the replacement of aging underground cables, which would result in increased transmission efficiency. Increased efficiency in energy transmission allows for increased energy conservation, which would be consistent with the City's General Plan Policy NR.7.1. Furthermore, the underground cable replacement helps support electrification which is a technology use type recommended in the SMUD's Zero Carbon Plan for building and vehicle decarbonization. Thus,



the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The project would have ***no impact***, and no mitigation would be required.

3.8 Geology and Soils

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VIII. Geology and Soils. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) 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 California Geological Survey Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.8.1 Environmental Setting

Regional and Local Geology

The project alignments are located in the city of Rancho Cordova, within the southern portion of the Sacramento Valley. The Sacramento Valley represents the northern portion of the Great Valley geomorphic province of California, which is bordered on the east by the foothills of the Sierra Nevada geomorphic province and on the west by the Coast Range geomorphic province. The Great Valley is an asymmetrical trough approximately 400 miles long and 40 miles wide forming the broad valley along the axis of California. Erosion of the Coast Range and the Sierra Nevada has generated alluvial, overbank, and localized lacustrine sediments as thick as 50,000 feet in areas of the Great Valley.

The project alignments, which vary in distance between 200 and 3,500 feet from the American River, are underlain by the following: Holocene Alluvium (Qa), described as levee and channel deposits; Holocene Alluvium, described as the Modesto-Riverbank Formation (Qmr); and mine and dredge tailings (t) (Wagner et al. 1981).

Seismicity

The Great Valley is bounded on the west by the Great Valley fault zone and the Coast Ranges and on the east by the Foothills fault zone and the Sierra Nevada. Relatively few faults in the Great Valley have been active during the last 11,700 years. The closest faults to the project site with evidence of displacement during Holocene time are the Dunnigan Hills Fault (approximately 30 miles to the northwest) and the Cleveland Hills Fault (approximately 60 miles to the north). In general, active faults are located along the western margin of the Central Valley (e.g., the Great Valley Fault) and within the Coast Ranges (Jennings 1994). There are no Alquist-Priolo Earthquake Fault Zones within Sacramento County (CGS 2010).

According to the California Geological Survey Earthquake Shaking Potential for California, the Sacramento region is distant from known, active faults and would experience lower levels of shaking less frequently than areas closer to major, active faults. However, very infrequent earthquakes could still cause strong shaking here (CGS 2016). Landslides triggered by seismic events are not expected near the project alignments due to the flat terrain of the alignments and their surroundings.

Factors determining liquefaction potential are the soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands, peat deposits, and unconsolidated Holocene-age sediments are the most susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking. The occurrence of liquefaction during an earthquake can potentially cause reduction in or loss of shear strength, seismically induced settlements, formation of boils, or lateral spreading of the liquefied soil. In order for liquefaction of soils due to ground shaking to occur, it is generally understood that subsurface soils must be in a relatively loose state, soils must be saturated, soils must be sand like (e.g. non-plastic or of very low plasticity), and the ground motion is of sufficient intensity to act as a triggering mechanism. The project alignments are not located in any currently established State of California Seismic Hazard Zone for liquefaction.

Soils

A review of U.S. Natural Resources Conservation Service (NRCS) soil survey data indicates that the project alignments are composed of the following soil types: Americanos-Urban land complex, Rossmoor fine sandy loam, Rossmoor-Urban land complex, Xerofluvents, and Xerorthents (NRCS 2022). These soils and some of their characteristics are presented in Table 3.8-1 below. While alignment-specific geotechnical studies have not yet been conducted for the project alignments, SMUD will be confirming the geotechnical properties of the alignments as design details are finalized.

Table 3.8-1 Project Alignment Soil Characteristics

Soil Map Unit	Water Holding Capacity	Erosion Potential	Drainage Class
Americanos-Urban land complex	High	Slight	Well drained
Rossmoor fine sandy loam	High	Slight	Well drained
Rossmoor-Urban land complex	High	Slight	Well drained
Xerofluvents	Very low to low	Slight to moderate	Somewhat excessively drained
Xerorthents, dredge tailings	Very low to low	Slight to none	Somewhat excessively drained

Source: NRCS 2022, City of Rancho Cordova 2006:Table 4.8-1.

Paleontological Resources

Rancho Cordova’s General Plan EIR noted that a records search for the Rancho Cordova area did not identify any evidence of significant paleontological resources and concluded that the area does not appear sensitive for the presence of paleontological resources (City of Rancho Cordova 2006:4.11-4).

3.8.2 Discussion

- a) **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
 - i. **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 California Geological Survey Special Publication 42.)**

No impact. Surface ground rupture along faults is generally limited to a linear zone a few yards wide. There are no Alquist-Priolo Earthquake Fault Zones within Sacramento County (CGS 2010). Consequently, the project would not expose people or structures to adverse effects caused by the rupture of a known fault. There would be **no impact** associated with fault rupture, and no mitigation would be required.

- ii. **Strong seismic ground shaking?**

Less than significant. The project alignments are located in the center of the Sacramento Valley, which has historically experienced a low level of seismic ground shaking. The California Geological Survey has identified the region as an area of low to moderately low earthquake shaking potential (CGS 2016). The project involves the installation of underground electrical infrastructure, which would conform to the standards contained within California Building Code (CBC) Title 24, which identifies specific design requirements to reduce damage from strong

seismic ground shaking, ground failure, landslides, soil erosion, and expansive soils. This impact would be **less than significant**, and no mitigation would be required.

iii. Seismic-related ground failure, including liquefaction?

Less than significant. Soil liquefaction most commonly occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. Liquefaction may also occur in the absence of a seismic event, when unconsolidated soil above a hardpan becomes saturated with water. Factors determining liquefaction potential are the soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands, peat deposits, and unconsolidated Holocene-age sediments are the most susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking.

Older deposits, including the Pleistocene Riverbank formation which underlies the project alignment, are not generally susceptible to liquefaction; however, younger loose fluvial deposits overlying the Riverbank formation present a risk of liquefaction.

Active seismic sources (i.e., known, active faults) are a relatively long distance away. The project alignments are located on flat land with 0 to 2 percent slopes, are underlain by stable Pleistocene-age Riverbank formation sediments and have low shaking hazard potential. However, in the highly unlikely event of a significant earthquake affecting the project alignments, widespread liquefaction could occur resulting in significant damage. The project would comply with CBC Title 24, which includes specific design requirements to reduce damage from ground failure. The project may require dewatering activities during construction, which would further reduce the potential for ground failure. In addition, emergency shutoffs would be installed with the electrical equipment, and would be remotely activated as needed during a seismic event to reduce risks involving seismic-related ground failure. Therefore, the potential of adverse effects involving ground failure, including liquefaction is low; this impact would be **less than significant**, and no mitigation would be required.

iv. Landslides?

No impact. The project alignments are located on flat land with 0 to 2 percent slopes; there is no risk of landslides in such terrain. Consequently, the project would not expose people or structures to landslides. There would be **no impact** associated with landslide risk, and no mitigation would be required.

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

Less than significant. As shown in Table 3.8-1, NRCS soil survey data indicate that the project alignment includes soils are slightly to moderately susceptible to erosion. Construction activities would involve grading, excavating, trenching, moving, filling, and temporary stockpiling of soil within the project alignments. Construction activities would remove vegetative cover and existing paving and would expose site soils to erosion via wind in the summer months, and to surface water runoff during storm events. Sediment from construction activities could be transported within stormwater runoff and could drain to off-site areas and degrade local water quality.

However, the project would be subject to the National Pollutant Discharge Elimination System (NPDES) Statewide construction general NPDES permit for stormwater runoff (Order No. 99 - 08 – DWQ and NPDES No. CAS000002 [Construction General Permit]). In compliance with the Construction General Permit, a stormwater pollution prevention plan (SWPPP) would be developed for the project by a qualified SWPPP professional. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of stormwater associated with construction activity and identify, construct, and implement stormwater pollution prevention measures to reduce pollutants in stormwater discharges during and after construction. Therefore, the SWPPP would include a description of potential pollutants, the management of dredged sediments, and hazardous materials present on the site during construction (including vehicle and equipment fuels). The SWPPP would also include details of how the best management practices (BMPs) for sediment and erosion control would be implemented. Implementation of the SWPPP would comply with state and federal water quality regulations.

Furthermore, and as noted above, the project would be constructed in accordance with CBC standards. These standards require that appropriate soil and geotechnical reports be prepared and that site-specific engineering design measures, including those related to general site grading, clearing and grubbing, soil stabilization, and general erosion control, be implemented to appropriately minimize potential adverse impacts related to erosion at the infill site. This, coupled with preparation of a site-specific SWPPP, would minimize potential adverse impacts related to erosion and loss of topsoil in the project alignments. Impacts would be **less than significant**, and no mitigation would be 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 landslide, lateral spreading, subsidence, liquefaction, or collapse?**

Less than significant. As described previously, there are no steep slopes within the project alignments; therefore, there would be no potential for on- or off-site landslide. Near-surface soils encountered in the project alignments have a significant portion of clay and silt and are, therefore, anticipated to be moisture sensitive. Soil moisture content, shallow groundwater levels, and silty and clayey soils could become unstable and potentially result in lateral spreading, subsidence, liquefaction, or collapse. SMUD is conducting geotechnical evaluations of the project alignments to inform the selection of specific project design and methods that are appropriate or the location; these methods include conventional open trench, shoring, dewatering, and reinforced concrete subsurface structure construction methods. In addition, the project would comply with and implement all appropriate recommendations provided in the alignment-specific geotechnical investigation report, as well as all applicable CBC provisions. Therefore, this impact would be **less than significant**, and no mitigation would be required.

- d) **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?**

Less than significant. Expansive soils shrink and swell as a result of moisture change. These volume changes can result in damage over time to building foundations, underground utilities, and other subsurface facilities and infrastructure if they are not designed and constructed appropriately to resist the damage associated with changing soil conditions. However, underground cable would be placed in a series of conduits encased in concrete. The trenches would then be backfilled with a cementitious slurry mixture or compacted aggregate base to the

roadway subgrade elevation to reduce any risk associated with expansive soils. Therefore, this impact would be ***less than significant***, and no mitigation would be required.

- e) **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

No impact. The project would not require the use of septic tanks or alternative wastewater disposal systems. Thus, the project would have ***no impact*** related to soil suitability for use of septic tanks or alternative wastewater disposal systems, and no mitigation would be required.

- f) **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Less than significant. Rancho Cordova's General Plan EIR noted that a records search for the Rancho Cordova area did not identify any evidence of significant paleontological resources and concluded that the area does not appear sensitive for the presence of paleontological resources (City of Rancho Cordova 2006:4.11-4). If paleontological resources are discovered during excavation or construction, SMUD would comply with Rancho Cordova General Plan Action CHR.3.3.4, which requires adherence to certain procedures. Specifically, these procedures include protocols and criteria for qualifications of personnel, and for survey, research, testing, training, monitoring, cessation and resumption of construction, identification, evaluation, and reporting, as well as compliance with recommendations to address any significant adverse effects where determined by the City to be feasible. Therefore, implementation of the policies and implementation programs contained within the General Plan would ensure that impacts to paleontological resources would be ***less than significant***, and no mitigation is required.

3.9 Greenhouse Gas Emissions

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
IX. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.9.1 Environmental Setting

Certain gases in the earth’s atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth’s surface temperature. Solar radiation enters the earth’s atmosphere from space. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead “trapped,” resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). GHG emissions contributing to global climate change are attributable, in large part, to human activities associated with on-road and off-road transportation, industrial/manufacturing, electricity generation by utilities and consumption by end users, residential and commercial onsite fuel usage, and agriculture and forestry. It is “extremely likely” that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing together (IPCC 2014: 5).

Climate change is a global crisis. GHGs are global pollutants because even local GHG emissions contribute to global impacts. GHGs have long atmospheric lifetimes (one to several thousand years) and persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any particular GHG molecule is dependent on multiple variables and cannot be determined with any certainty, it is understood that more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration (IPCC 2013:467).

Federal Plans, Policies, Laws, and Regulations

On December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued findings regarding GHGs under the Clean Air Act (CAA). The *Final Endangerment and Cause or Contribute Findings for Greenhouse Gases* state that current and projected concentrations of the six key well-mixed GHGs in the atmosphere— CO₂, CH₄, N₂O, HFC, PFC, and SF₆—threaten the public health and welfare and that combined emissions of GHGs from new motor vehicles contribute to this issue. This allowed EPA to regulate GHGs under the CAA. For example, EPA and the National Highway Traffic Safety Administration issued two rules (81 Fed. Reg. 73478 and 77 Fed. Reg. 62623) that require substantial improvements in fuel economy for all vehicles sold

in the U.S. for model years 2017 through 2025 of passenger cars, light-duty trucks, and medium-duty passenger vehicles. In 2012, EPA issued CARB a waiver that allows California to more strictly regulate pollution from cars than the federal government.

State Plans, Policies, Laws, and Regulations

Statewide GHG Emission Targets and the Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the State government for approximately two decades (State of California 2018). GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (Assembly Bill [AB] 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32 of 2016). Executive Order (EO) S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. EO B-55-18 calls for California to achieve carbon neutrality by 2045 and achieve and maintain net negative GHG emissions thereafter. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2 degrees Celsius, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius (UN 2015:3).

California's 2017 Climate Change Scoping Plan, prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals" (CARB 2017:1, 3, 5, 20, 25–26). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste). The State has also passed more detailed legislation addressing GHG emissions associated with industrial sources, transportation, electricity generation, and energy consumption, as summarized below.

Local

Sacramento Metropolitan Air Quality Management District

SMAQMD is the primary agency responsible for addressing air quality concerns in all of Sacramento County and recommends measures for analyzing project-generated GHGs in CEQA analysis. SMAQMD developed thresholds of significance to provide a uniform scale to measure the significance of GHG emissions from land use and stationary source projects in compliance with CEQA, AB 32, and SB 32.

City of Rancho Cordova

The City's General Plan does not include goals or policies directly related to climate change or GHGs. However, several goals and policies included in the General Plan related to vehicle trip reductions or smart growth development could indirectly reduce the impacts from climate change and GHGs.

3.9.2 Discussion

a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Less than significant. The issue of global climate change is inherently a cumulative issue, because the GHG emissions of an individual project cannot be shown to have any material effect on global climate. Thus, the level of GHG emissions associated with implementation of the project is addressed as a cumulative impact.

GHG emissions associated with implementation of the project would be generated during project construction. It is anticipated that operational activities associated with the project would include only occasional maintenance and repair; therefore, operational emissions from the project would be negligible. Construction-related emissions of GHGs were estimated using CalEEMod Version 2020.4.0. Model outputs are included in Appendix A.

Project-related construction activities would result in the generation of GHG emissions from the use of heavy-duty off-road construction equipment and vehicle use during worker commute. Phase 1 and Phase 2 construction activities would both include site preparation, trenching, conduit duct bank installation, utility vault installation, and paving. Based on emissions modeling conducted for the project using CalEEMod, total construction activity would result in finite emissions of 895 metric tons of carbon dioxide equivalent (MTCO_{2e}).

SMAQMD has established quantitative significance thresholds for evaluating GHG emissions. For construction of all types, the established significance threshold is 1,100 MTCO_{2e} annually (SMAQMD 2021). Phase 1 and a portion of Phase 2 construction activities were assumed to occur in 2022, while the remainder of Phase 2's emissions were also assumed to occur in 2023. In 2022, Phase 1 and Phase 2 construction-related GHG emissions would generate a total of 425 MTCO_{2e}. In 2023, Phase 2 construction-related GHG emissions would generate a total of 470 MTCO_{2e}. Individually, 2022 and 2023 annual emissions would be under the 1,100 MTCO_{2e} annual threshold. Furthermore, the sum of GHG emissions for both 2022 and 2023 construction activities, 895 MTCO_{2e}, would not exceed the annual 1,100 MTCO_{2e} threshold. Therefore, construction-related GHG emissions would not exceed SMAQMD's threshold of significance. This impact would be **less than significant**, and no mitigation would be required.

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

No impact. Plans, policies, and regulations adopted for the purpose of reducing GHG emissions were developed with the purpose of reducing cumulative emissions related, primarily, to long-term operational emissions. As described previously, the project would not result in a cumulatively considerable increase in GHG emissions as a result of construction activities and would not generate any GHG emissions during operations. Thus, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. There would be **no impact**, and no mitigation would be required.

3.10 Hazards and Hazardous Materials

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
X. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.10.1 Environmental Setting

The State Water Resources Control Board’s GeoTracker website, which provides data relating to leaking underground storage tanks (USTs) and other types of soil and groundwater contamination, along with associated cleanup activities, did not identify any hazards related to USTs and other types of contamination within or adjacent to the project alignments (SWRCB 2022).

The California Department of Toxic Substances Control’s Envirostor Web site, which provides data related to hazardous materials spills and clean ups, also did not identify any hazards related to any cleanup sites within or adjacent to the project alignments (DTSC 2022).

The 69kV alignment crosses the property of two public schools, Mills Middle School, located along Coloma Road east of Chase Drive, and Cordova High School, located on Chase Drive, adjacent to Mills Middle School.

Within one-quarter mile of the project alignments, there are three public schools and two private schools. The public schools are Peter J. Shields Elementary at 10434 Georgetown Drive, Rancho Cordova Elementary at 2562 Chassella Way, and Riverview STEM Academy at 10700 Ambassador Drive. The private schools are St. John Vianny School at 10499 Coloma Road and Cordova Baptist Church Preschool and Kindergarten at 10527 Coloma Road.

Mather Airport is a public airport located approximately 2.5 miles south of the southernmost edge of the project alignments. The project alignments are not within the airport's land use area or noise or safety zones (SACOG 2020).

3.10.2 Discussion

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

Less than significant. Construction activities would involve the use of hazardous materials, such as fuels, solvents, gasoline, asphalt, and oil. The use and storage of these materials could potentially expose and adversely affect workers, the public, or the environment as a result of improper handling or use, accident, environmentally unsound disposal methods, fire, explosion, or other emergencies, resulting in adverse health or environmental effects. Project operation would involve the use of electrical lines and would not involve the use of hazardous materials beyond those typically associated with maintenance activities (e.g., fuels, solvents, and oils).

The California Highway Patrol and Caltrans are responsible for enforcing regulations related to the transportation of hazardous materials on local roadways, and the use of these materials is regulated by the California Department of Toxic Substances Control (DTSC), as outlined in CCR Title 22. SMUD and its construction contractors would be required to comply with the California Environmental Protection Agency's (Cal EPA's) Unified Program, which protects Californians from hazardous waste and hazardous materials by ensuring consistency throughout the state regarding the implementation of administrative requirements, permits, inspections, and enforcement at the local regulatory level. Regulated activities would be managed by the Sacramento County Environmental Management Department, which is the designated Certified Unified Program Agency, and in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California Uniform Fire Code hazardous material management plans and inventories). Such compliance would reduce the potential for accidental release of hazardous materials during project construction.

The project would be required to comply with the existing laws and regulations regarding the transportation, use, and disposal of hazardous materials identified above. These regulations are specifically designed to protect public health and the environment and must be adhered to during project construction and operation. Compliance with applicable regulations would ensure that this impact would be **less than significant**, and no mitigation would be required.

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

Less than significant. As discussed above, there are no existing hazardous conditions within the project alignments. Project operation would involve the use of electrical lines and would not involve the use of hazardous materials beyond those typically associated with maintenance activities

(e.g., fuels, solvents, and oils). Project construction, however, would involve the use of hazardous materials, which could be accidentally upset or released into the environment. Potential hazardous materials that could be used include asphalt and other construction materials. As discussed in item a) above, compliance with applicable laws and regulations regarding the transport, use, and disposal of hazardous materials would ensure that the project would result in a **less-than-significant** impact related to upset or accidental release of hazardous materials, and no mitigation would be required.

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

Less than significant. As discussed above, there are two public schools adjacent to the project alignment and five schools within one-quarter mile of the project alignments. Small quantities of hazardous materials such as fuels, oils, and lubricants would be used during project construction. The project would be required to comply with existing regulations associated with the transport, use, and disposal of hazardous materials. Compliance with applicable regulations regarding hazardous materials would reduce the potential for hazardous emissions within one-quarter mile of existing schools. Therefore, this impact would be **less than significant**, and no mitigation would be required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No impact. Government Code Section 65962.5 requires that DTSC compile and maintain a list of hazardous waste facilities subject to corrective action, land designated as hazardous waste property, or hazardous waste disposals on public land. This list is known as the Cortese List, which can be accessed on Cal EPA's website. The project alignments are not located on a site included on a list of hazardous materials sites (DTSC 2022). There would be **no impact**, and no mitigation would be 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?

Less than significant. Mather Airport is located approximately 2.5 miles south of the southernmost terminus of the project alignments. The project alignments are not located within an airport land use plan or within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip, and implementing the project would not result in an aviation-related safety hazard for people residing or working in the project area. Therefore, **no impact** would occur, and no mitigation would be required.

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

Less than significant. Project construction would require temporary lane closures and other roadway effects on Rossmoor Drive and Ambassador Drive that could interfere with or slow down emergency vehicles, temporarily increasing response times and impeding existing services on these roadways. However, any project construction activities that may involve public rights-of-way

would be required to obtain an encroachment permit from either the City of Rancho Cordova or Sacramento County. As part of this encroachment permit application, SMUD would be required to prepare and implement a traffic control plan, which would require the provision of temporary traffic controls and maintenance of emergency access during construction. Once project construction is complete, all roads would return to their pre-construction state and project operations would not interfere with emergency response or evacuation plans. As a result, this impact would be ***less than significant***, and no mitigation would be required.

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

Less than Significant Impact. While the project alignments cross through the open space of the American River Parkway, the project is located in an urbanized area of Rancho Cordova and is not adjacent to wildlands. However, fires regularly start in the American River Parkway. As required by the California Public Utilities Code (PUC), SMUD has prepared a wildfire mitigation plan (WMP). SMUD's current WMP was adopted in 2021 and describes the range of activities that SMUD is taking to mitigate the threat of power-line ignited wildfires, including its various programs, policies and procedures. (SMUD 2021). During project construction activities, SMUD would implement programs, policies, and procedures from its WMP that would reduce the risk of ignition from construction activities. By placing equipment underground, project operation would have no risk of fire during operation. Therefore, implementation of the project expose people and structures to a ***less-than-significant*** risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas. No mitigation would be required.

3.11 Hydrology and Water Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XII. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Result in substantial on- or offsite erosion or siltation;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.11.1 Environmental Setting

Surface Water

The project alignments are located near the American River, which is a tributary to the Sacramento River and within the Sacramento River Basin. The Sacramento River Basin encompasses about 27,000 square miles and is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, the Cascade Range and Trinity Mountains to the north, and the Delta to the southeast. The Sacramento River Basin is the largest river basin in California, capturing, on average, approximately 22 million acre-feet of annual precipitation (City of Sacramento 2014:6-43). The northernmost extent of the project alignments is approximately 200 feet south of the American River.

Water Quality

The City of Rancho Cordova, along with other jurisdictions in Sacramento County, operates under a Phase I NPDES permit for stormwater municipal discharges to surface waters (NPDES No. CAS082597). The permit requires that the City impose water quality and watershed protection measures for all development projects. The intent of the waste discharge requirements in the permit is to attain water quality standards and protection of beneficial uses consistent with the Central Valley Regional Water Quality Control Board's Basin Plan. The NPDES permit prohibits discharges from causing violations of applicable water quality standards or result in conditions that create a nuisance or water quality impairment in receiving waters. A key component of the NPDES permit is the implementation of the Stormwater Quality Improvement Plan (SQIP), which consists of six Minimum Control elements 1) public education and outreach, 2) commercial/industrial control, 3) detection and elimination of illicit discharges, 4) construction stormwater control, 5) postconstruction stormwater control for new development and redevelopment 6) pollution prevention/good housekeeping for municipal operations). In addition, the City's Land Grading and Erosion Control requirements provide additional regulation and guidance to prevent degradation of water quality.

Groundwater

The project alignment is within the South American Groundwater Subbasin, which is part of the larger Sacramento Valley Groundwater Basin (City of Rancho Cordova 2006:4.9-8). The depth of groundwater beneath the project alignments is not yet known, particularly as SMUD has not yet finalized designs for the alignments.

Flooding

A portion of the project alignments are within the 100-year floodplain (City of Rancho Cordova 2006:4.9-9).

3.11.2 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality

Less than significant. Drainage from the area encompassing the project alignments flows into the City of Rancho Cordova's existing stormdrain system and is discharged to the American and Sacramento Rivers, which are located within the Sacramento River Basin. As such, the applicable water quality standards are listed in the Fifth Edition of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (CRWQCB 2018). Construction of the project would occur within the City of Rancho Cordova and would disturb more than one acre of land surface. Therefore, the applicable waste discharge requirements (WDR) are the Municipal Separate Storm Sewer (MS4) stormwater NPDES permit (Order No. R5-2016-0040-008 and NPDES No. CAS082597 Municipal Stormwater NPDES Permit) and the Statewide NPDES General Construction Permit for stormwater runoff (Order No. 99-08-DWQ and NPDES No. CAS000002 [Construction General NPDES Permit]), and the dewatering and low threat discharges general NPDES permit (Order No. R5-2008-0081 and NPDES No. CAG995001 [Dewatering General NPDES Permit]).

The City of Rancho Cordova's Land Grading and Erosion Control requirements would require public or private contractors, including SMUD and its contractors, to comply with the requirements of the City's SQIP. In addition, before the onset of any construction activities, where the disturbed area is one acre or more in size, as is the case for the proposed project, the City would require SMUD to obtain coverage under the NPDES General Construction Permit, which includes the preparation and submittal of erosion and sediment control plans. The City's SQIP and the Stormwater Quality Design Manual for the Sacramento Region include BMPs that would be implemented by SMUD to reduce pollutants in stormwater and other non-point source runoff from new development and redevelopment projects.

By complying with the requirements of the City's SQIP and NPDES General Construction Permit, violation of WDRs or water quality standards would not occur. This impact would be ***less than significant***, and no mitigation would be required.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than significant. The project alignment is underlain by the South American Groundwater Subbasin, which is part of the larger Sacramento Valley Groundwater Basin. The South American River Subbasin is estimated to have a groundwater storage capacity of 4,816,000 acre-feet (DWR 2004:2). While it is not likely that groundwater would be encountered during construction activities, dewatering activities may be required if groundwater is encountered. If dewatering is necessary, SMUD would use Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the City's stormdrain system. Dewatering activities would be temporary and the volume of groundwater withdrawn during these dewatering activities would be very small relative to the subbasin's capacity. No groundwater would be withdrawn during project operation.

Because the project would involve construction activities within previously-disturbed areas, which are primarily paved areas, the project would not involve construction practices or develop facilities that would prevent recharge or otherwise redirect groundwater resources in the project alignments. Implementation of the project would result in a negligible increase in impervious surfaces from the access points covering the underground utility vaults, and there would be no change in surface infiltration characteristics affecting groundwater recharge. For all these reasons, there would be a ***less-than-significant*** impact on groundwater supplies and groundwater recharge, and no mitigation would be 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 on- or offsite erosion or siltation;

Less than significant. Project construction activities would involve excavation and movement of soil, which could result in erosion and siltation. These activities have the potential to cause or increase soil erosion and could accidentally discharge wastes into waterways in runoff if not managed appropriately. SMUD's compliance with the requirements of the City's Stormwater Management and Control Code, the City's Land Grading and Erosion Control requirements, as well as the NPDES Regional MS4 Permit which require preparation and submittal of erosion and sediment control plans. Such requirements would be sufficient to ensure that the project does not

result in substantial long-term effects on water quality. As a result, this impact would be ***less than significant***, and no mitigation would be required.

- ii) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;**

Less than significant. Project construction activities would occur within areas of existing rights-of-way or public use, which are predominantly paved areas. While the project would generally return the project alignment to its pre-construction condition, it is possible that a small amount of impervious surface could be added if utility vault covers are installed in areas that are currently not paved. However, any addition of impervious surface would be minimal and would not be expected to substantially increase the rate or amount of surface runoff in or near the project alignments. Therefore, this impact would be ***less than significant***, and no mitigation would be required.

- 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**

Less than significant. Project construction could require dewatering activities if groundwater is encountered. SMUD would use Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the City's existing stormdrain system. SMUD and its construction contractor would coordinate with the City to determine the maximum amount that could be discharged to the stormdrain system so that the project, in conjunction with other sources of stormwater, would not exceed the capacity of the existing system. If the construction dewatering rate would exceed the maximum discharge rate, the water would be stored in Baker tanks prior to discharge and could be retained in the tanks as needed until there is adequate capacity for discharge. If needed, water would be treated with filtration bags prior to discharge to ensure that the discharge meets all applicable water quality requirements. The project alignments would be substantially returned to their pre-construction condition and would not generate new or polluted runoff. Therefore, the project would not exceed existing or planned stormwater capacity or generate polluted runoff. This impact would be ***less than significant***, and no mitigation would be required.

- iv) **Impede or redirect flood flows?**

Less than significant. A portion of the project alignments are within the 100-year floodplain (City of Rancho Cordova 2006:4.9-9). Thus, flooding could occur in the area. Project construction could temporarily impede or redirect flood flows if construction equipment would be located near gutters and areas near stormdrain inlets. However, if notified of an impending chance of flood conditions, SMUD would vacate and shore up the project area to prevent damage to its construction equipment and infrastructure. Construction activities would be temporary and project operation would not require above-ground features that could impede or redirect flood flows. Therefore, this impact would be ***less than significant***, and no mitigation would be required.

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

Less than significant. A portion of the project alignments are within the 100-year floodplain (City of Rancho Cordova 2006:4.9-9). While the project alignments could be subject to flooding, the project is in an area of mostly flat terrain with no large open bodies of water that would subject

the project to tsunami or seiche. If notified of an impending chance of flood conditions, SMUD would vacate and shore up the project area to prevent damage to its construction equipment and infrastructure as well as release of any pollutants. If a flood occurred during operation, the project would be fully contained underground and would not contain any pollutants that could be released. This impact would be ***less than significant***, and no mitigation would be required.

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

Less than significant. Project construction would be subject to the City's water quality and watershed protection measures as required by the Phase I NPDES Permit and implemented through the SQIP. During operation, the project would not generate wastewater or stormwater runoff, so there would be no conflict with or obstruction of a water quality control plan during project operation. While project construction could require dewatering, the groundwater removed would be minimal compared with the groundwater supply. Project operation would not require the use of any potable water, including groundwater. Because the project's potential impacts would be limited to construction activities that would not conflict with or obstruct a water quality control plan, this impact would be ***less than significant***, and no mitigation would be required.

3.12 Land Use and Planning

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XII. Land Use and Planning. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.12.1 Environmental Setting

The project alignments are located within the City of Rancho Cordova in Sacramento County. The project alignments include school property, roadways, rights-of-way, and areas of utility easements that run through open space and residential neighborhoods.

3.12.2 Discussion

a) Physically divide an established community?

No impact. The project would replace existing underground cable and install new underground utility vaults in the city of Rancho Cordova. Because the duct banks and conduit that would house the new cable would be underground, there would be no division or impediment to the surrounding community as such underground facilities do not interfere with community life. The project would not lead to a physical division of an established community. There would be **no impact**, and no mitigation would be 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?

Less than significant. Project construction would occur within existing roadways, rights-of-way, utility easements, school property, and open space. The project would not result in any land use changes, and would not conflict with any adopted plans, policies, or regulations adopted for avoiding or mitigating an environmental effect. Therefore, this impact would be **less than significant**, and no mitigation would be required.

3.13 Mineral Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Environmental Setting

The Surface Mining and Reclamation Act directs the State Geologist to classify (identify and map) the non-fuel mineral resources of the State to show where economically significant mineral deposits occur and where they are likely to occur based upon the best available scientific data. Areas known as Mineral Resource Zones (MRZs) are classified on the basis of geologic factors, without regard to existing land use and land ownership. The areas are categorized into four general classifications (MRZ-1 through MRZ-4). Of the four, the MRZ-2 classification is recognized in land use planning because the likelihood for occurrence of significant mineral deposits is high, and the classification may be a factor in the discovery and development of mineral deposits that would tend to be economically beneficial to society.

A majority of the project alignments are classified as MRZ-3; however, portions of the 69kV alignment along Rossmoor Drive, near Rossmoor Bar River access, have been classified as MRZ-2. The MRZ-3 classification indicates that these areas contain mineral deposits, the significance of which cannot be evaluated from available data. The MRZ-2 classification indicates that significant mineral deposits are present, or there exists a high likelihood that significant mineral deposits are present (Dupras 1999a). The project alignments are not designated as a locally important mineral resource recovery site in the *Rancho Cordova General Plan*, and no existing mining sites have been identified along the alignments (City of Rancho Cordova 2006: 4.8-13; Dupras 1999b). The project alignments are within the boundaries of the Folsom Mining District, a large and complex historic-era archaeological district. Potential impacts related to the Folsom Mining District will be evaluated in the EIR as this is no longer an active mining area.

3.13.2 Discussion

- 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?**

Less than Significant. The project alignments are classified as MRZ-2 and MRZ-3, indicating that there is a potential for mineral resources to be present along the alignment; however, the alignment is primarily located within developed areas and land designated for parks and open space uses. Therefore, future mineral extraction is not anticipated or planned along the project alignments. Additionally, the project alignments are primarily located along existing property boundaries and within or along existing roadways and are not anticipated to prohibit the future

use of the area for mineral resource extraction. Therefore, the project would have a ***less than significant*** impact, and no mitigation would be required.

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?

No Impact. The project alignment is not designated as a locally important mineral resource recovery site in the City's General Plan (City of Rancho Cordova 2006: 4.8-13;). Thus, project implementation would not result in a loss of availability of locally important mineral resources, and the project would have ***no impact*** related to the loss of availability of a locally important mineral resource discovery site, and no mitigation would be required.

3.14 Noise

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIV.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 in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Environmental Setting

Acoustic Fundamentals

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. Sound is the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a human ear. Noise is defined as loud, unexpected, annoying, or unwanted sound. As sound travels through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on a variety of factors, including geometric spreading (i.e., spherical or cylindrical spreading), ground absorption (i.e., hard versus soft sites), atmospheric conditions (e.g., wind direction and speed, air temperature, humidity, turbulence), and shielding by natural or human-made features.

The amplitude of pressure waves generated by a sound source determines the loudness of that source, also called the sound pressure level (SPL). SPL is most commonly described by using decibels (dB) because this logarithmic unit best corresponds to the way the human ear interprets sound pressures. However, the decibel scale does not adequately characterize how humans perceive noise, because the human ear is not equally sensitive to loudness at all frequencies (i.e., pitch) in the audible spectrum. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of A-weighted decibels) can be computed based on this information. All sound levels discussed in this section are expressed in A-weighted decibels.

Because decibels are logarithmic units, SPLs expressed in dB cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a

distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness (Caltrans 2013:2-10).

Various noise descriptors have been developed to describe time-varying noise levels. The following noise descriptors are used in this section:

- Equivalent Continuous Sound Level (L_{eq}): L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013:2-48). For instance, the 1-hour equivalent sound level, also referred to as the hourly L_{eq} , is the energy average of sound levels occurring during a 1-hour period.
- Maximum Noise Level (L_{max}): The highest instantaneous noise level during a specified time period (Caltrans 2013:2-48).
- Day-Night Level (L_{dn}): L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB “penalty” applied to sound levels occurring during nighttime hours between 10 p.m. and 7 a.m. (Caltrans 2013:2-48; FTA 2018:214).

Noise Generation and Attenuation

Noise can be generated by many sources, including mobile sources such as automobiles, trucks, and airplanes and stationary sources such as activity at construction sites, machinery, and commercial and industrial operations. As sound travels through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on a variety of factors. Atmospheric conditions such as wind speed, wind direction, turbulence, temperature gradients, and humidity alter the propagation of noise and affect levels at a receiver. The presence of a barrier (e.g., topographic feature, intervening building, and dense vegetation) between the source and the receptor can provide substantial attenuation of noise levels at the receiver. Natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may function as noise barriers. To provide some context to noise levels described throughout this section, common sources of environmental noise and associated noise levels are presented in Table 3.14-1.

Table 3.14-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck moving at 50 mph at 50 feet	80	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	60	
Quiet urban daytime	50	Large business office, Dishwasher in next room

Table 3.14-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
Quiet urban nighttime	40	Theater, Large conference room (background)
Quiet suburban nighttime	30	Library, Bedroom at night, Concert hall (background)
Quiet rural nighttime	20	Broadcast/Recording Studio
	10	
Threshold of Human Hearing	0	Threshold of Human Hearing

Notes: dB = A-weighted decibels; mph = miles per hour
 Source: Caltrans 2013

Ground Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Groundborne vibration is vibration of and through the ground. Sources of groundborne vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., operating factory machinery) or transient (e.g., explosions).

Groundborne vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) but can also be expressed in decibel notation (VdB), which is used mainly in evaluating human response to vibration.

Noise- and Vibration-Sensitive Land Uses and Receptors

Noise- and vibration-sensitive land uses generally include those uses where noise exposure could result in health-related risks to individuals, places where a quiet setting is an essential element of the intended purpose (e.g., schools and libraries), and historic buildings that could sustain structural damage due to vibration. The project is in a relatively developed and populated area and would occur adjacent to sensitive receptors through the duration of the project. Nearby sensitive receptors include primarily single-family residential units and a school.

Local Noise Regulations

The City’s General Plan Noise Element contains noise goals, policies, and standards (e.g., exterior and interior noise-level performance standards for new projects affected by or including non-transportation noise sources, with the exception of residential units established in conjunction with industrial or commercial uses) and the City Noise Ordinance contains noise limits for sensitive receptors that are considered relevant to the evaluation of potential noise impacts as a result of the project.

3.14.2 Discussion

- 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 in other applicable local, state, or federal standards?**

Less than significant. In the project area, the dominant noise source is roadway traffic, primarily from vehicles along Coloma Road and activities and events at Cordova High School and Mills Middle School. The project would result in temporary increase in noise levels during construction as a result of heavy equipment movement and pavement removal, but no permanent increases in ambient noise levels would occur during operation. Construction-related noise sources would include both mobile and stationary on-site equipment (e.g., dozers, loaders, generators). Construction noise would be short-term and temporary, and operation of heavy-duty construction equipment would be intermittent throughout the day during construction.

The City of Rancho Cordova Municipal Code Chapter 6.68 exempts certain activities, including construction, from the City's noise standards as long as the activities do not take place between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and Friday commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday; Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next following Sunday and on each Sunday after the hour of 8:00 p.m. This exemption provides that construction equipment must include appropriately maintained exhaust and intake silencers. However, the City does not specify limits in terms of maximum noise levels that may occur during the allowable construction hours.

Construction activities would generate noise near individual sensitive receptors throughout the duration of Phase 1 and Phase 2 construction periods, but only for a short period of time due to the linear and incremental nature of the project's construction activities. As noted in Section 3.3, "Air Quality," Phase 1 construction activities would progress at a rate of approximately 198 feet per day and Phase 2 would progress at a rate of approximately 43 linear feet per day. Phase 1 and Phase 2 construction activities may occur within 500 feet of any one sensitive receptor (residence) for approximately 175 out of the total 276 days of construction. Considering that construction activities would move along the proposed alignments, no individual receptor would be exposed to substantial noise from construction equipment for more than a few days at a time. Further, project construction activities would comply with the City's noise ordinance and restrict construction activities to occur within the ordinance's identified timeframes.

Site preparation and trenching phases typically generate the most substantial noise levels because the on-site equipment associated with excavation are typically the noisiest. Site preparation and trenching equipment includes backhoes, dozers, loaders, graders, excavation equipment, and generators. Installation of prefabricated utility vaults may require the use of a crane for placement and assembly tasks, which may also generate noise levels. Noise levels from these types of construction equipment are shown in Table 3.14-2 below.

Based on project-specific characteristics and accounting for typical usage factors of individual pieces of equipment and activity types along with typical attenuation rates, on-site construction related activities could result in hourly average noise levels of approximately 87 L_{eq} and 92 L_{max} at 50 feet. Construction activities would occur between 15 and 80 feet or more from sensitive receptors along Sierra Madre Court, Trails Court, and Ambassador Drive, for no more than a few days at a time during construction periods. At a distance of 16 feet, construction related activities

could result in noise levels of approximately 97 L_{eq} and 102 L_{max} . At a distance of 80 feet, construction related activities could result in noise levels of approximately 83 L_{eq} and 88 L_{max} .

Table 3.14-2 Noise Emission Levels from Construction Equipment

Equipment Type	Typical Noise Level (dB) @ 50 feet
Backhoe	80
Concrete Mixer	85
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Loader	85
Paver	89
Roller	74
Trucks	74–88

Notes: Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacture-specified noise levels for each piece of heavy construction equipment.

Source: FTA 2018

Due to the linear nature of the construction activities, no individual receptor would be exposed to substantial noise from construction equipment for more than a few days at a time. Furthermore, construction activities would occur within the timeframe identified by the City’s noise ordinance for exemption when sensitive receptors are less disturbed by noise increases. Thus, the project would not generate a substantial temporary increase in ambient noise levels in excess of allowable standards in the vicinity of the project. The impact would be **less than significant**, and no mitigation would be required.

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

Less than significant. Construction activities would result in ground vibration from the use of heavy-duty construction equipment. Construction may result in varying degrees of temporary ground vibration and noise levels due to the intermittent operation of various types of construction equipment and activities. Dozers would be associated with the maximum ground vibration levels during construction activities.

According to the Federal Transit Authority (FTA), large dozers produce groundborne vibration levels that could result in 0.089 in/sec PPV and 87 VdB within 25 feet of operational construction equipment (FTA 2006). Caltrans recommends a level of 0.2 in/sec PPV with respect to structural damage and FTA recommends a maximum acceptable level of 80 VdB with respect to human response for places where people sleep, such as residential uses (i.e., annoyance). The project would occur at a minimum of 16 feet from residential structures and would not result in a threshold exceedance for 0.2 in/sec PPV structural damage at an attenuation distance of 15 feet. Furthermore, FTA guidance for maximum acceptable VdB levels are primarily concerned with sleep disturbance in residential areas and can be avoided by keeping exposures at or below 80 VdB during typical sleeping hours, or if the vibration events are infrequent (i.e., 30 per day). Project

construction activities would not occur during typical sleep hours (i.e., construction would only occur between 7 a.m. and 6 p.m.) and vibration-inducing activities (i.e., dozer use) would not be considered a frequent vibration sources; thus, construction would not result in a sleep disturbance.

No existing structure would be exposed to vibration levels that exceed 0.2 in/sec PPV and no sensitive receptor would be exposed to levels that exceed 80 VdB during sleep hours as a result of project construction activities. Thus, the project would not result in the exposure of the existing off-site receptors to excessive ground vibration levels. The impact would be **less than significant**, and no mitigation would be 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?**

No Impact. The project alignments are located approximately 2.6 miles north of the Mather Airport and 5 miles southeast of the Sacramento McClellan Airport. No other airports or airstrips, public or private, exist in the area. The project would not result in expansion of aviation operations at any airport, nor would it result in the addition of sensitive receptors to the project alignments. Further, the project would not build any structure that would be above the existing ground or nearby building levels and would not affect air traffic patterns. Thus, the project would have **no impact** on existing aviation operations or expose new receptors to aviation related noise, and no mitigation would be required.

3.15 Population and Housing

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XV. Population and Housing. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Environmental Setting

The project is located in the City of Rancho Cordova, adjacent to and within an existing residential community. The project involves the replacement of underground cables and installation of new utility vaults within roadways, public school property, and open space. The project would not generate any new residents in the area or provide any new jobs.

3.15.2 Discussion

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

No Impact. The project involves the replacement of an underground cable that does not include new homes, businesses, or infrastructure that would induce or generate population growth. Therefore, the project would not result in substantial unplanned population growth. The project would have **no impact**, and no mitigation would be required.

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

No Impact. No persons or homes would be displaced as a result of project construction or operation. Therefore, the project would have **no impact**, and no mitigation would be required.

3.16 Public Services

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVI.Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Environmental Setting

The project alignments are located within an existing residential neighborhood in the City of Rancho Cordova in Sacramento County. The project alignments extend approximately 2.72 miles (2.12 miles for the 69kV alignment and 0.6 miles for the 12 kV alignment). The project would replace existing underground utility lines and install up to 13 new utility vaults within the roadways, rights-of-way, open space, and utility easements. The project does not include new homes, businesses, or infrastructure that would induce or generate population growth.

Fire Protection Services

The Sacramento Metropolitan Fire District (SMFD) provides fire protection services to the area encompassed by the project alignments, as well as the entire city of Rancho Cordova. The closest SMFD station to the project alignments is Station 61 located at 10595 Folsom Boulevard.

Police Protection Services

The Rancho Cordova Police Department (RCPD) responsible for providing police protection services in the city of Rancho Cordova, including the area encompassed by the project alignments. RCPD is located at 2897 Kilgore Road.

Schools

There are two public schools adjacent to the project alignments, Mills Middle School, located along Coloma Road east of Chase Drive, and Cordova High School, located on Chase Drive, adjacent to Mills Middle School. Within one-quarter mile of the project alignments, there are three public schools and two private schools. The public schools are Peter J. Shields Elementary at

10434 Georgetown Drive, Rancho Cordova Elementary at 2562 Chassella Way, and Riverview STEM Academy at 10700 Ambassador Drive. The private schools are St. John Vianny School at 10499 Coloma Road and Cordova Baptist Church Preschool and Kindergarten at 10527 Coloma Road.

Parks and Other Public Facilities

The project alignments are located adjacent to the Hagen Community Park and run through the American River Parkway recreation area.

3.16.2 Discussion

- a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:**

Fire Protection

No Impact. Implementation of the project would not increase demand for SMFD fire protection services because the project would not generate new residents, which is the driving factor for fire protection services, nor would it result in the operation of additional structures within the project area that could generate calls for service. Because the project would not increase demand for fire protection services, no construction of new or expansion of existing fire service facilities would be required. Therefore, the project would have **no impact** on fire protection services, and no mitigation would be required.

Police Protection

No Impact. Implementation of the project would not increase demand for RCPD police protection services because the project would not generate new residents, which is the driving factor for police protection services, nor would it result in the operation of additional structures within the project area that could generate calls for service. Because the project would not increase demand for police protection services, no construction of new or expansion of existing police service facilities would be required. Therefore, the project would have **no impact** on police facilities, and no mitigation would be required.

Schools

No Impact. The project would not provide any new housing that would generate new students in the community nor result in an increase in employment opportunities that could indirectly contribute new students to the local school district. Therefore, the project would have **no impact** on school services and facilities, and no mitigation would be required.

Parks

No Impact. The project would not induce or generate population growth, which could necessitate new or expanded park facilities. Therefore, the project would have **no impact** on parks, and no mitigation would be required.

Other Public Facilities

No Impact. No other public facilities exist in the project area that could be affected by implementation of the project. Therefore, the project would have ***no impact*** on other public facilities, and no mitigation would be required.

3.17 Recreation

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVII. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.17.1 Environmental Setting

The project alignments are located adjacent to Hagen Community Park and within the American River Parkway recreation area. Hagen Community Park encompasses 80 acres and includes a dog park, barn, athletic fields, baseball fields, soccer fields, multi-use fields, tennis courts, and other amenities. The American River Parkway is an open space greenbelt which extends approximately 29 miles from Folsom Dam at the northeast to the American River’s confluence with the Sacramento River at the southwest. The County of Sacramento has the principal responsibility for administration and management of the American River Parkway as guided by the American River Parkway Plan (Sacramento County 2008). The American River Parkway Plan is defined to include the American River and adjacent floodplain, from the confluence with the Sacramento River to Folsom Dam. The County of Sacramento, however, has day-to-day management responsibility for the portion of the Parkway from the Sacramento River confluence to Hazel Avenue, exclusive of the fish hatchery facilities.

3.17.2 Discussion

- a) **Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Impact. The project does not include any new development that could increase the use of existing parks or recreational facilities. Therefore, the project would have **no impact**, and no mitigation would be required.

- b) **Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

No Impact. The project does not include any new development that could necessitate new or expanded recreational facilities. Therefore, the project would have **no impact**, and no mitigation would be required.

3.18 Transportation

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVIII. Transportation/Traffic. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.18.1 Environmental Setting

The project involves open trenching and other construction activities within existing rights-of-way and open space, including public roads and bike/pedestrian paths. Nearly the entire 0.6-mile 12kV alignment is within Ambassador Drive. Approximately 0.8 mile of the 69kV alignment is within Rossmoor Drive, with the balance of the work occurring on school, SMUD, or American River Parkway property. Within the Parkway property, the 69kV alignment follows an existing unpaved path frequently used by pedestrians and bicyclists. There are no transit stops along the project alignments.

3.18.2 Discussion

- a) **Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**
- b) **Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?**
- c) **Substantially increase 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?**

Potentially Significant. Because parts of the 12kV and 69kV alignments would involve work within existing roadways, the project could affect vehicle, pedestrian, and bicycle travel in the project area. Therefore, project impacts related to traffic and transportation could be **potentially significant**. These issues will be analyzed further in the EIR.

3.19 Utilities

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIX. Utilities and Service Systems. Would the project:				
a) Require or result in the relocation or construction of construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider that 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.19.1 Environmental Setting

The project involves replacement of existing electrical utility lines and would not require water supply or generate wastewater requiring disposal. Removing water from the construction area (dewatering) may be necessary due to the high water-table of the area. SMUD would use Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the existing storm drain system in a manner consistent with regulatory requirements.

3.19.2 Discussion

- a) **Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?**

Less than significant. The project itself would install new conduit duct bank to replace the existing direct buried underground electrical lines, which entails the relocation of existing, but not expanded, electric facilities; the environmental effects are analyzed through this Initial Study. The project would not require the use or construction of water treatment, wastewater treatment, natural gas, or telecommunications infrastructure or facilities. As discussed above, project construction may include dewatering and the water would be temporarily stored in Baker tanks and/or

conveyed through filtration bags, if needed, prior to being discharged into the existing stormdrain system. Discharge to the stormdrain system would be temporary and would not exceed system capacity as water could be retained on the project site until there is adequate capacity. Project operation would not require any utility infrastructure or service. This impact would be ***less than significant***, and no mitigation would be required.

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

No impact. The project would not include any use that would require potable water. Because the project would not require water supplies, there would be ***no impact*** related to water supplies, and no mitigation would be required.

c) Result in a determination by the wastewater treatment provider that 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?

No impact. The project would not require the use of wastewater systems. Therefore, the project would have ***no impact*** related to wastewater treatment capacity, and no mitigation would be 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?

Less than significant. The project would generate a small amount of solid waste during construction, but would not generate solid waste during project operation. Construction debris could include asphalt, concrete, scrap lumber, finishing materials, metals, and organic materials. Compliance with the current CALGreen Code and Rancho Cordova's Construction and Demolition Debris Reduction, Reuse and Recycling requirements would result in a reduction of construction waste and demolition debris and increase recycling.

The majority of landfilled waste would be delivered to the Sacramento Recycling and Transfer Station, the Sacramento County Kiefer Landfill, the Yolo County Landfill, L and D Landfill, Florin Perkins Landfill, and Elder Creek Transfer Station. Combined, these landfills have a large volume of landfill capacity available to serve the project during construction. The project involves the replacement of existing underground electrical lines and would not generate solid waste during operation. This impact would be ***less than significant***, and no mitigation would be required.

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

Less than significant. The project would cause a temporary increase in the generation of solid waste as a result of construction activities. However, the operation of the project would not generate solid waste. Compliance with the City of Rancho Cordova policies regarding solid waste would prevent landfills from being overloaded due to the project construction activities. This impact would be ***less than significant***, and no mitigation would be required.

3.20 Wildfire

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. Wildfire.				
Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones?	<input type="checkbox"/> Yes			<input checked="" type="checkbox"/> No
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.20.1 Environmental Setting

The project alignments are located within a local responsibility area that is designated as a non-Very High Fire Hazard Severity Zone (non-VHFHSZ) (CAL FIRE 2008).

3.20.2 Discussion

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

Less than significant. Construction of the project would require road lane closures that could temporarily impair emergency response plans or evacuation plans. As required by the City of Rancho Cordova, SMUD and its construction contractor would develop and implement a traffic control plan that would maintain access and connectivity during project construction activities. Because access and connectivity would be maintained during construction, the project would not substantially impair an emergency response plan or evacuation plan. Once construction is complete, the project alignments would be returned to their pre-construction condition and there would not be any above-ground features that would potentially impair emergency response or

evacuation. Because adequate access would be maintained throughout construction activities, this impact would be ***less than significant***, and no mitigation would be 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?**

No impact. The project would not exacerbate wildfire risks as the project site is not located within a wildfire hazard zone and is not near wildland areas. While a portion of the 69kV alignment is within the American River Parkway, an area of frequent fires, there are no slopes, prevailing winds, or other factors that would exacerbate wildfire risk. There would be ***no impact***, and no mitigation would be required.

- c) Require the installation 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?**

No impact. The project does not require the installation of infrastructure that could exacerbate fire risk because the project would locate all electrical facilities below the ground surface. There would be ***no impact***, and no mitigation would be required.

- 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?**

No impact. The project is in an area of flat terrain and would not involve the changing to slopes that could expose people to risks of flooding from post-fire slope instability. Project facilities would be located under the ground surface and would not result in changes to existing drainage. There would be ***no impact***, and no mitigation would be required.

3.21 Mandatory Findings of Significance

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI.Mandatory Findings of Significance.				
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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Authority: Public Resources Code Sections 21083, 21083.5.

Reference: Government Code Sections 65088.4.
Public Resources Code Sections 21080, 21083.5, 21095; *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.

3.21.1 Discussion

- 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

Potentially Significant. Additional evaluation is necessary to determine whether the project would affect Tribal cultural resources, cultural resources, and biological resources. This **potentially significant** impact will be analyzed further 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.)**

Potentially Significant. Generally, because of the limited scope of the project (i.e., limited construction activities to replace existing infrastructure and no expansion of use beyond existing

conditions), implementation would not result in cumulatively considerable contributions to the cumulative effects of development in the area. Evaluation of the project's contribution to cumulative impacts related to Tribal cultural resources, cultural resources, air quality, biological resources, and transportation will be evaluated after the project impacts are characterized in the EIR. This ***potentially significant*** impact will be analyzed further in the EIR.

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

Potentially Significant. The EIR will evaluate environmental effects that could cause substantial adverse effects on human beings associated with the construction of this project, either directly or indirectly. This ***potentially significant*** impact will be analyzed further in the EIR.

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Appendix C

Air Quality, Energy, and GHG
Modeling Data

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kV = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Based on prior SMUD 69kV underground cable project equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 0.5 acres

Vehicle Trips - No operational emissions will be analyzed.

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	tons/yr										MT/yr					
2022	0.0311	0.3141	0.2187	4.5000e-004	0.0499	0.0143	0.0642	0.0269	0.0133	0.0402	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1428
Maximum	0.0311	0.3141	0.2187	4.5000e-004	0.0499	0.0143	0.0642	0.0269	0.0133	0.0402	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1428

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	0.0311	0.3141	0.2187	4.5000e-004	0.0231	0.0143	0.0374	0.0123	0.0133	0.0256	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1427
Maximum	0.0311	0.3141	0.2187	4.5000e-004	0.0231	0.0143	0.0374	0.0123	0.0133	0.0256	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1427

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.62	0.00	41.68	54.29	0.00	36.33	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	7-1-2022	9-30-2022	0.3388	0.3388
		Highest	0.3388	0.3388

3.0 Construction Detail

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2022	7/22/2022	5	16	
2	Trenching	Trenching	7/1/2022	7/22/2022	5	16	
3	Cable Laying/Vaulting	Building Construction	7/1/2022	7/22/2022	5	16	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					0.0484	0.0000	0.0484	0.0265	0.0000	0.0265	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0100e-003	0.0838	0.0466	9.0000e-005	4.0600e-003	4.0600e-003	4.0600e-003	3.7400e-003	3.7400e-003	3.7400e-003	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546
Total	8.0100e-003	0.0838	0.0466	9.0000e-005	0.0484	4.0600e-003	0.0525	0.0265	3.7400e-003	0.0303	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	1.2000e-004	8.0000e-005	1.0100e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2419	0.2419	1.0000e-005	1.0000e-005	0.2443
Total	1.9000e-004	1.9200e-003	1.5400e-003	1.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	0.8562	0.8562	3.0000e-005	1.0000e-004	0.8858

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					0.0218	0.0000	0.0218	0.0119	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0100e-003	0.0838	0.0466	9.0000e-005		4.0600e-003	4.0600e-003		3.7400e-003	3.7400e-003	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546
Total	8.0100e-003	0.0838	0.0466	9.0000e-005	0.0218	4.0600e-003	0.0259	0.0119	3.7400e-003	0.0157	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	1.2000e-004	8.0000e-005	1.0100e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2419	0.2419	1.0000e-005	1.0000e-005	0.2443
Total	1.9000e-004	1.9200e-003	1.5400e-003	1.0000e-005	4.5000e-004	2.0000e-005	4.6000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	0.8562	0.8562	3.0000e-005	1.0000e-004	0.8858

3.3 Trenching - 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	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045
Total	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	2.5000e-004	1.6000e-004	2.0200e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4838	0.4838	2.0000e-005	1.0000e-005	0.4886
Total	3.2000e-004	2.0000e-003	2.5500e-003	2.0000e-005	7.8000e-004	2.0000e-005	7.9000e-004	2.1000e-004	2.0000e-005	2.3000e-004	0.0000	1.0981	1.0981	4.0000e-005	1.0000e-004	1.1301

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	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045
Total	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	2.5000e-004	1.6000e-004	2.0200e-003	1.0000e-005	5.4000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4838	0.4838	2.0000e-005	1.0000e-005	0.4886
Total	3.2000e-004	2.0000e-003	2.5500e-003	2.0000e-005	7.2000e-004	2.0000e-005	7.4000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	1.0981	1.0981	4.0000e-005	1.0000e-004	1.1301

3.4 Cable Laying/Vaulting - 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	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5635	12.5635	2.5100e-003	0.0000	12.6262
Total	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5635	12.5635	2.5100e-003	0.0000	12.6262

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415

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	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5634	12.5634	2.5100e-003	0.0000	12.6262
Total	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5634	12.5634	2.5100e-003	0.0000	12.6262

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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						
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	0.0000
Vendor	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415	
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	0.0000
Total	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415	

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 12 kV Underground Cable Replacement
Sacramento County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kV = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Based on prior SMUD 69kV underground cable project equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 0.5 acres

Vehicle Trips - No operational emissions will be analyzed.

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

1	Site Preparation	Site Preparation	7/1/2022	7/22/2022	5	16
2	Trenching	Trenching	7/1/2022	7/22/2022	5	16
3	Cable Laying/Vaulting	Building Construction	7/1/2022	7/22/2022	5	16

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	156	0.38
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0552	0.0000	6.0552	3.3138	0.0000	3.3138			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0552	0.5075	6.5627	3.3138	0.4669	3.7807		1,128.2743	1,128.2743	0.3649		1,137.3970

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0621	2.3300e-003	0.0645	0.0170	2.2100e-003	0.0192		121.1852	121.1852	3.2900e-003	0.0133	125.2431

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					2.7249	0.0000	2.7249	1.4912	0.0000	1.4912			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7249	0.5075	3.2323	1.4912	0.4669	1.9581	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0576	2.3300e-003	0.0599	0.0159	2.2100e-003	0.0181		121.1852	121.1852	3.2900e-003	0.0133	125.2431

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.1002	2.5300e-003	0.1027	0.0271	2.4000e-003	0.0295		157.7228	157.7228	4.3800e-003	0.0143	162.0891

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.0927	2.5300e-003	0.0952	0.0253	2.4000e-003	0.0277		157.7228	157.7228	4.3800e-003	0.0143	162.0891

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kV = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Based on prior SMUD 69kV underground cable project equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 0.5 acres

Vehicle Trips - No operational emissions will be analyzed.

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	lb/day										lb/day					
2022	3.8854	39.2824	27.3461	0.0568	6.2416	1.7867	8.0283	3.3649	1.6608	5.0257	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
Maximum	3.8854	39.2824	27.3461	0.0568	6.2416	1.7867	8.0283	3.3649	1.6608	5.0257	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

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	3.8854	39.2824	27.3461	0.0568	2.8977	1.7867	4.6844	1.5390	1.6608	3.1998	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
Maximum	3.8854	39.2824	27.3461	0.0568	2.8977	1.7867	4.6844	1.5390	1.6608	3.1998	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.57	0.00	41.65	54.26	0.00	36.33	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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

1	Site Preparation	Site Preparation	7/1/2022	7/22/2022	5	16
2	Trenching	Trenching	7/1/2022	7/22/2022	5	16
3	Cable Laying/Vaulting	Building Construction	7/1/2022	7/22/2022	5	16

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	156	0.38
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0552	0.0000	6.0552	3.3138	0.0000	3.3138			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0552	0.5075	6.5627	3.3138	0.4669	3.7807		1,128.2743	1,128.2743	0.3649		1,137.3970

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0621	2.3400e-003	0.0645	0.0170	2.2300e-003	0.0193		117.1268	117.1268	3.4400e-003	0.0135	121.2361

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					2.7249	0.0000	2.7249	1.4912	0.0000	1.4912			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7249	0.5075	3.2323	1.4912	0.4669	1.9581	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0576	2.3400e-003	0.0600	0.0159	2.2300e-003	0.0182		117.1268	117.1268	3.4400e-003	0.0135	121.2361

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.1002	2.5400e-003	0.1027	0.0271	2.4200e-003	0.0295		149.6158	149.6158	4.6800e-003	0.0146	154.0791

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.0927	2.5400e-003	0.0952	0.0253	2.4200e-003	0.0277		149.6158	149.6158	4.6800e-003	0.0146	154.0791

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement - Paving

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kv = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	16.00

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	6.4700e-003	0.0622	0.0812	1.3000e-004	9.5000e-004	3.1000e-003	4.0500e-003	2.6000e-004	2.8600e-003	3.1200e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321
Maximum	6.4700e-003	0.0622	0.0812	1.3000e-004	9.5000e-004	3.1000e-003	4.0500e-003	2.6000e-004	2.8600e-003	3.1200e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321

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					

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2022	6.4700e-003	0.0622	0.0812	1.3000e-004	8.8000e-004	3.1000e-003	3.9800e-003	2.4000e-004	2.8600e-003	3.1000e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321
Maximum	6.4700e-003	0.0622	0.0812	1.3000e-004	8.8000e-004	3.1000e-003	3.9800e-003	2.4000e-004	2.8600e-003	3.1000e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.37	0.00	1.73	7.69	0.00	0.64	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	7-1-2022	9-30-2022	0.0674	0.0674
		Highest	0.0674	0.0674

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	7/1/2022	7/22/2022	5	16	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	6.0800e-003	0.0601	0.0781	1.2000e-004		3.0800e-003	3.0800e-003		2.8400e-003	2.8400e-003	0.0000	10.4722	10.4722	3.3300e-003	0.0000	10.5554
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0800e-003	0.0601	0.0781	1.2000e-004		3.0800e-003	3.0800e-003		2.8400e-003	2.8400e-003	0.0000	10.4722	10.4722	3.3300e-003	0.0000	10.5554

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total	6.0800e-003	0.0601	0.0781	1.2000e-004		3.0800e-003	3.0800e-003		2.8400e-003	2.8400e-003	0.0000	10.4722	10.4722	3.3300e-003	0.0000	10.5554
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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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	3.2000e-004	2.1000e-004	2.6200e-003	1.0000e-005	7.0000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6290	0.6290	2.0000e-005	2.0000e-005	0.6351
Total	3.9000e-004	2.0500e-003	3.1500e-003	2.0000e-005	8.8000e-004	2.0000e-005	9.0000e-004	2.4000e-004	2.0000e-005	2.6000e-004	0.0000	1.2433	1.2433	4.0000e-005	1.1000e-004	1.2767

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 12 kV Underground Cable Replacement - Paving
Sacramento County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kv = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	16.00

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
Maximum	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

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					

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2022	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
Maximum	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.82	6.87	0.00	0.58	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	Paving	Paving	7/1/2022	7/22/2022	5	16	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1230	2.6600e-003	0.1257	0.0332	2.5100e-003	0.0357		179.6454	179.6454	5.0300e-003	0.0149	184.1968

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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1137	2.6600e-003	0.1164	0.0309	2.5100e-003	0.0334		179.6454	179.6454	5.0300e-003	0.0149	184.1968

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement - Paving

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kv = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	16.00

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
Maximum	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

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					

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2022	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
Maximum	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.82	6.87	0.00	0.58	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	Paving	Paving	7/1/2022	7/22/2022	5	16	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1230	2.6700e-003	0.1257	0.0332	2.5300e-003	0.0357		169.1092	169.1092	5.4300e-003	0.0152	173.7848

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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1137	2.6700e-003	0.1164	0.0309	2.5300e-003	0.0334		169.1092	169.1092	5.4300e-003	0.0152	173.7848

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 69 kV Underground Cable Replacement

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	19.01	User Defined Unit	19.01	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 69 kV = 19.01 acres

Construction Phase - 12 month construction schedule

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 15 acres

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	10.00	260.00
tblGrading	AcresOfGrading	130.00	15.00
tblLandUse	LotAcreage	0.00	19.01
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.2233	2.2578	1.5718	3.2700e-003	0.3646	0.1027	0.4673	0.1941	0.0955	0.2896	0.0000	286.0038	286.0038	0.0759	2.1000e-003	288.5262
2023	0.2469	2.4590	1.8996	4.1200e-003	0.4576	0.1067	0.5644	0.2445	0.0993	0.3437	0.0000	359.9153	359.9153	0.0953	2.5500e-003	363.0589
Maximum	0.2469	2.4590	1.8996	4.1200e-003	0.4576	0.1067	0.5644	0.2445	0.0993	0.3437	0.0000	359.9153	359.9153	0.0953	2.5500e-003	363.0589

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.2233	2.2578	1.5718	3.2700e-003	0.1690	0.1027	0.2718	0.0887	0.0955	0.1842	0.0000	286.0035	286.0035	0.0759	2.1000e-003	288.5259
2023	0.2469	2.4590	1.8996	4.1200e-003	0.2122	0.1067	0.3189	0.1118	0.0993	0.2110	0.0000	359.9149	359.9149	0.0953	2.5500e-003	363.0585
Maximum	0.2469	2.4590	1.8996	4.1200e-003	0.2122	0.1067	0.3189	0.1118	0.0993	0.2110	0.0000	359.9149	359.9149	0.0953	2.5500e-003	363.0585

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.64	0.00	42.75	54.29	0.00	37.59	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	7-1-2022	9-30-2022	1.0472	1.0472
2	10-1-2022	12-31-2022	1.4184	1.4184
3	1-1-2023	3-31-2023	1.2002	1.2002
4	4-1-2023	6-30-2023	1.2122	1.2122
5	7-1-2023	9-30-2023	0.2797	0.2797
		Highest	1.4184	1.4184

3.0 Construction Detail

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/25/2022	7/21/2023	5	260	
2	Trenching	Trenching	7/25/2022	7/21/2023	5	260	
3	Cable Laying/Vaulting	Building Construction	7/25/2022	7/21/2023	5	260	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Excavators	0	8.00	158	0.38
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Graders	0	8.00	187	0.41
Cable Laying/Vaulting	Rubber Tired Dozers	0	8.00	247	0.40
Cable Laying/Vaulting	Scrapers	0	8.00	367	0.48
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45
Trenching	Cranes	0	7.00	231	0.29
Trenching	Excavators	1	8.00	158	0.38

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-Road	0.0576	0.6020	0.3347	6.7000e-004		0.0292	0.0292		0.0269	0.0269	0.0000	58.8543	58.8543	0.0190	0.0000	59.3302
Total	0.0576	0.6020	0.3347	6.7000e-004	0.3542	0.0292	0.3834	0.1912	0.0269	0.2181	0.0000	58.8543	58.8543	0.0190	0.0000	59.3302

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	8.9000e-004	5.8000e-004	7.2500e-003	2.0000e-005	2.1100e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.7387	1.7387	6.0000e-005	5.0000e-005	1.7558
Total	1.3800e-003	0.0138	0.0111	7.0000e-005	3.4600e-003	1.3000e-004	3.5900e-003	9.5000e-004	1.3000e-004	1.0800e-003	0.0000	6.1540	6.1540	1.8000e-004	7.0000e-004	6.3668

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					

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Fugitive Dust					0.1594	0.0000	0.1594	0.0860	0.0000	0.0860	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0576	0.6020	0.3347	6.7000e-004		0.0292	0.0292		0.0269	0.0269	0.0000	58.8542	58.8542	0.0190	0.0000	59.3301
Total	0.0576	0.6020	0.3347	6.7000e-004	0.1594	0.0292	0.1886	0.0860	0.0269	0.1129	0.0000	58.8542	58.8542	0.0190	0.0000	59.3301

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	8.9000e-004	5.8000e-004	7.2500e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.7387	1.7387	6.0000e-005	5.0000e-005	1.7558
Total	1.3800e-003	0.0138	0.0111	7.0000e-005	3.2100e-003	1.3000e-004	3.3400e-003	8.9000e-004	1.3000e-004	1.0200e-003	0.0000	6.1540	6.1540	1.8000e-004	7.0000e-004	6.3668

3.2 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
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	tons/yr										MT/yr					
	Fugitive Dust					0.4446	0.0000	0.4446	0.2409	0.0000	0.2409	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0606	0.6281	0.3870	8.4000e-004		0.0288	0.0288		0.0265	0.0265	0.0000	74.2275	74.2275	0.0240	0.0000	74.8277
Total	0.0606	0.6281	0.3870	8.4000e-004	0.4446	0.0288	0.4733	0.2409	0.0265	0.2673	0.0000	74.2275	74.2275	0.0240	0.0000	74.8277

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	1.0400e-003	6.4000e-004	8.4500e-003	2.0000e-005	2.6600e-003	1.0000e-005	2.6800e-003	7.1000e-004	1.0000e-005	7.2000e-004	0.0000	2.1358	2.1358	7.0000e-005	6.0000e-005	2.1557
Total	1.4200e-003	0.0148	0.0127	8.0000e-005	4.3600e-003	9.0000e-005	4.4500e-003	1.2000e-003	8.0000e-005	1.2800e-003	0.0000	7.5144	7.5144	2.0000e-004	8.5000e-004	7.7728

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Fugitive Dust					0.2001	0.0000	0.2001	0.1084	0.0000	0.1084	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0606	0.6281	0.3870	8.4000e-004		0.0288	0.0288		0.0265	0.0265	0.0000	74.2274	74.2274	0.0240	0.0000	74.8276
Total	0.0606	0.6281	0.3870	8.4000e-004	0.2001	0.0288	0.2288	0.1084	0.0265	0.1348	0.0000	74.2274	74.2274	0.0240	0.0000	74.8276

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	1.0400e-003	6.4000e-004	8.4500e-003	2.0000e-005	2.4600e-003	1.0000e-005	2.4700e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	2.1358	2.1358	7.0000e-005	6.0000e-005	2.1557
Total	1.4200e-003	0.0148	0.0127	8.0000e-005	4.0500e-003	9.0000e-005	4.1400e-003	1.1200e-003	8.0000e-005	1.2100e-003	0.0000	7.5144	7.5144	2.0000e-004	8.5000e-004	7.7728

3.3 Trenching - 2022

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3878	118.3878	0.0383	0.0000	119.3450
Total	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3878	118.3878	0.0383	0.0000	119.3450

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	1.7700e-003	1.1500e-003	0.0145	4.0000e-005	4.2200e-003	2.0000e-005	4.2500e-003	1.1200e-003	2.0000e-005	1.1500e-003	0.0000	3.4774	3.4774	1.2000e-004	1.0000e-004	3.5116
Total	2.2600e-003	0.0144	0.0183	9.0000e-005	5.5700e-003	1.4000e-004	5.7200e-003	1.5100e-003	1.4000e-004	1.6600e-003	0.0000	7.8927	7.8927	2.4000e-004	7.5000e-004	8.1226

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3876	118.3876	0.0383	0.0000	119.3449
Total	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3876	118.3876	0.0383	0.0000	119.3449

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	1.7700e-003	1.1500e-003	0.0145	4.0000e-005	3.8900e-003	2.0000e-005	3.9200e-003	1.0400e-003	2.0000e-005	1.0600e-003	0.0000	3.4774	3.4774	1.2000e-004	1.0000e-004	3.5116
Total	2.2600e-003	0.0144	0.0183	9.0000e-005	5.1500e-003	1.4000e-004	5.3000e-003	1.4100e-003	1.4000e-004	1.5500e-003	0.0000	7.8927	7.8927	2.4000e-004	7.5000e-004	8.1226

3.3 Trenching - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2695	149.2695	0.0483	0.0000	150.4765
Total	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2695	149.2695	0.0483	0.0000	150.4765

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.0800e-003	1.2900e-003	0.0169	5.0000e-005	5.3200e-003	3.0000e-005	5.3500e-003	1.4200e-003	3.0000e-005	1.4400e-003	0.0000	4.2716	4.2716	1.4000e-004	1.2000e-004	4.3113
Total	2.4600e-003	0.0154	0.0212	1.1000e-004	7.0200e-003	1.1000e-004	7.1200e-003	1.9100e-003	1.0000e-004	2.0000e-003	0.0000	9.6502	9.6502	2.7000e-004	9.1000e-004	9.9284

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2694	149.2694	0.0483	0.0000	150.4763
Total	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2694	149.2694	0.0483	0.0000	150.4763

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.0800e-003	1.2900e-003	0.0169	5.0000e-005	4.9100e-003	3.0000e-005	4.9400e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.2716	4.2716	1.4000e-004	1.2000e-004	4.3113
Total	2.4600e-003	0.0154	0.0212	1.1000e-004	6.5000e-003	1.1000e-004	6.6100e-003	1.7700e-003	1.0000e-004	1.8800e-003	0.0000	9.6502	9.6502	2.7000e-004	9.1000e-004	9.9284

3.4 Cable Laying/Vaulting - 2022

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2998	90.2998	0.0180	0.0000	90.7506
Total	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2998	90.2998	0.0180	0.0000	90.7506

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2997	90.2997	0.0180	0.0000	90.7505
Total	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2997	90.2997	0.0180	0.0000	90.7505

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110

3.4 Cable Laying/Vaulting - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8750	113.8750	0.0225	0.0000	114.4364
Total	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8750	113.8750	0.0225	0.0000	114.4364

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8749	113.8749	0.0225	0.0000	114.4363
Total	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8749	113.8749	0.0225	0.0000	114.4363

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 69 kV Underground Cable Replacement
Sacramento County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	19.01	User Defined Unit	19.01	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 69 kV = 19.01 acres

Construction Phase - 12 month construction schedule

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 15 acres

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	10.00	260.00
tblGrading	AcresOfGrading	130.00	15.00
tblLandUse	LotAcreage	0.00	19.01
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	3.8921	39.2277	27.3967	0.0570	6.2697	1.7866	8.0563	3.3679	1.6608	5.0287	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915
2023	3.4136	33.8854	26.2571	0.0569	6.2697	1.4722	7.7419	3.3679	1.3692	4.7371	0.0000	5,481.5205	5,481.5205	1.4494	0.0386	5,529.2508
Maximum	3.8921	39.2277	27.3967	0.0570	6.2697	1.7866	8.0563	3.3679	1.6608	5.0287	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	3.8921	39.2277	27.3967	0.0570	2.9103	1.7866	4.6969	1.5403	1.6608	3.2011	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915
2023	3.4136	33.8854	26.2571	0.0569	2.9103	1.4722	4.3825	1.5403	1.3692	2.9095	0.0000	5,481.5205	5,481.5205	1.4494	0.0386	5,529.2508
Maximum	3.8921	39.2277	27.3967	0.0570	2.9103	1.7866	4.6969	1.5403	1.6608	3.2011	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.58	0.00	42.53	54.26	0.00	37.43	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	Site Preparation	Site Preparation	7/25/2022	7/21/2023	5	260	
2	Trenching	Trenching	7/25/2022	7/21/2023	5	260	
3	Cable Laying/Vaulting	Building Construction	7/25/2022	7/21/2023	5	260	

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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): 15

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Excavators	0	8.00	150	0.38
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Graders	0	8.00	187	0.41
Cable Laying/Vaulting	Rubber Tired Dozers	0	8.00	247	0.40
Cable Laying/Vaulting	Scrapers	0	8.00	367	0.48
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45
Trenching	Cranes	0	7.00	231	0.29
Trenching	Excavators	1	8.00	150	0.38
Trenching	Forklifts	0	8.00	89	0.20
Trenching	Generator Sets	0	8.00	84	0.74
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Welders	0	8.00	46	0.45

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0833	0.5075	6.5908	3.3168	0.4669	3.7837		1,128.2743	1,128.2743	0.3649		1,137.3970

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0621	2.3300e-003	0.0645	0.0170	2.2100e-003	0.0192		121.1852	121.1852	3.2900e-003	0.0133	125.2431

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7375	0.5075	3.2450	1.4926	0.4669	1.9595	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0576	2.3300e-003	0.0599	0.0159	2.2100e-003	0.0181		121.1852	121.1852	3.2900e-003	0.0133	125.2431

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650		1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	6.0833	0.3967	6.4800	3.3168	0.3650	3.6818		1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0169	8.1000e-003	0.1363	3.5000e-004	0.0380	2.0000e-004	0.0382	0.0101	1.8000e-004	0.0103		35.5849	35.5849	9.8000e-004	8.7000e-004	35.8698
Total	0.0222	0.1933	0.1939	1.1100e-003	0.0621	1.2300e-003	0.0634	0.0170	1.1700e-003	0.0182		117.3386	117.3386	3.0000e-003	0.0129	121.2452

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	2.7375	0.3967	3.1342	1.4926	0.3650	1.8576	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0169	8.1000e-003	0.1363	3.5000e-004	0.0351	2.0000e-004	0.0353	9.3600e-003	1.8000e-004	9.5400e-003		35.5849	35.5849	9.8000e-004	6.7000e-004	35.8698
Total	0.0222	0.1933	0.1939	1.1100e-003	0.0576	1.2300e-003	0.0589	0.0159	1.1700e-003	0.0171		117.3386	117.3386	3.0000e-003	0.0129	121.2452

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.1002	2.5300e-003	0.1027	0.0271	2.4000e-003	0.0295		157.7228	157.7228	4.3800e-003	0.0143	162.0891

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.0927	2.5300e-003	0.0952	0.0253	2.4000e-003	0.0277		157.7228	157.7228	4.3800e-003	0.0143	162.0891

3.3 Trenching - 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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0337	0.0162	0.2725	7.0000e-004	0.0761	3.9000e-004	0.0765	0.0202	3.6000e-004	0.0205		71.1699	71.1699	1.9500e-003	1.7500e-003	71.7396
Total	0.0391	0.2014	0.3302	1.4600e-003	0.1002	1.4200e-003	0.1016	0.0271	1.3500e-003	0.0285		152.9236	152.9236	3.9700e-003	0.0137	157.1150

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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0337	0.0162	0.2725	7.0000e-004	0.0701	3.9000e-004	0.0705	0.0187	3.6000e-004	0.0191		71.1699	71.1699	1.9500e-003	1.7500e-003	71.7396
Total	0.0391	0.2014	0.3302	1.4600e-003	0.0927	1.4200e-003	0.0941	0.0253	1.3500e-003	0.0266		152.9236	152.9236	3.9700e-003	0.0137	157.1150

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

3.4 Cable Laying/Vaulting - 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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
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
Total	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754

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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
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
Total	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 69 kV Underground Cable Replacement

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	19.01	User Defined Unit	19.01	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 69 kV = 19.01 acres

Construction Phase - 12 month construction schedule

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 15 acres

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	10.00	260.00
tblGrading	AcresOfGrading	130.00	15.00
tblLandUse	LotAcreage	0.00	19.01
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	3.8854	39.2824	27.3461	0.0568	6.2697	1.7867	8.0563	3.3679	1.6608	5.0288	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
2023	3.4073	33.9324	26.2122	0.0567	6.2697	1.4722	7.7419	3.3679	1.3692	4.7371	0.0000	5,469.9032	5,469.9032	1.4498	0.0390	5,517.7843
Maximum	3.8854	39.2824	27.3461	0.0568	6.2697	1.7867	8.0563	3.3679	1.6608	5.0288	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	3.8854	39.2824	27.3461	0.0568	2.9103	1.7867	4.6970	1.5403	1.6608	3.2012	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
2023	3.4073	33.9324	26.2122	0.0567	2.9103	1.4722	4.3825	1.5403	1.3692	2.9096	0.0000	5,469.9032	5,469.9032	1.4498	0.0390	5,517.7843
Maximum	3.8854	39.2824	27.3461	0.0568	2.9103	1.7867	4.6970	1.5403	1.6608	3.2012	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.58	0.00	42.53	54.26	0.00	37.43	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	Site Preparation	Site Preparation	7/25/2022	7/21/2023	5	260	
2	Trenching	Trenching	7/25/2022	7/21/2023	5	260	
3	Cable Laying/Vaulting	Building Construction	7/25/2022	7/21/2023	5	260	

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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): 15

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Excavators	0	8.00	150	0.38
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Graders	0	8.00	187	0.41
Cable Laying/Vaulting	Rubber Tired Dozers	0	8.00	247	0.40
Cable Laying/Vaulting	Scrapers	0	8.00	367	0.48
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45
Trenching	Cranes	0	7.00	231	0.29
Trenching	Excavators	1	8.00	150	0.38
Trenching	Forklifts	0	8.00	89	0.20
Trenching	Generator Sets	0	8.00	84	0.74
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Welders	0	8.00	46	0.45

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0833	0.5075	6.5908	3.3168	0.4669	3.7837		1,128.2743	1,128.2743	0.3649		1,137.3970

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0621	2.3400e-003	0.0645	0.0170	2.2300e-003	0.0193		117.1268	117.1268	3.4400e-003	0.0135	121.2361

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7375	0.5075	3.2450	1.4926	0.4669	1.9595	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0576	2.3400e-003	0.0600	0.0159	2.2300e-003	0.0182		117.1268	117.1268	3.4400e-003	0.0135	121.2361

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650		1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	6.0833	0.3967	6.4800	3.3168	0.3650	3.6818		1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0149	9.9300e-003	0.1187	3.1000e-004	0.0380	2.0000e-004	0.0382	0.0101	1.8000e-004	0.0103		31.6539	31.6539	1.1200e-003	1.0000e-003	31.9807
Total	0.0201	0.2090	0.1790	1.0700e-003	0.0621	1.2500e-003	0.0634	0.0170	1.1800e-003	0.0182		113.4662	113.4662	3.1300e-003	0.0130	117.4230

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	2.7375	0.3967	3.1342	1.4926	0.3650	1.8576	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0149	9.9300e-003	0.1187	3.1000e-004	0.0351	2.0000e-004	0.0353	9.3600e-003	1.8000e-004	9.5400e-003		31.6539	31.6539	1.1200e-003	1.0000e-003	31.9807
Total	0.0201	0.2090	0.1790	1.0700e-003	0.0576	1.2500e-003	0.0589	0.0159	1.1800e-003	0.0171		113.4662	113.4662	3.1300e-003	0.0130	117.4230

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.1002	2.5400e-003	0.1027	0.0271	2.4200e-003	0.0295		149.6158	149.6158	4.6800e-003	0.0146	154.0791

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.0927	2.5400e-003	0.0952	0.0253	2.4200e-003	0.0277		149.6158	149.6158	4.6800e-003	0.0146	154.0791

3.3 Trenching - 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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0298	0.0199	0.2374	6.2000e-004	0.0761	3.9000e-004	0.0765	0.0202	3.6000e-004	0.0205		63.3078	63.3078	2.2500e-003	2.0000e-003	63.9614
Total	0.0350	0.2189	0.2977	1.3800e-003	0.1002	1.4400e-003	0.1016	0.0271	1.3600e-003	0.0285		145.1201	145.1201	4.2600e-003	0.0140	149.4037

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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0298	0.0199	0.2374	6.2000e-004	0.0701	3.9000e-004	0.0705	0.0187	3.6000e-004	0.0191		63.3078	63.3078	2.2500e-003	2.0000e-003	63.9614
Total	0.0350	0.2189	0.2977	1.3800e-003	0.0927	1.4400e-003	0.0941	0.0253	1.3600e-003	0.0266		145.1201	145.1201	4.2600e-003	0.0140	149.4037

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

3.4 Cable Laying/Vaulting - 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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
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
Total	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423

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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
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
Total	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 69 kV - Paving
Sacramento County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.76	User Defined Unit	0.76	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Paved area along Rossmoor Dr 4,125' by 8'

Construction Phase - 12 months of paving

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	260.00

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.0465	0.4468	0.5839	9.6000e-004	6.8400e-003	0.0223	0.0291	1.8500e-003	0.0206	0.0224	0.0000	84.2050	84.2050	0.0242	7.8000e-004	85.0429
2023	0.0547	0.5166	0.7335	1.2100e-003	8.6200e-003	0.0249	0.0335	2.3300e-003	0.0230	0.0253	0.0000	105.8559	105.8559	0.0305	9.5000e-004	106.8999
Maximum	0.0547	0.5166	0.7335	1.2100e-003	8.6200e-003	0.0249	0.0335	2.3300e-003	0.0230	0.0253	0.0000	105.8559	105.8559	0.0305	9.5000e-004	106.8999

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
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Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	tons/yr										MT/yr					
2022	0.0465	0.4468	0.5839	9.6000e-004	6.3200e-003	0.0223	0.0286	1.7200e-003	0.0206	0.0223	0.0000	84.2049	84.2049	0.0242	7.8000e-004	85.0429
2023	0.0547	0.5166	0.7335	1.2100e-003	7.9700e-003	0.0249	0.0329	2.1700e-003	0.0230	0.0251	0.0000	105.8558	105.8558	0.0305	9.5000e-004	106.8998
Maximum	0.0547	0.5166	0.7335	1.2100e-003	7.9700e-003	0.0249	0.0329	2.1700e-003	0.0230	0.0251	0.0000	105.8558	105.8558	0.0305	9.5000e-004	106.8998

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.57	0.00	1.85	6.94	0.00	0.61	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	7-1-2022	9-30-2022	0.2082	0.2082
2	10-1-2022	12-31-2022	0.2822	0.2822
3	1-1-2023	3-31-2023	0.2536	0.2536
4	4-1-2023	6-30-2023	0.2559	0.2559
5	7-1-2023	9-30-2023	0.0591	0.0591
		Highest	0.2822	0.2822

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	7/25/2022	7/21/2023	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	tons/yr										MT/yr					
	Off-Road	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2691	75.2691	0.0239	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
Total	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2691	75.2691	0.0239	0.0000	75.8669

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	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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	2.3000e-003	1.5000e-003	0.0189	5.0000e-005	5.4900e-003	3.0000e-005	5.5200e-003	1.4600e-003	3.0000e-005	1.4900e-003	0.0000	4.5207	4.5207	1.5000e-004	1.4000e-004	4.5651
Total	2.7900e-003	0.0147	0.0227	1.0000e-004	6.8400e-003	1.5000e-004	6.9900e-003	1.8500e-003	1.5000e-004	2.0000e-003	0.0000	8.9359	8.9359	2.7000e-004	7.9000e-004	9.1761

Mitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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					
Off-Road	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2690	75.2690	0.0239	0.0000	75.8668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2690	75.2690	0.0239	0.0000	75.8668

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	2.3000e-003	1.5000e-003	0.0189	5.0000e-005	5.0600e-003	3.0000e-005	5.0900e-003	1.3600e-003	3.0000e-005	1.3800e-003	0.0000	4.5207	4.5207	1.5000e-004	1.4000e-004	4.5651
Total	2.7900e-003	0.0147	0.0227	1.0000e-004	6.3200e-003	1.5000e-004	6.4700e-003	1.7300e-003	1.5000e-004	1.8700e-003	0.0000	8.9359	8.9359	2.7000e-004	7.9000e-004	9.1761

3.2 Paving - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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					
Off-Road	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9242	94.9242	0.0302	0.0000	95.6781
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9242	94.9242	0.0302	0.0000	95.6781

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.7000e-003	1.6700e-003	0.0220	6.0000e-005	6.9200e-003	4.0000e-005	6.9600e-003	1.8400e-003	3.0000e-005	1.8800e-003	0.0000	5.5530	5.5530	1.8000e-004	1.6000e-004	5.6047
Total	3.0800e-003	0.0158	0.0262	1.2000e-004	8.6200e-003	1.2000e-004	8.7300e-003	2.3300e-003	1.0000e-004	2.4400e-003	0.0000	10.9316	10.9316	3.1000e-004	9.5000e-004	11.2218

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9241	94.9241	0.0302	0.0000	95.6779
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9241	94.9241	0.0302	0.0000	95.6779

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.7000e-003	1.6700e-003	0.0220	6.0000e-005	6.3800e-003	4.0000e-005	6.4200e-003	1.7100e-003	3.0000e-005	1.7400e-003	0.0000	5.5530	5.5530	1.8000e-004	1.6000e-004	5.6047
Total	3.0800e-003	0.0158	0.0262	1.2000e-004	7.9700e-003	1.2000e-004	8.0900e-003	2.1700e-003	1.0000e-004	2.2800e-003	0.0000	10.9316	10.9316	3.1000e-004	9.5000e-004	11.2218

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 69 kV - Paving
Sacramento County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.76	User Defined Unit	0.76	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Paved area along Rossmoor Dr 4,125' by 8'

Construction Phase - 12 months of paving

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	260.00

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
2023	0.7610	7.1139	10.1667	0.0167	0.1230	0.3432	0.4662	0.0332	0.3166	0.3498	0.0000	1,617.5303	1,617.5303	0.4630	0.0143	1,633.3541
Maximum	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

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
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Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	lb/day										lb/day					
2022	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
2023	0.7610	7.1139	10.1667	0.0167	0.1137	0.3432	0.4569	0.0309	0.3166	0.3475	0.0000	1,617.5303	1,617.5303	0.4630	0.0143	1,633.3541
Maximum	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.90	6.87	0.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00

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	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000		1.8000e-004
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	1.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000		1.8000e-004
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	1.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	Paving	Paving	7/25/2022	7/21/2023	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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					

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-Road	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1230	2.6600e-003	0.1257	0.0332	2.5100e-003	0.0357		179.6454	179.6454	5.0300e-003	0.0149	184.1968

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
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Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	lb/day										lb/day					
	Off-Road	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1137	2.6600e-003	0.1164	0.0309	2.5100e-003	0.0334		179.6454	179.6454	5.0300e-003	0.0149	184.1968

3.2 Paving - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152		1,443.2558	1,443.2558	0.4585		1,454.7173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152		1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0438	0.0211	0.3543	9.0000e-004	0.0989	5.1000e-004	0.0994	0.0262	4.7000e-004	0.0267		92.5209	92.5209	2.5400e-003	2.2700e-003	93.2614
Total	0.0492	0.2063	0.4120	1.6600e-003	0.1230	1.5400e-003	0.1245	0.0332	1.4600e-003	0.0346		174.2745	174.2745	4.5600e-003	0.0143	178.6368

Mitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0438	0.0211	0.3543	9.0000e-004	0.0912	5.1000e-004	0.0917	0.0243	4.7000e-004	0.0248		92.5209	92.5209	2.5400e-003	2.2700e-003	93.2614
Total	0.0492	0.2063	0.4120	1.6600e-003	0.1137	1.5400e-003	0.1153	0.0309	1.4600e-003	0.0324		174.2745	174.2745	4.5600e-003	0.0143	178.6368

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 69 kV - Paving
Sacramento County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.76	User Defined Unit	0.76	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Paved area along Rossmoor Dr 4,125' by 8'

Construction Phase - 12 months of paving

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	260.00

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
2023	0.7558	7.1325	10.1236	0.0166	0.1230	0.3432	0.4662	0.0332	0.3166	0.3498	0.0000	1,607.3682	1,607.3682	0.4634	0.0146	1,623.3094
Maximum	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

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
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Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	lb/day										lb/day					
2022	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
2023	0.7558	7.1325	10.1236	0.0166	0.1137	0.3432	0.4569	0.0309	0.3166	0.3475	0.0000	1,607.3682	1,607.3682	0.4634	0.0146	1,623.3094
Maximum	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.90	6.87	0.00	0.62	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	Paving	Paving	7/25/2022	7/21/2023	5	260	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1230	2.6700e-003	0.1257	0.0332	2.5300e-003	0.0357		169.1092	169.1092	5.4300e-003	0.0152	173.7848

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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
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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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1137	2.6700e-003	0.1164	0.0309	2.5300e-003	0.0334		169.1092	169.1092	5.4300e-003	0.0152	173.7848

3.2 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	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152		1,443.2558	1,443.2558	0.4585		1,454.7173

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000	
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152			1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0388	0.0258	0.3086	8.0000e-004	0.0989	5.1000e-004	0.0994	0.0262	4.7000e-004	0.0267		82.3002	82.3002	2.9200e-003	2.6100e-003	83.1498
Total	0.0440	0.2249	0.3689	1.5600e-003	0.1230	1.5600e-003	0.1245	0.0332	1.4700e-003	0.0346		164.1124	164.1124	4.9300e-003	0.0146	168.5922

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					

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-Road	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0388	0.0258	0.3086	8.0000e-004	0.0912	5.1000e-004	0.0917	0.0243	4.7000e-004	0.0248		82.3002	82.3002	2.9200e-003	2.6100e-003	83.1498
Total	0.0440	0.2249	0.3689	1.5600e-003	0.1137	1.5600e-003	0.1153	0.0309	1.4700e-003	0.0324		164.1124	164.1124	4.9300e-003	0.0146	168.5922

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6	Operational Year		2024	
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kV = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Based on prior SMUD 69kV underground cable project equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 0.5 acres

Vehicle Trips - No operational emissions will be analyzed.

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	tons/yr										MT/yr					
2022	0.0311	0.3141	0.2187	4.5000e-004	0.0499	0.0143	0.0642	0.0269	0.0133	0.0402	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1428
Maximum	0.0311	0.3141	0.2187	4.5000e-004	0.0499	0.0143	0.0642	0.0269	0.0133	0.0402	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1428

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	0.0311	0.3141	0.2187	4.5000e-004	0.0231	0.0143	0.0374	0.0123	0.0133	0.0256	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1427
Maximum	0.0311	0.3141	0.2187	4.5000e-004	0.0231	0.0143	0.0374	0.0123	0.0133	0.0256	0.0000	39.7918	39.7918	0.0106	2.9000e-004	40.1427

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.62	0.00	41.68	54.29	0.00	36.33	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	7-1-2022	9-30-2022	0.3388	0.3388
		Highest	0.3388	0.3388

3.0 Construction Detail

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2022	7/22/2022	5	16	
2	Trenching	Trenching	7/1/2022	7/22/2022	5	16	
3	Cable Laying/Vaulting	Building Construction	7/1/2022	7/22/2022	5	16	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					0.0484	0.0000	0.0484	0.0265	0.0000	0.0265	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0100e-003	0.0838	0.0466	9.0000e-005	4.0600e-003	4.0600e-003	4.0600e-003	3.7400e-003	3.7400e-003	3.7400e-003	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546
Total	8.0100e-003	0.0838	0.0466	9.0000e-005	0.0484	4.0600e-003	0.0525	0.0265	3.7400e-003	0.0303	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	1.2000e-004	8.0000e-005	1.0100e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2419	0.2419	1.0000e-005	1.0000e-005	0.2443
Total	1.9000e-004	1.9200e-003	1.5400e-003	1.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	0.8562	0.8562	3.0000e-005	1.0000e-004	0.8858

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					0.0218	0.0000	0.0218	0.0119	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0100e-003	0.0838	0.0466	9.0000e-005		4.0600e-003	4.0600e-003		3.7400e-003	3.7400e-003	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546
Total	8.0100e-003	0.0838	0.0466	9.0000e-005	0.0218	4.0600e-003	0.0259	0.0119	3.7400e-003	0.0157	0.0000	8.1884	8.1884	2.6500e-003	0.0000	8.2546

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	1.2000e-004	8.0000e-005	1.0100e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2419	0.2419	1.0000e-005	1.0000e-005	0.2443
Total	1.9000e-004	1.9200e-003	1.5400e-003	1.0000e-005	4.5000e-004	2.0000e-005	4.6000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	0.8562	0.8562	3.0000e-005	1.0000e-004	0.8858

3.3 Trenching - 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	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045
Total	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	2.5000e-004	1.6000e-004	2.0200e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4838	0.4838	2.0000e-005	1.0000e-005	0.4886
Total	3.2000e-004	2.0000e-003	2.5500e-003	2.0000e-005	7.8000e-004	2.0000e-005	7.9000e-004	2.1000e-004	2.0000e-005	2.3000e-004	0.0000	1.0981	1.0981	4.0000e-005	1.0000e-004	1.1301

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	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045
Total	0.0130	0.1400	0.0864	1.9000e-004		6.0800e-003	6.0800e-003		5.6000e-003	5.6000e-003	0.0000	16.4713	16.4713	5.3300e-003	0.0000	16.6045

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	2.5000e-004	1.6000e-004	2.0200e-003	1.0000e-005	5.4000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4838	0.4838	2.0000e-005	1.0000e-005	0.4886
Total	3.2000e-004	2.0000e-003	2.5500e-003	2.0000e-005	7.2000e-004	2.0000e-005	7.4000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	1.0981	1.0981	4.0000e-005	1.0000e-004	1.1301

3.4 Cable Laying/Vaulting - 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	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5635	12.5635	2.5100e-003	0.0000	12.6262
Total	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5635	12.5635	2.5100e-003	0.0000	12.6262

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.9000e-004	2.0000e-005	2.0000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415

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	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5634	12.5634	2.5100e-003	0.0000	12.6262
Total	9.5300e-003	0.0846	0.0811	1.5000e-004		4.0900e-003	4.0900e-003		3.9000e-003	3.9000e-003	0.0000	12.5634	12.5634	2.5100e-003	0.0000	12.6262

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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					
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 12 kV Underground Cable Replacement
Sacramento County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kV = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Based on prior SMUD 69kV underground cable project equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 0.5 acres

Vehicle Trips - No operational emissions will be analyzed.

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	lb/day										lb/day					
2022	3.8921	39.2277	27.3967	0.0570	6.2416	1.7866	8.0283	3.3649	1.6608	5.0257	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915
Maximum	3.8921	39.2277	27.3967	0.0570	6.2416	1.7866	8.0283	3.3649	1.6608	5.0257	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915

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	3.8921	39.2277	27.3967	0.0570	2.8977	1.7866	4.6843	1.5390	1.6608	3.1997	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915
Maximum	3.8921	39.2277	27.3967	0.0570	2.8977	1.7866	4.6843	1.5390	1.6608	3.1997	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.57	0.00	41.65	54.26	0.00	36.33	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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

1	Site Preparation	Site Preparation	7/1/2022	7/22/2022	5	16
2	Trenching	Trenching	7/1/2022	7/22/2022	5	16
3	Cable Laying/Vaulting	Building Construction	7/1/2022	7/22/2022	5	16

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	156	0.38
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0552	0.0000	6.0552	3.3138	0.0000	3.3138			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0552	0.5075	6.5627	3.3138	0.4669	3.7807		1,128.2743	1,128.2743	0.3649		1,137.3970

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0621	2.3300e-003	0.0645	0.0170	2.2100e-003	0.0192		121.1852	121.1852	3.2900e-003	0.0133	125.2431

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					2.7249	0.0000	2.7249	1.4912	0.0000	1.4912			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7249	0.5075	3.2323	1.4912	0.4669	1.9581	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0576	2.3300e-003	0.0599	0.0159	2.2100e-003	0.0181		121.1852	121.1852	3.2900e-003	0.0133	125.2431

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.1002	2.5300e-003	0.1027	0.0271	2.4000e-003	0.0295		157.7228	157.7228	4.3800e-003	0.0143	162.0891

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.0927	2.5300e-003	0.0952	0.0253	2.4000e-003	0.0277		157.7228	157.7228	4.3800e-003	0.0143	162.0891

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6	Operational Year		2024	
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kV = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Based on prior SMUD 69kV underground cable project equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 0.5 acres

Vehicle Trips - No operational emissions will be analyzed.

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	lb/day										lb/day					
2022	3.8854	39.2824	27.3461	0.0568	6.2416	1.7867	8.0283	3.3649	1.6608	5.0257	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
Maximum	3.8854	39.2824	27.3461	0.0568	6.2416	1.7867	8.0283	3.3649	1.6608	5.0257	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

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	3.8854	39.2824	27.3461	0.0568	2.8977	1.7867	4.6844	1.5390	1.6608	3.1998	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
Maximum	3.8854	39.2824	27.3461	0.0568	2.8977	1.7867	4.6844	1.5390	1.6608	3.1998	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.57	0.00	41.65	54.26	0.00	36.33	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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

1	Site Preparation	Site Preparation	7/1/2022	7/22/2022	5	16
2	Trenching	Trenching	7/1/2022	7/22/2022	5	16
3	Cable Laying/Vaulting	Building Construction	7/1/2022	7/22/2022	5	16

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	156	0.38
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0552	0.0000	6.0552	3.3138	0.0000	3.3138			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0552	0.5075	6.5627	3.3138	0.4669	3.7807		1,128.2743	1,128.2743	0.3649		1,137.3970

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
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Cordova Park 12 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0621	2.3400e-003	0.0645	0.0170	2.2300e-003	0.0193		117.1268	117.1268	3.4400e-003	0.0135	121.2361

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					2.7249	0.0000	2.7249	1.4912	0.0000	1.4912			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7249	0.5075	3.2323	1.4912	0.4669	1.9581	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0576	2.3400e-003	0.0600	0.0159	2.2300e-003	0.0182		117.1268	117.1268	3.4400e-003	0.0135	121.2361

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.1002	2.5400e-003	0.1027	0.0271	2.4200e-003	0.0295		149.6158	149.6158	4.6800e-003	0.0146	154.0791

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.0927	2.5400e-003	0.0952	0.0253	2.4200e-003	0.0277		149.6158	149.6158	4.6800e-003	0.0146	154.0791

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement - Paving

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kv = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	16.00

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	6.4700e-003	0.0622	0.0812	1.3000e-004	9.5000e-004	3.1000e-003	4.0500e-003	2.6000e-004	2.8600e-003	3.1200e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321
Maximum	6.4700e-003	0.0622	0.0812	1.3000e-004	9.5000e-004	3.1000e-003	4.0500e-003	2.6000e-004	2.8600e-003	3.1200e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321

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					

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2022	6.4700e-003	0.0622	0.0812	1.3000e-004	8.8000e-004	3.1000e-003	3.9800e-003	2.4000e-004	2.8600e-003	3.1000e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321
Maximum	6.4700e-003	0.0622	0.0812	1.3000e-004	8.8000e-004	3.1000e-003	3.9800e-003	2.4000e-004	2.8600e-003	3.1000e-003	0.0000	11.7155	11.7155	3.3600e-003	1.1000e-004	11.8321

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.37	0.00	1.73	7.69	0.00	0.64	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	7-1-2022	9-30-2022	0.0674	0.0674
		Highest	0.0674	0.0674

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	7/1/2022	7/22/2022	5	16	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	6.0800e-003	0.0601	0.0781	1.2000e-004	3.0800e-003	3.0800e-003	3.0800e-003	2.8400e-003	2.8400e-003	2.8400e-003	0.0000	10.4722	10.4722	3.3300e-003	0.0000	10.5554
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0800e-003	0.0601	0.0781	1.2000e-004	3.0800e-003	3.0800e-003	3.0800e-003	2.8400e-003	2.8400e-003	2.8400e-003	0.0000	10.4722	10.4722	3.3300e-003	0.0000	10.5554

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total	6.0800e-003	0.0601	0.0781	1.2000e-004		3.0800e-003	3.0800e-003		2.8400e-003	2.8400e-003	0.0000	10.4722	10.4722	3.3300e-003	0.0000	10.5554
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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	7.0000e-005	1.8400e-003	5.3000e-004	1.0000e-005	1.8000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.6143	0.6143	2.0000e-005	9.0000e-005	0.6415
Worker	3.2000e-004	2.1000e-004	2.6200e-003	1.0000e-005	7.0000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6290	0.6290	2.0000e-005	2.0000e-005	0.6351
Total	3.9000e-004	2.0500e-003	3.1500e-003	2.0000e-005	8.8000e-004	2.0000e-005	9.0000e-004	2.4000e-004	2.0000e-005	2.6000e-004	0.0000	1.2433	1.2433	4.0000e-005	1.1000e-004	1.2767

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 12 kV Underground Cable Replacement - Paving
Sacramento County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kv = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	16.00

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
Maximum	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

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					

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2022	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
Maximum	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.82	6.87	0.00	0.58	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	Paving	Paving	7/1/2022	7/22/2022	5	16	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

Unmitigated Construction Off-Site

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1230	2.6600e-003	0.1257	0.0332	2.5100e-003	0.0357		179.6454	179.6454	5.0300e-003	0.0149	184.1968

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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1137	2.6600e-003	0.1164	0.0309	2.5100e-003	0.0334		179.6454	179.6454	5.0300e-003	0.0149	184.1968

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 12 kV Underground Cable Replacement - Paving

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.07	User Defined Unit	0.07	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 12 kv = 0.07 acres

Construction Phase - Phase I would occur concurrently and continuously over a three week duration.

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	16.00

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
Maximum	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

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					

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2022	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
Maximum	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.82	6.87	0.00	0.58	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	Paving	Paving	7/1/2022	7/22/2022	5	16	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1230	2.6700e-003	0.1257	0.0332	2.5300e-003	0.0357		169.1092	169.1092	5.4300e-003	0.0152	173.7848

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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 12 kV Underground Cable Replacement - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1137	2.6700e-003	0.1164	0.0309	2.5300e-003	0.0334		169.1092	169.1092	5.4300e-003	0.0152	173.7848

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 69 kV Underground Cable Replacement

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	19.01	User Defined Unit	19.01	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 69 kV = 19.01 acres

Construction Phase - 12 month construction schedule

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 15 acres

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	10.00	260.00
tblGrading	AcresOfGrading	130.00	15.00
tblLandUse	LotAcreage	0.00	19.01
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.2233	2.2578	1.5718	3.2700e-003	0.3646	0.1027	0.4673	0.1941	0.0955	0.2896	0.0000	286.0038	286.0038	0.0759	2.1000e-003	288.5262
2023	0.2469	2.4590	1.8996	4.1200e-003	0.4576	0.1067	0.5644	0.2445	0.0993	0.3437	0.0000	359.9153	359.9153	0.0953	2.5500e-003	363.0589
Maximum	0.2469	2.4590	1.8996	4.1200e-003	0.4576	0.1067	0.5644	0.2445	0.0993	0.3437	0.0000	359.9153	359.9153	0.0953	2.5500e-003	363.0589

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.2233	2.2578	1.5718	3.2700e-003	0.1690	0.1027	0.2718	0.0887	0.0955	0.1842	0.0000	286.0035	286.0035	0.0759	2.1000e-003	288.5259
2023	0.2469	2.4590	1.8996	4.1200e-003	0.2122	0.1067	0.3189	0.1118	0.0993	0.2110	0.0000	359.9149	359.9149	0.0953	2.5500e-003	363.0585
Maximum	0.2469	2.4590	1.8996	4.1200e-003	0.2122	0.1067	0.3189	0.1118	0.0993	0.2110	0.0000	359.9149	359.9149	0.0953	2.5500e-003	363.0585

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.64	0.00	42.75	54.29	0.00	37.59	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	7-1-2022	9-30-2022	1.0472	1.0472
2	10-1-2022	12-31-2022	1.4184	1.4184
3	1-1-2023	3-31-2023	1.2002	1.2002
4	4-1-2023	6-30-2023	1.2122	1.2122
5	7-1-2023	9-30-2023	0.2797	0.2797
		Highest	1.4184	1.4184

3.0 Construction Detail

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/25/2022	7/21/2023	5	260	
2	Trenching	Trenching	7/25/2022	7/21/2023	5	260	
3	Cable Laying/Vaulting	Building Construction	7/25/2022	7/21/2023	5	260	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Excavators	0	8.00	158	0.38
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Graders	0	8.00	187	0.41
Cable Laying/Vaulting	Rubber Tired Dozers	0	8.00	247	0.40
Cable Laying/Vaulting	Scrapers	0	8.00	367	0.48
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45
Trenching	Cranes	0	7.00	231	0.29
Trenching	Excavators	1	8.00	158	0.38

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-Road	0.0576	0.6020	0.3347	6.7000e-004		0.0292	0.0292		0.0269	0.0269	0.0000	58.8543	58.8543	0.0190	0.0000	59.3302
Total	0.0576	0.6020	0.3347	6.7000e-004	0.3542	0.0292	0.3834	0.1912	0.0269	0.2181	0.0000	58.8543	58.8543	0.0190	0.0000	59.3302

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	8.9000e-004	5.8000e-004	7.2500e-003	2.0000e-005	2.1100e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.7387	1.7387	6.0000e-005	5.0000e-005	1.7558
Total	1.3800e-003	0.0138	0.0111	7.0000e-005	3.4600e-003	1.3000e-004	3.5900e-003	9.5000e-004	1.3000e-004	1.0800e-003	0.0000	6.1540	6.1540	1.8000e-004	7.0000e-004	6.3668

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					

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Fugitive Dust					0.1594	0.0000	0.1594	0.0860	0.0000	0.0860	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0576	0.6020	0.3347	6.7000e-004		0.0292	0.0292		0.0269	0.0269	0.0000	58.8542	58.8542	0.0190	0.0000	59.3301
Total	0.0576	0.6020	0.3347	6.7000e-004	0.1594	0.0292	0.1886	0.0860	0.0269	0.1129	0.0000	58.8542	58.8542	0.0190	0.0000	59.3301

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	8.9000e-004	5.8000e-004	7.2500e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.7387	1.7387	6.0000e-005	5.0000e-005	1.7558
Total	1.3800e-003	0.0138	0.0111	7.0000e-005	3.2100e-003	1.3000e-004	3.3400e-003	8.9000e-004	1.3000e-004	1.0200e-003	0.0000	6.1540	6.1540	1.8000e-004	7.0000e-004	6.3668

3.2 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
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	tons/yr										MT/yr					
	Fugitive Dust					0.4446	0.0000	0.4446	0.2409	0.0000	0.2409	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0606	0.6281	0.3870	8.4000e-004		0.0288	0.0288		0.0265	0.0265	0.0000	74.2275	74.2275	0.0240	0.0000	74.8277
Total	0.0606	0.6281	0.3870	8.4000e-004	0.4446	0.0288	0.4733	0.2409	0.0265	0.2673	0.0000	74.2275	74.2275	0.0240	0.0000	74.8277

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	1.0400e-003	6.4000e-004	8.4500e-003	2.0000e-005	2.6600e-003	1.0000e-005	2.6800e-003	7.1000e-004	1.0000e-005	7.2000e-004	0.0000	2.1358	2.1358	7.0000e-005	6.0000e-005	2.1557
Total	1.4200e-003	0.0148	0.0127	8.0000e-005	4.3600e-003	9.0000e-005	4.4500e-003	1.2000e-003	8.0000e-005	1.2800e-003	0.0000	7.5144	7.5144	2.0000e-004	8.5000e-004	7.7728

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Fugitive Dust					0.2001	0.0000	0.2001	0.1084	0.0000	0.1084	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0606	0.6281	0.3870	8.4000e-004		0.0288	0.0288		0.0265	0.0265	0.0000	74.2274	74.2274	0.0240	0.0000	74.8276
Total	0.0606	0.6281	0.3870	8.4000e-004	0.2001	0.0288	0.2288	0.1084	0.0265	0.1348	0.0000	74.2274	74.2274	0.0240	0.0000	74.8276

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	1.0400e-003	6.4000e-004	8.4500e-003	2.0000e-005	2.4600e-003	1.0000e-005	2.4700e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	2.1358	2.1358	7.0000e-005	6.0000e-005	2.1557
Total	1.4200e-003	0.0148	0.0127	8.0000e-005	4.0500e-003	9.0000e-005	4.1400e-003	1.1200e-003	8.0000e-005	1.2100e-003	0.0000	7.5144	7.5144	2.0000e-004	8.5000e-004	7.7728

3.3 Trenching - 2022

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3878	118.3878	0.0383	0.0000	119.3450
Total	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3878	118.3878	0.0383	0.0000	119.3450

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	1.7700e-003	1.1500e-003	0.0145	4.0000e-005	4.2200e-003	2.0000e-005	4.2500e-003	1.1200e-003	2.0000e-005	1.1500e-003	0.0000	3.4774	3.4774	1.2000e-004	1.0000e-004	3.5116
Total	2.2600e-003	0.0144	0.0183	9.0000e-005	5.5700e-003	1.4000e-004	5.7200e-003	1.5100e-003	1.4000e-004	1.6600e-003	0.0000	7.8927	7.8927	2.4000e-004	7.5000e-004	8.1226

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3876	118.3876	0.0383	0.0000	119.3449
Total	0.0931	1.0065	0.6208	1.3500e-003		0.0437	0.0437		0.0402	0.0402	0.0000	118.3876	118.3876	0.0383	0.0000	119.3449

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	1.7700e-003	1.1500e-003	0.0145	4.0000e-005	3.8900e-003	2.0000e-005	3.9200e-003	1.0400e-003	2.0000e-005	1.0600e-003	0.0000	3.4774	3.4774	1.2000e-004	1.0000e-004	3.5116
Total	2.2600e-003	0.0144	0.0183	9.0000e-005	5.1500e-003	1.4000e-004	5.3000e-003	1.4100e-003	1.4000e-004	1.5500e-003	0.0000	7.8927	7.8927	2.4000e-004	7.5000e-004	8.1226

3.3 Trenching - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2695	149.2695	0.0483	0.0000	150.4765
Total	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2695	149.2695	0.0483	0.0000	150.4765

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.0800e-003	1.2900e-003	0.0169	5.0000e-005	5.3200e-003	3.0000e-005	5.3500e-003	1.4200e-003	3.0000e-005	1.4400e-003	0.0000	4.2716	4.2716	1.4000e-004	1.2000e-004	4.3113
Total	2.4600e-003	0.0154	0.0212	1.1000e-004	7.0200e-003	1.1000e-004	7.1200e-003	1.9100e-003	1.0000e-004	2.0000e-003	0.0000	9.6502	9.6502	2.7000e-004	9.1000e-004	9.9284

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2694	149.2694	0.0483	0.0000	150.4763
Total	0.1021	1.0777	0.7459	1.7000e-003		0.0452	0.0452		0.0416	0.0416	0.0000	149.2694	149.2694	0.0483	0.0000	150.4763

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.0800e-003	1.2900e-003	0.0169	5.0000e-005	4.9100e-003	3.0000e-005	4.9400e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.2716	4.2716	1.4000e-004	1.2000e-004	4.3113
Total	2.4600e-003	0.0154	0.0212	1.1000e-004	6.5000e-003	1.1000e-004	6.6100e-003	1.7700e-003	1.0000e-004	1.8800e-003	0.0000	9.6502	9.6502	2.7000e-004	9.1000e-004	9.9284

3.4 Cable Laying/Vaulting - 2022

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2998	90.2998	0.0180	0.0000	90.7506
Total	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2998	90.2998	0.0180	0.0000	90.7506

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2997	90.2997	0.0180	0.0000	90.7505
Total	0.0685	0.6080	0.5830	1.0600e-003		0.0294	0.0294		0.0280	0.0280	0.0000	90.2997	90.2997	0.0180	0.0000	90.7505

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110

3.4 Cable Laying/Vaulting - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8750	113.8750	0.0225	0.0000	114.4364
Total	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8750	113.8750	0.0225	0.0000	114.4364

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171

Mitigated Construction On-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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					
Off-Road	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8749	113.8749	0.0225	0.0000	114.4363
Total	0.0800	0.7089	0.7286	1.3400e-003		0.0325	0.0325		0.0310	0.0310	0.0000	113.8749	113.8749	0.0225	0.0000	114.4363

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 69 kV Underground Cable Replacement

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	19.01	User Defined Unit	19.01	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 69 kV = 19.01 acres

Construction Phase - 12 month construction schedule

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 15 acres

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	10.00	260.00
tblGrading	AcresOfGrading	130.00	15.00
tblLandUse	LotAcreage	0.00	19.01
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	3.8921	39.2277	27.3967	0.0570	6.2697	1.7866	8.0563	3.3679	1.6608	5.0287	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915
2023	3.4136	33.8854	26.2571	0.0569	6.2697	1.4722	7.7419	3.3679	1.3692	4.7371	0.0000	5,481.5205	5,481.5205	1.4494	0.0386	5,529.2508
Maximum	3.8921	39.2277	27.3967	0.0570	6.2697	1.7866	8.0563	3.3679	1.6608	5.0287	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	3.8921	39.2277	27.3967	0.0570	2.9103	1.7866	4.6969	1.5403	1.6608	3.2011	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915
2023	3.4136	33.8854	26.2571	0.0569	2.9103	1.4722	4.3825	1.5403	1.3692	2.9095	0.0000	5,481.5205	5,481.5205	1.4494	0.0386	5,529.2508
Maximum	3.8921	39.2277	27.3967	0.0570	2.9103	1.7866	4.6969	1.5403	1.6608	3.2011	0.0000	5,492.5023	5,492.5023	1.4545	0.0400	5,540.7915

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.58	0.00	42.53	54.26	0.00	37.43	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	Site Preparation	Site Preparation	7/25/2022	7/21/2023	5	260	
2	Trenching	Trenching	7/25/2022	7/21/2023	5	260	
3	Cable Laying/Vaulting	Building Construction	7/25/2022	7/21/2023	5	260	

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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): 15

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Excavators	0	8.00	150	0.38
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Graders	0	8.00	187	0.41
Cable Laying/Vaulting	Rubber Tired Dozers	0	8.00	247	0.40
Cable Laying/Vaulting	Scrapers	0	8.00	367	0.48
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45
Trenching	Cranes	0	7.00	231	0.29
Trenching	Excavators	1	8.00	150	0.38
Trenching	Forklifts	0	8.00	89	0.20
Trenching	Generator Sets	0	8.00	84	0.74
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Welders	0	8.00	46	0.45

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0833	0.5075	6.5908	3.3168	0.4669	3.7837		1,128.2743	1,128.2743	0.3649		1,137.3970

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0621	2.3300e-003	0.0645	0.0170	2.2100e-003	0.0192		121.1852	121.1852	3.2900e-003	0.0133	125.2431

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7375	0.5075	3.2450	1.4926	0.4669	1.9595	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0181	9.1500e-003	0.1479	3.6000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		36.5376	36.5376	1.0800e-003	9.4000e-004	36.8461
Total	0.0268	0.2270	0.2135	1.1500e-003	0.0576	2.3300e-003	0.0599	0.0159	2.2100e-003	0.0181		121.1852	121.1852	3.2900e-003	0.0133	125.2431

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650		1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	6.0833	0.3967	6.4800	3.3168	0.3650	3.6818		1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0169	8.1000e-003	0.1363	3.5000e-004	0.0380	2.0000e-004	0.0382	0.0101	1.8000e-004	0.0103		35.5849	35.5849	9.8000e-004	8.7000e-004	35.8698
Total	0.0222	0.1933	0.1939	1.1100e-003	0.0621	1.2300e-003	0.0634	0.0170	1.1700e-003	0.0182		117.3386	117.3386	3.0000e-003	0.0129	121.2452

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	2.7375	0.3967	3.1342	1.4926	0.3650	1.8576	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0169	8.1000e-003	0.1363	3.5000e-004	0.0351	2.0000e-004	0.0353	9.3600e-003	1.8000e-004	9.5400e-003		35.5849	35.5849	9.8000e-004	6.7000e-004	35.8698
Total	0.0222	0.1933	0.1939	1.1100e-003	0.0576	1.2300e-003	0.0589	0.0159	1.1700e-003	0.0171		117.3386	117.3386	3.0000e-003	0.0129	121.2452

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.1002	2.5300e-003	0.1027	0.0271	2.4000e-003	0.0295		157.7228	157.7228	4.3800e-003	0.0143	162.0891

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0362	0.0183	0.2958	7.2000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		73.0752	73.0752	2.1700e-003	1.8900e-003	73.6921
Total	0.0449	0.2362	0.3614	1.5100e-003	0.0927	2.5300e-003	0.0952	0.0253	2.4000e-003	0.0277		157.7228	157.7228	4.3800e-003	0.0143	162.0891

3.3 Trenching - 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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0337	0.0162	0.2725	7.0000e-004	0.0761	3.9000e-004	0.0765	0.0202	3.6000e-004	0.0205		71.1699	71.1699	1.9500e-003	1.7500e-003	71.7396
Total	0.0391	0.2014	0.3302	1.4600e-003	0.1002	1.4200e-003	0.1016	0.0271	1.3500e-003	0.0285		152.9236	152.9236	3.9700e-003	0.0137	157.1150

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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0337	0.0162	0.2725	7.0000e-004	0.0701	3.9000e-004	0.0705	0.0187	3.6000e-004	0.0191		71.1699	71.1699	1.9500e-003	1.7500e-003	71.7396
Total	0.0391	0.2014	0.3302	1.4600e-003	0.0927	1.4200e-003	0.0941	0.0253	1.3500e-003	0.0266		152.9236	152.9236	3.9700e-003	0.0137	157.1150

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
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
Total	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970

3.4 Cable Laying/Vaulting - 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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
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
Total	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754

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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
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
Total	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Cordova Park 69 kV Underground Cable Replacement

Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	19.01	User Defined Unit	19.01	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 69 kV = 19.01 acres

Construction Phase - 12 month construction schedule

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Grading - CalEEMod estimated grading = 15 acres

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
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Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	260.00
tblConstructionPhase	NumDays	10.00	260.00
tblGrading	AcresOfGrading	130.00	15.00
tblLandUse	LotAcreage	0.00	19.01
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	3.8854	39.2824	27.3461	0.0568	6.2697	1.7867	8.0563	3.3679	1.6608	5.0288	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
2023	3.4073	33.9324	26.2122	0.0567	6.2697	1.4722	7.7419	3.3679	1.3692	4.7371	0.0000	5,469.9032	5,469.9032	1.4498	0.0390	5,517.7843
Maximum	3.8854	39.2824	27.3461	0.0568	6.2697	1.7867	8.0563	3.3679	1.6608	5.0288	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	3.8854	39.2824	27.3461	0.0568	2.9103	1.7867	4.6970	1.5403	1.6608	3.2012	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704
2023	3.4073	33.9324	26.2122	0.0567	2.9103	1.4722	4.3825	1.5403	1.3692	2.9096	0.0000	5,469.9032	5,469.9032	1.4498	0.0390	5,517.7843
Maximum	3.8854	39.2824	27.3461	0.0568	2.9103	1.7867	4.6970	1.5403	1.6608	3.2012	0.0000	5,480.3270	5,480.3270	1.4550	0.0405	5,528.7704

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.58	0.00	42.53	54.26	0.00	37.43	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	Site Preparation	Site Preparation	7/25/2022	7/21/2023	5	260	
2	Trenching	Trenching	7/25/2022	7/21/2023	5	260	
3	Cable Laying/Vaulting	Building Construction	7/25/2022	7/21/2023	5	260	

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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): 15

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29
Cable Laying/Vaulting	Excavators	0	8.00	150	0.38
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74
Cable Laying/Vaulting	Graders	0	8.00	187	0.41
Cable Laying/Vaulting	Rubber Tired Dozers	0	8.00	247	0.40
Cable Laying/Vaulting	Scrapers	0	8.00	367	0.48
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Cable Laying/Vaulting	Welders	1	8.00	46	0.45
Trenching	Cranes	0	7.00	231	0.29
Trenching	Excavators	1	8.00	150	0.38
Trenching	Forklifts	0	8.00	89	0.20
Trenching	Generator Sets	0	8.00	84	0.74
Trenching	Graders	1	8.00	187	0.41
Trenching	Rubber Tired Dozers	1	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Welders	0	8.00	46	0.45

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Site Preparation	2	5.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Cable Laying/Vaulting	5	0.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669		1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	6.0833	0.5075	6.5908	3.3168	0.4669	3.7837		1,128.2743	1,128.2743	0.3649		1,137.3970

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0380	2.1000e-004	0.0382	0.0101	1.9000e-004	0.0103		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0621	2.3400e-003	0.0645	0.0170	2.2300e-003	0.0193		117.1268	117.1268	3.4400e-003	0.0135	121.2361

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	1.0018	10.4693	5.8199	0.0116		0.5075	0.5075		0.4669	0.4669	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970
Total	1.0018	10.4693	5.8199	0.0116	2.7375	0.5075	3.2450	1.4926	0.4669	1.9595	0.0000	1,128.2743	1,128.2743	0.3649		1,137.3970

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0160	0.0112	0.1281	3.2000e-004	0.0351	2.1000e-004	0.0353	9.3600e-003	1.9000e-004	9.5500e-003		32.4890	32.4890	1.2400e-003	1.0800e-003	32.8430
Total	0.0245	0.2453	0.1966	1.1100e-003	0.0576	2.3400e-003	0.0600	0.0159	2.2300e-003	0.0182		117.1268	117.1268	3.4400e-003	0.0135	121.2361

3.2 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					6.0833	0.0000	6.0833	3.3168	0.0000	3.3168			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650		1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	6.0833	0.3967	6.4800	3.3168	0.3650	3.6818		1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0149	9.9300e-003	0.1187	3.1000e-004	0.0380	2.0000e-004	0.0382	0.0101	1.8000e-004	0.0103		31.6539	31.6539	1.1200e-003	1.0000e-003	31.9807
Total	0.0201	0.2090	0.1790	1.0700e-003	0.0621	1.2500e-003	0.0634	0.0170	1.1800e-003	0.0182		113.4662	113.4662	3.1300e-003	0.0130	117.4230

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					2.7375	0.0000	2.7375	1.4926	0.0000	1.4926			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023
Total	0.8360	8.6628	5.3377	0.0117	2.7375	0.3967	3.1342	1.4926	0.3650	1.8576	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0149	9.9300e-003	0.1187	3.1000e-004	0.0351	2.0000e-004	0.0353	9.3600e-003	1.8000e-004	9.5400e-003		31.6539	31.6539	1.1200e-003	1.0000e-003	31.9807
Total	0.0201	0.2090	0.1790	1.0700e-003	0.0576	1.2500e-003	0.0589	0.0159	1.1800e-003	0.0171		113.4662	113.4662	3.1300e-003	0.0130	117.4230

3.3 Trenching - 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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998		2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0761	4.1000e-004	0.0765	0.0202	3.8000e-004	0.0206		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.1002	2.5400e-003	0.1027	0.0271	2.4200e-003	0.0295		149.6158	149.6158	4.6800e-003	0.0146	154.0791

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	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191
Total	1.6192	17.5039	10.7968	0.0234		0.7606	0.7606		0.6998	0.6998	0.0000	2,269.5685	2,269.5685	0.7340		2,287.9191

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0320	0.0225	0.2562	6.4000e-004	0.0701	4.1000e-004	0.0705	0.0187	3.8000e-004	0.0191		64.9780	64.9780	2.4800e-003	2.1700e-003	65.6860
Total	0.0405	0.2565	0.3247	1.4300e-003	0.0927	2.5400e-003	0.0952	0.0253	2.4200e-003	0.0277		149.6158	149.6158	4.6800e-003	0.0146	154.0791

3.3 Trenching - 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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734		2,269.5380	2,269.5380	0.7340		2,287.8884

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0298	0.0199	0.2374	6.2000e-004	0.0761	3.9000e-004	0.0765	0.0202	3.6000e-004	0.0205		63.3078	63.3078	2.2500e-003	2.0000e-003	63.9614
Total	0.0350	0.2189	0.2977	1.3800e-003	0.1002	1.4400e-003	0.1016	0.0271	1.3600e-003	0.0285		145.1201	145.1201	4.2600e-003	0.0140	149.4037

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	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884
Total	1.4082	14.8645	10.2881	0.0234		0.6233	0.6233		0.5734	0.5734	0.0000	2,269.5380	2,269.5380	0.7340		2,287.8884

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0298	0.0199	0.2374	6.2000e-004	0.0701	3.9000e-004	0.0705	0.0187	3.6000e-004	0.0191		63.3078	63.3078	2.2500e-003	2.0000e-003	63.9614
Total	0.0350	0.2189	0.2977	1.3800e-003	0.0927	1.4400e-003	0.0941	0.0253	1.3600e-003	0.0266		145.1201	145.1201	4.2600e-003	0.0140	149.4037

3.4 Cable Laying/Vaulting - 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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875		1,731.1038	1,731.1038	0.3457		1,739.7462

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

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	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462
Total	1.1908	10.5735	10.1395	0.0184		0.5116	0.5116		0.4875	0.4875	0.0000	1,731.1038	1,731.1038	0.3457		1,739.7462

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
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
Total	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931

3.4 Cable Laying/Vaulting - 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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273		1,731.3894	1,731.3894	0.3414		1,739.9245

Unmitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
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
Total	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423

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	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245
Total	1.1028	9.7781	10.0496	0.0184		0.4485	0.4485		0.4273	0.4273	0.0000	1,731.3894	1,731.3894	0.3414		1,739.9245

Mitigated Construction Off-Site

Cordova Park 69 kV Underground Cable Replacement - Sacramento County, 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	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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
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
Total	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 69 kV - Paving
Sacramento County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.76	User Defined Unit	0.76	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Paved area along Rossmoor Dr 4,125' by 8'

Construction Phase - 12 months of paving

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	260.00

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.0465	0.4468	0.5839	9.6000e-004	6.8400e-003	0.0223	0.0291	1.8500e-003	0.0206	0.0224	0.0000	84.2050	84.2050	0.0242	7.8000e-004	85.0429
2023	0.0547	0.5166	0.7335	1.2100e-003	8.6200e-003	0.0249	0.0335	2.3300e-003	0.0230	0.0253	0.0000	105.8559	105.8559	0.0305	9.5000e-004	106.8999
Maximum	0.0547	0.5166	0.7335	1.2100e-003	8.6200e-003	0.0249	0.0335	2.3300e-003	0.0230	0.0253	0.0000	105.8559	105.8559	0.0305	9.5000e-004	106.8999

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
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Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	tons/yr										MT/yr					
2022	0.0465	0.4468	0.5839	9.6000e-004	6.3200e-003	0.0223	0.0286	1.7200e-003	0.0206	0.0223	0.0000	84.2049	84.2049	0.0242	7.8000e-004	85.0429
2023	0.0547	0.5166	0.7335	1.2100e-003	7.9700e-003	0.0249	0.0329	2.1700e-003	0.0230	0.0251	0.0000	105.8558	105.8558	0.0305	9.5000e-004	106.8998
Maximum	0.0547	0.5166	0.7335	1.2100e-003	7.9700e-003	0.0249	0.0329	2.1700e-003	0.0230	0.0251	0.0000	105.8558	105.8558	0.0305	9.5000e-004	106.8998

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.57	0.00	1.85	6.94	0.00	0.61	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	7-1-2022	9-30-2022	0.2082	0.2082
2	10-1-2022	12-31-2022	0.2822	0.2822
3	1-1-2023	3-31-2023	0.2536	0.2536
4	4-1-2023	6-30-2023	0.2559	0.2559
5	7-1-2023	9-30-2023	0.0591	0.0591
		Highest	0.2822	0.2822

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	7/25/2022	7/21/2023	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	tons/yr										MT/yr					
	Off-Road	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2691	75.2691	0.0239	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
Total	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2691	75.2691	0.0239	0.0000	75.8669

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	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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.3500e-003	1.2000e-004	1.4700e-003	3.9000e-004	1.2000e-004	5.1000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	2.3000e-003	1.5000e-003	0.0189	5.0000e-005	5.4900e-003	3.0000e-005	5.5200e-003	1.4600e-003	3.0000e-005	1.4900e-003	0.0000	4.5207	4.5207	1.5000e-004	1.4000e-004	4.5651
Total	2.7900e-003	0.0147	0.0227	1.0000e-004	6.8400e-003	1.5000e-004	6.9900e-003	1.8500e-003	1.5000e-004	2.0000e-003	0.0000	8.9359	8.9359	2.7000e-004	7.9000e-004	9.1761

Mitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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					
Off-Road	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2690	75.2690	0.0239	0.0000	75.8668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0437	0.4321	0.5612	8.7000e-004		0.0221	0.0221		0.0204	0.0204	0.0000	75.2690	75.2690	0.0239	0.0000	75.8668

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	4.9000e-004	0.0132	3.8400e-003	5.0000e-005	1.2600e-003	1.2000e-004	1.3800e-003	3.7000e-004	1.2000e-004	4.9000e-004	0.0000	4.4153	4.4153	1.2000e-004	6.5000e-004	4.6110
Worker	2.3000e-003	1.5000e-003	0.0189	5.0000e-005	5.0600e-003	3.0000e-005	5.0900e-003	1.3600e-003	3.0000e-005	1.3800e-003	0.0000	4.5207	4.5207	1.5000e-004	1.4000e-004	4.5651
Total	2.7900e-003	0.0147	0.0227	1.0000e-004	6.3200e-003	1.5000e-004	6.4700e-003	1.7300e-003	1.5000e-004	1.8700e-003	0.0000	8.9359	8.9359	2.7000e-004	7.9000e-004	9.1761

3.2 Paving - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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					
Off-Road	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9242	94.9242	0.0302	0.0000	95.6781
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9242	94.9242	0.0302	0.0000	95.6781

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.7000e-003	8.0000e-005	1.7700e-003	4.9000e-004	7.0000e-005	5.6000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.7000e-003	1.6700e-003	0.0220	6.0000e-005	6.9200e-003	4.0000e-005	6.9600e-003	1.8400e-003	3.0000e-005	1.8800e-003	0.0000	5.5530	5.5530	1.8000e-004	1.6000e-004	5.6047
Total	3.0800e-003	0.0158	0.0262	1.2000e-004	8.6200e-003	1.2000e-004	8.7300e-003	2.3300e-003	1.0000e-004	2.4400e-003	0.0000	10.9316	10.9316	3.1000e-004	9.5000e-004	11.2218

Cordova Park 69 kV - Paving - Sacramento County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9241	94.9241	0.0302	0.0000	95.6779
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0516	0.5008	0.7072	1.0900e-003		0.0248	0.0248		0.0229	0.0229	0.0000	94.9241	94.9241	0.0302	0.0000	95.6779

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	3.8000e-004	0.0141	4.2600e-003	6.0000e-005	1.5900e-003	8.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.4000e-004	0.0000	5.3786	5.3786	1.3000e-004	7.9000e-004	5.6171
Worker	2.7000e-003	1.6700e-003	0.0220	6.0000e-005	6.3800e-003	4.0000e-005	6.4200e-003	1.7100e-003	3.0000e-005	1.7400e-003	0.0000	5.5530	5.5530	1.8000e-004	1.6000e-004	5.6047
Total	3.0800e-003	0.0158	0.0262	1.2000e-004	7.9700e-003	1.2000e-004	8.0900e-003	2.1700e-003	1.0000e-004	2.2800e-003	0.0000	10.9316	10.9316	3.1000e-004	9.5000e-004	11.2218

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 69 kV - Paving
Sacramento County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.76	User Defined Unit	0.76	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Paved area along Rossmoor Dr 4,125' by 8'

Construction Phase - 12 months of paving

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	260.00

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
2023	0.7610	7.1139	10.1667	0.0167	0.1230	0.3432	0.4662	0.0332	0.3166	0.3498	0.0000	1,617.5303	1,617.5303	0.4630	0.0143	1,633.3541
Maximum	0.8159	7.7559	10.2096	0.0168	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

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
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Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	lb/day										lb/day					
2022	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121
2023	0.7610	7.1139	10.1667	0.0167	0.1137	0.3432	0.4569	0.0309	0.3166	0.3475	0.0000	1,617.5303	1,617.5303	0.4630	0.0143	1,633.3541
Maximum	0.8159	7.7559	10.2096	0.0168	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,622.6017	1,622.6017	0.4634	0.0149	1,638.6121

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.90	6.87	0.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00

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	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000		1.8000e-004
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	1.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000		1.8000e-004
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	1.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	Paving	Paving	7/25/2022	7/21/2023	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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					

Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-Road	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0241	2.1200e-003	0.0262	6.9400e-003	2.0200e-003	8.9600e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1230	2.6600e-003	0.1257	0.0332	2.5100e-003	0.0357		179.6454	179.6454	5.0300e-003	0.0149	184.1968

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
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Cordova Park 69 kV - Paving - Sacramento County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	lb/day										lb/day					
Off-Road	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154

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	8.6500e-003	0.2179	0.0656	7.9000e-004	0.0226	2.1200e-003	0.0247	6.5600e-003	2.0200e-003	8.5800e-003		84.6477	84.6477	2.2100e-003	0.0124	88.3970
Worker	0.0471	0.0238	0.3845	9.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		94.9977	94.9977	2.8200e-003	2.4500e-003	95.7998
Total	0.0558	0.2417	0.4501	1.7200e-003	0.1137	2.6600e-003	0.1164	0.0309	2.5100e-003	0.0334		179.6454	179.6454	5.0300e-003	0.0149	184.1968

3.2 Paving - 2023

Unmitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152		1,443.2558	1,443.2558	0.4585		1,454.7173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152		1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0241	1.0300e-003	0.0251	6.9400e-003	9.9000e-004	7.9300e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0438	0.0211	0.3543	9.0000e-004	0.0989	5.1000e-004	0.0994	0.0262	4.7000e-004	0.0267		92.5209	92.5209	2.5400e-003	2.2700e-003	93.2614
Total	0.0492	0.2063	0.4120	1.6600e-003	0.1230	1.5400e-003	0.1245	0.0332	1.4600e-003	0.0346		174.2745	174.2745	4.5600e-003	0.0143	178.6368

Mitigated Construction On-Site

Cordova Park 69 kV - Paving - Sacramento County, 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	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.3500e-003	0.1852	0.0577	7.6000e-004	0.0226	1.0300e-003	0.0236	6.5600e-003	9.9000e-004	7.5500e-003		81.7537	81.7537	2.0200e-003	0.0120	85.3754
Worker	0.0438	0.0211	0.3543	9.0000e-004	0.0912	5.1000e-004	0.0917	0.0243	4.7000e-004	0.0248		92.5209	92.5209	2.5400e-003	2.2700e-003	93.2614
Total	0.0492	0.2063	0.4120	1.6600e-003	0.1137	1.5400e-003	0.1153	0.0309	1.4600e-003	0.0324		174.2745	174.2745	4.5600e-003	0.0143	178.6368

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Cordova Park 69 kV - Paving
Sacramento County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.76	User Defined Unit	0.76	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2024
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Paved area along Rossmoor Dr 4,125' by 8'

Construction Phase - 12 months of paving

Off-road Equipment - Applicant approved equipment list

Trips and VMT - Default number of workers assumed for all activities; 2 trucks assumed for a material haul truck and water truck

Construction Off-road Equipment Mitigation - The project would comply with SMAQMD Basic Construction Emissions Controls Practices (BMPs).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	260.00

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.00	0.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
2023	0.7558	7.1325	10.1236	0.0166	0.1230	0.3432	0.4662	0.0332	0.3166	0.3498	0.0000	1,607.3682	1,607.3682	0.4634	0.0146	1,623.3094
Maximum	0.8103	7.7774	10.1611	0.0167	0.1230	0.3875	0.5105	0.0332	0.3574	0.3906	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

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
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Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Year	lb/day										lb/day					
2022	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002
2023	0.7558	7.1325	10.1236	0.0166	0.1137	0.3432	0.4569	0.0309	0.3166	0.3475	0.0000	1,607.3682	1,607.3682	0.4634	0.0146	1,623.3094
Maximum	0.8103	7.7774	10.1611	0.0167	0.1137	0.3875	0.5012	0.0309	0.3574	0.3883	0.0000	1,612.0656	1,612.0656	0.4638	0.0152	1,628.2002

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	7.54	0.00	1.90	6.87	0.00	0.62	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	Paving	Paving	7/25/2022	7/21/2023	5	260	

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: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Paving	5	13.00	4.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Paving - 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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549		1,442.9563	1,442.9563	0.4584		1,454.4154

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0241	2.1300e-003	0.0262	6.9400e-003	2.0400e-003	8.9800e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0989	5.4000e-004	0.0994	0.0262	4.9000e-004	0.0267		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1230	2.6700e-003	0.1257	0.0332	2.5300e-003	0.0357		169.1092	169.1092	5.4300e-003	0.0152	173.7848

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	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total	0.7602	7.5142	9.7595	0.0151		0.3848	0.3848		0.3549	0.3549	0.0000	1,442.9563	1,442.9563	0.4584		1,454.4154
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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	8.5100e-003	0.2340	0.0685	7.9000e-004	0.0226	2.1300e-003	0.0247	6.5600e-003	2.0400e-003	8.6000e-003		84.6378	84.6378	2.2000e-003	0.0124	88.3931
Worker	0.0416	0.0292	0.3331	8.3000e-004	0.0912	5.4000e-004	0.0917	0.0243	4.9000e-004	0.0248		84.4715	84.4715	3.2300e-003	2.8200e-003	85.3918
Total	0.0501	0.2632	0.4016	1.6200e-003	0.1137	2.6700e-003	0.1164	0.0309	2.5300e-003	0.0334		169.1092	169.1092	5.4300e-003	0.0152	173.7848

3.2 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	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152		1,443.2558	1,443.2558	0.4585		1,454.7173

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000	
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152			1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0241	1.0500e-003	0.0251	6.9400e-003	1.0000e-003	7.9400e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0388	0.0258	0.3086	8.0000e-004	0.0989	5.1000e-004	0.0994	0.0262	4.7000e-004	0.0267		82.3002	82.3002	2.9200e-003	2.6100e-003	83.1498
Total	0.0440	0.2249	0.3689	1.5600e-003	0.1230	1.5600e-003	0.1245	0.0332	1.4700e-003	0.0346		164.1124	164.1124	4.9300e-003	0.0146	168.5922

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					

Cordova Park 69 kV - Paving - Sacramento County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-Road	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7118	6.9076	9.7547	0.0151		0.3417	0.3417		0.3152	0.3152	0.0000	1,443.2558	1,443.2558	0.4585		1,454.7173

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	5.1700e-003	0.1991	0.0603	7.6000e-004	0.0226	1.0500e-003	0.0236	6.5600e-003	1.0000e-003	7.5600e-003		81.8123	81.8123	2.0100e-003	0.0120	85.4423
Worker	0.0388	0.0258	0.3086	8.0000e-004	0.0912	5.1000e-004	0.0917	0.0243	4.7000e-004	0.0248		82.3002	82.3002	2.9200e-003	2.6100e-003	83.1498
Total	0.0440	0.2249	0.3689	1.5600e-003	0.1137	1.5600e-003	0.1153	0.0309	1.4700e-003	0.0324		164.1124	164.1124	4.9300e-003	0.0146	168.5922

12kV Underground Cable Replacement Construction Fuel Use

Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Average Daily Factor	Diesel Fuel Usage
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40	16	0.6	379
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37	16	0.6	138
Trenching	Excavators	1	8.00	158	0.38	16	0.6	231
Trenching	Graders	1	8.00	187	0.41	16	0.6	294
Trenching	Rubber Tired Dozers	1	8.00	247	0.40	16	0.6	379
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37	16	0.6	138
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29	16	0.6	225
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20	16	0.6	68
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74	16	0.6	239
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37	16	0.6	121
Cable Laying/Vaulting	Welders	1	8.00	46	0.45	16	0.6	79
Paving	Pavers	1	8.00	130	0.42	16	0.6	210
Paving	Paving Equipment	1	8.00	132	0.36	16	0.6	182
Paving	Rollers	1	8.00	80	0.38	16	1.6	311
Paving	Cement and Mortar Mixers	1	6.00	9	0.56	16	2.6	63
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37	16	3.6	827
TOTAL								3,885

Schedule

Year	Start Date	End Date	Days
2022	7/1/2022	7/22/2022	16

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT - 2022

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Average Daily Factor	Total gallons of gasoline (on-road)	Total gallons of diesel (on-road)
Site Preparation	5	4	0	16	80	64	0	10.00	6.50	20.00	800	416	0	0.6	10,497	0
Trenching	0	4	0	16	0	64	0	10.00	6.50	20.00	0	416	0	0.6	0	0
Cable Laying/Vaulting	10	4	0	16	160	64	0	10.00	6.50	20.00	1600	416	0	0.6	20,993	1,507
Paving	13	4	0	16	208	64	0	15.00	9.00	20.00	3120	576	0	0.6	40,937	0
TOTAL														72,427	1,507	

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Summary

	Gallons of Gasoline	Gallons of Diesel
TOTAL	72,427	5,392

69kV Underground Cable Replacement Construction Fuel Use

Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Average Daily Factor	Diesel Fuel Usage
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40	266	0.6	6,307
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37	266	0.6	2,291
Trenching	Excavators	1	8.00	158	0.38	266	0.6	3,833
Trenching	Graders	1	8.00	187	0.41	266	0.6	4,895
Trenching	Rubber Tired Dozers	1	8.00	247	0.40	266	0.6	6,307
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37	266	0.6	2,291
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29	266	0.6	3,742
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20	266	0.6	1,136
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74	266	0.6	3,968
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37	266	0.6	2,005
Cable Laying/Vaulting	Welders	1	8.00	46	0.45	266	0.6	1,321
Paving	Pavers	1	8.00	130	0.42	266	0.6	3,486
Paving	Paving Equipment	1	8.00	132	0.36	266	0.6	3,034
Paving	Rollers	1	8.00	80	0.38	266	1.6	5,175
Paving	Cement and Mortar Mixers	1	6.00	9	0.56	266	2.6	1,046
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37	266	3.6	13,747
TOTAL								64,585

Schedule

Year	Start Date	End Date	Days
2022	7/15/2022	12/31/2022	121
2023	1/1/2023	7/21/2023	145

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT - 2022

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Average Daily Factor	Total gallons of gasoline (on-road)	Total gallons of diesel (on-road)
Site Preparation	5	4	0	121	605	484	0	10.00	6.50	20.00	6050	3146	0	0.6	79,381	0
Trenching	0	4	0	121	0	484	0	10.00	6.50	20.00	0	3146	0	0.6	0	0
Cable Laying/Vaulting	10	4	0	121	1210	484	0	10.00	6.50	20.00	12100	3146	0	0.6	158,762	11,398
Paving	13	4	0	121	1573	484	0	15.00	9.00	20.00	23595	4356	0	0.6	309,585	0
TOTAL														547,728	11,398	

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Trips and VMT - 2023

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Average Daily Factor	Total gallons of gasoline (on-road)	Total gallons of diesel (on-road)
Site Preparation	5	4	0	145	725	580	0	10.00	6.50	20.00	7250	3770	0	0.6	112,064	0
Trenching	0	4	0	145	0	580	0	10.00	6.50	20.00	0	3770	0	0.6	0	0
Cable Laying/Vaulting	10	4	0	145	1450	580	0	10.00	6.50	20.00	14500	3770	0	0.6	224,127	13,738
Paving	13	4	1	145	1885	580	145	15.00	9.00	20.00	28275	5220	2900	0.6	370,991	0
TOTAL														707,182	13,738	

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Summary

	Gallons of Gasoline	Gallons of Diesel
TOTAL	1,254,910	89,721

Source: EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Sacramento

Calendar Year: 2022

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CaYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Trips	Fuel gas	Diesel gas	Miles per gallon	miles per gallon	Diesel miles per gallon
				miles/hr		vehicles	miles/day	trips/day	1,000 gallons/day	1,000 gallons/day			
Sacramento	2022	LDA	Aggregate	Aggregate	Gasoline	498280.32	17917435.6	2295902.336	644.537125	0.00	27.80	21.87	6.04
Sacramento	2022	LDT1	Aggregate	Aggregate	Gasoline	53385.045	1674043.998	234015.9091	71.26492603	0.00	23.49		
Sacramento	2022	LHD2	Aggregate	Aggregate	Gasoline	3110.113	114469.261	46336.05005	13.65366167	0.00	8.38		
Sacramento	2022	T7 Tractor	Aggregate	Aggregate	Diesel	874.69142	72842.33002	12709.26638		12.06334267	6.04		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Sacramento

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CaYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Trips	Fuel gas	Diesel gas	Miles per gallon	miles per gallon	Diesel miles per gallon
				miles/hr		vehicles	miles/day	trips/day	1,000 gallons/day	1,000 gallons/day			
Sacramento	2023	LDA	Aggregate	Aggregate	Gasoline	495444.17	18039887.07	2281180.251	638.6074247	0.00	28.25	25.76	6.07
Sacramento	2023	LDT1	Aggregate	Aggregate	Gasoline	51757.601	1638073.93	226418.361	68.8387086	0.00	23.80		
Sacramento	2023	LDT2	Aggregate	Aggregate	Gasoline	228403.23	8495404.827	1060056.933	373.3642939	0.00	22.75		
Sacramento	2023	T7 Tractor	Aggregate	Aggregate	Diesel	917.75428	74396.80266	13334.96964		12.25004566	6.07		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

12kV Underground Cable Replacement Construction Fuel Use

Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Average Daily Factor	Diesel Fuel Usage
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40	16	0.6	379
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37	16	0.6	138
Trenching	Excavators	1	8.00	158	0.38	16	0.6	231
Trenching	Graders	1	8.00	187	0.41	16	0.6	294
Trenching	Rubber Tired Dozers	1	8.00	247	0.40	16	0.6	379
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37	16	0.6	138
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29	16	0.6	225
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20	16	0.6	68
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74	16	0.6	239
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37	16	0.6	121
Cable Laying/Vaulting	Welders	1	8.00	46	0.45	16	0.6	79
Paving	Pavers	1	8.00	130	0.42	16	0.6	210
Paving	Paving Equipment	1	8.00	132	0.36	16	0.6	182
Paving	Rollers	1	8.00	80	0.38	16	1.6	311
Paving	Cement and Mortar Mixers	1	6.00	9	0.56	16	2.6	63
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37	16	3.6	827
TOTAL								3,885

Schedule

Year	Start Date	End Date	Days
2022	7/1/2022	7/22/2022	16

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT - 2022

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Average Daily Factor	Total gallons of gasoline (on-road)	Total gallons of diesel (on-road)
Site Preparation	5	4	0	16	80	64	0	10.00	6.50	20.00	800	416	0	0.6	10,497	0
Trenching	0	4	0	16	0	64	0	10.00	6.50	20.00	0	416	0	0.6	0	0
Cable Laying/Vaulting	10	4	0	16	160	64	0	10.00	6.50	20.00	1600	416	0	0.6	20,993	1,507
Paving	13	4	0	16	208	64	0	15.00	9.00	20.00	3120	576	0	0.6	40,937	0
TOTAL														72,427	1,507	

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Summary

	Gallons of Gasoline	Gallons of Diesel
TOTAL	72,427	5,392

69kV Underground Cable Replacement Construction Fuel Use

Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Average Daily Factor	Diesel Fuel Usage
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40	266	0.6	6,307
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37	266	0.6	2,291
Trenching	Excavators	1	8.00	158	0.38	266	0.6	3,833
Trenching	Graders	1	8.00	187	0.41	266	0.6	4,895
Trenching	Rubber Tired Dozers	1	8.00	247	0.40	266	0.6	6,307
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37	266	0.6	2,291
Cable Laying/Vaulting	Cranes	1	7.00	231	0.29	266	0.6	3,742
Cable Laying/Vaulting	Forklifts	1	8.00	89	0.20	266	0.6	1,136
Cable Laying/Vaulting	Generator Sets	1	8.00	84	0.74	266	0.6	3,968
Cable Laying/Vaulting	Tractors/Loaders/Backhoes	1	7.00	97	0.37	266	0.6	2,005
Cable Laying/Vaulting	Welders	1	8.00	46	0.45	266	0.6	1,321
Paving	Pavers	1	8.00	130	0.42	266	0.6	3,486
Paving	Paving Equipment	1	8.00	132	0.36	266	0.6	3,034
Paving	Rollers	1	8.00	80	0.38	266	1.6	5,175
Paving	Cement and Mortar Mixers	1	6.00	9	0.56	266	2.6	1,046
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37	266	3.6	13,747
TOTAL								64,585

Schedule

Year	Start Date	End Date	Days
2022	7/15/2022	12/31/2022	121
2023	1/1/2023	7/21/2023	145

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT - 2022

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Average Daily Factor	Total gallons of gasoline (on-road)	Total gallons of diesel (on-road)
Site Preparation	5	4	0	121	605	484	0	10.00	6.50	20.00	6050	3146	0	0.6	79,381	0
Trenching	0	4	0	121	0	484	0	10.00	6.50	20.00	0	3146	0	0.6	0	0
Cable Laying/Vaulting	10	4	0	121	1210	484	0	10.00	6.50	20.00	12100	3146	0	0.6	158,762	11,398
Paving	13	4	0	121	1573	484	0	15.00	9.00	20.00	23595	4356	0	0.6	309,585	0
TOTAL														547,728	11,398	

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Trips and VMT - 2023

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Average Daily Factor	Total gallons of gasoline (on-road)	Total gallons of diesel (on-road)
Site Preparation	5	4	0	145	725	580	0	10.00	6.50	20.00	7250	3770	0	0.6	112,064	0
Trenching	0	4	0	145	0	580	0	10.00	6.50	20.00	0	3770	0	0.6	0	0
Cable Laying/Vaulting	10	4	0	145	1450	580	0	10.00	6.50	20.00	14500	3770	0	0.6	224,127	13,738
Paving	13	4	1	145	1885	580	145	15.00	9.00	20.00	28275	5220	2900	0.6	370,991	0
TOTAL														707,182	13,738	

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Summary

	Gallons of Gasoline	Gallons of Diesel
TOTAL	1,254,910	89,721

Source: EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Sacramento

Calendar Year: 2022

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CaYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Trips	Fuel gas	Diesel gas	Miles per gallon	miles per gallon	Diesel miles per gallon
				miles/hr		vehicles	miles/day	trips/day	1,000 gallons/day	1,000 gallons/day			
Sacramento	2022	LDA	Aggregate	Aggregate	Gasoline	498280.32	17917435.6	2295902.336	644.537125	0.00	27.80	21.87	6.04
Sacramento	2022	LDT1	Aggregate	Aggregate	Gasoline	53385.045	1674043.998	234015.9091	71.26492603	0.00	23.49		
Sacramento	2022	LHD2	Aggregate	Aggregate	Gasoline	3110.113	114469.261	46336.05005	13.65366167	0.00	8.38		
Sacramento	2022	T7 Tractor	Aggregate	Aggregate	Diesel	874.69142	72842.33002	12709.26638		12.06334267	6.04		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Source: EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Sacramento

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CaYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Trips	Fuel gas	Diesel gas	Miles per gallon	miles per gallon	Diesel miles per gallon
				miles/hr		vehicles	miles/day	trips/day	1,000 gallons/day	1,000 gallons/day			
Sacramento	2023	LDA	Aggregate	Aggregate	Gasoline	495444.17	18039887.07	2281180.251	638.6074247	0.00	28.25	25.76	6.07
Sacramento	2023	LDT1	Aggregate	Aggregate	Gasoline	51757.601	1638073.93	226418.361	68.8387086	0.00	23.80		
Sacramento	2023	LDT2	Aggregate	Aggregate	Gasoline	228403.23	8495404.827	1060056.933	373.3642939	0.00	22.75		
Sacramento	2023	T7 Tractor	Aggregate	Aggregate	Diesel	917.75428	74396.80266	13334.96964		12.25004566	6.07		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Appendix D

Biological Resources Technical Report

Technical Report for the
**SMUD Cordova Park Underground Cable
Replacement Project – Biological Resources**



Prepared for:



April 1, 2022

Technical Report for the

SMUD Cordova Park Underground Cable Replacement Project – Biological Resources



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LIST OF ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
NPPA	Native Plant Protection Act
SMUD	Sacramento Municipal Utility District
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

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1 INTRODUCTION

This report presents the results of a biological resources technical assessment for Sacramento Municipal Utility District (SMUD) Cordova Park Underground Cable Replacement Project. The project is located within Hagan Community Park and the American River Parkway in Rancho Cordova, Sacramento County, California (Figure 1).

2 PROJECT DESCRIPTION

The project involves the installation of approximately 0.6 miles of new underground 12kV electrical lines (cable) and approximately 2.12 miles of new underground 69kV cable to replace existing underground 12kV and 69kV cable buried directly in the ground (direct-buried) that was installed in the 1970s. The new 12kV cable also would be direct-buried while the new 69kV cable would be installed in conduits housed in concrete-encased duct banks to provide pathways and adequate spacing. The proposed project also involves installation of up to 13 new utility vaults along the 69kV alignment to allow access for electric cable pulling, splicing and maintenance.

The existing direct-buried 12kV cable begins at SMUD's Cordova Park Substation and extends approximately 0.6 miles east, where it connects to existing riser poles.

The existing direct-buried 69kV cable begins on the northwest side of Coloma Road, approximately 200 feet southeast of Sierra Madre Court, and extends north across the eastern property lines of Mills Middle School, Cordova High School and Hagen Park until it enters SMUD's Cordova Park Substation located near the intersection of Ambassador Drive and Trails Court (approximately 0.45 miles). From SMUD's substation, the existing 69kV cable extends east beneath a dirt path for approximately 0.70 miles when it turns north and cuts across the American River Parkway towards the American River for approximately 0.75 miles. Note that the total existing 69kV alignment is approximately 1.9 miles and the proposed 69kV alignment is approximately 2.12 miles. The extra mileage is due to deviating from the existing route to align with Rossmoor Drive.

Since installation of the existing 12kV and 69kV cable in the 1970s, native trees have established within the existing alignment along the Parkway. SMUD has coordinated with Sacramento County to install the new conduit outside of the existing alignment to avoid potential impacts to these trees and other biological resources within the American River Parkway and to facilitate easier access for future maintenance.

Accordingly, SMUD proposes to direct-bury the new 12kV cable beneath the pavement, sidewalks, or curbs and gutters of Ambassador Drive. The proposed 69kV alignment would deviate from the existing alignment by continuing east until it heads north at Rossmoor Drive. While the exact location of the 69kV alignment along Rossmoor Drive is not yet known and would be determined once existing utilities beneath the pavement are identified, the 69kV alignment would generally be within Rossmoor Drive or the fuel break immediately west of the pavement. The 69kV alignment would continue along Rossmoor Drive as it intersects with the American River Parkway bike trail and continue beyond the edge of pavement at the end of Rossmoor Drive. The 69kV alignment would connect to existing riser poles located between the boundaries of Rossmoor Drive and the edge of the American River. Within the American River Parkway, the existing direct-buried 69kV cable would be abandoned in place.

The project would include up to 13 utility vaults to be installed at various points along the 69kV alignment. The proposed utility vaults would consist of pre-cast concrete, measuring 8 feet x 14 feet x 8 feet inside, requiring an excavation area of approximately 15 feet x 20 feet x 15 feet, and would generally be spaced evenly throughout the alignment to allow for cable pulling, splicing and maintenance.

3 SURVEY METHODS

Biological resources were evaluated by an Ascent biologist during a reconnaissance survey conducted on May 25 - 26, and December 7, 2021. The study area consists of a 165-foot buffer of the project footprint (Figure 2). The potential for nesting raptors was assessed within a 0.25-mile buffer of the project footprint (Figure 2).

The 165-foot survey buffer of the project footprint was established based on U.S. Fish and Wildlife Service (USFWS) guidelines (USFWS 2017), which recommend this distance to survey for elderberry shrubs that could provide suitable habitat for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

Information on sensitive biological resources previously recorded near the study area was collected through a search of the California Natural Diversity Database (CNDDDB) and other existing documentation pertaining to biological resources in the region as listed below.

- ▶ CNDDDB record search within the Rio Linda, Citrus Heights, Folsom, Roseville, Sacramento East, Carmichael, Buffalo Creek, Florin, Elk Grove, and Sloughouse U.S. Geological Service 7.5-minute quadrangles (CNDDDB 2021);
- ▶ eBird database search within Hagan Community Park and Rossmoor Bar Area (eBird 2021);
- ▶ California Native Plant Society (CNPS), Rare Plant Program database search of the Rio Linda, Citrus Heights, Folsom, Roseville, Sacramento East, Carmichael, Buffalo Creek, Florin, Elk Grove, and Sloughouse U.S. Geological Service 7.5-minute quadrangles (CNPS 2021); and
- ▶ U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation project planning tool (USFWS 2021a).

Lists of special-status plant and wildlife species were compiled from these queries and are presented in Appendix B. The tables include common and scientific names, legal status, habitat requirements, and a brief assessment of the likelihood that the species could occur in the study area.

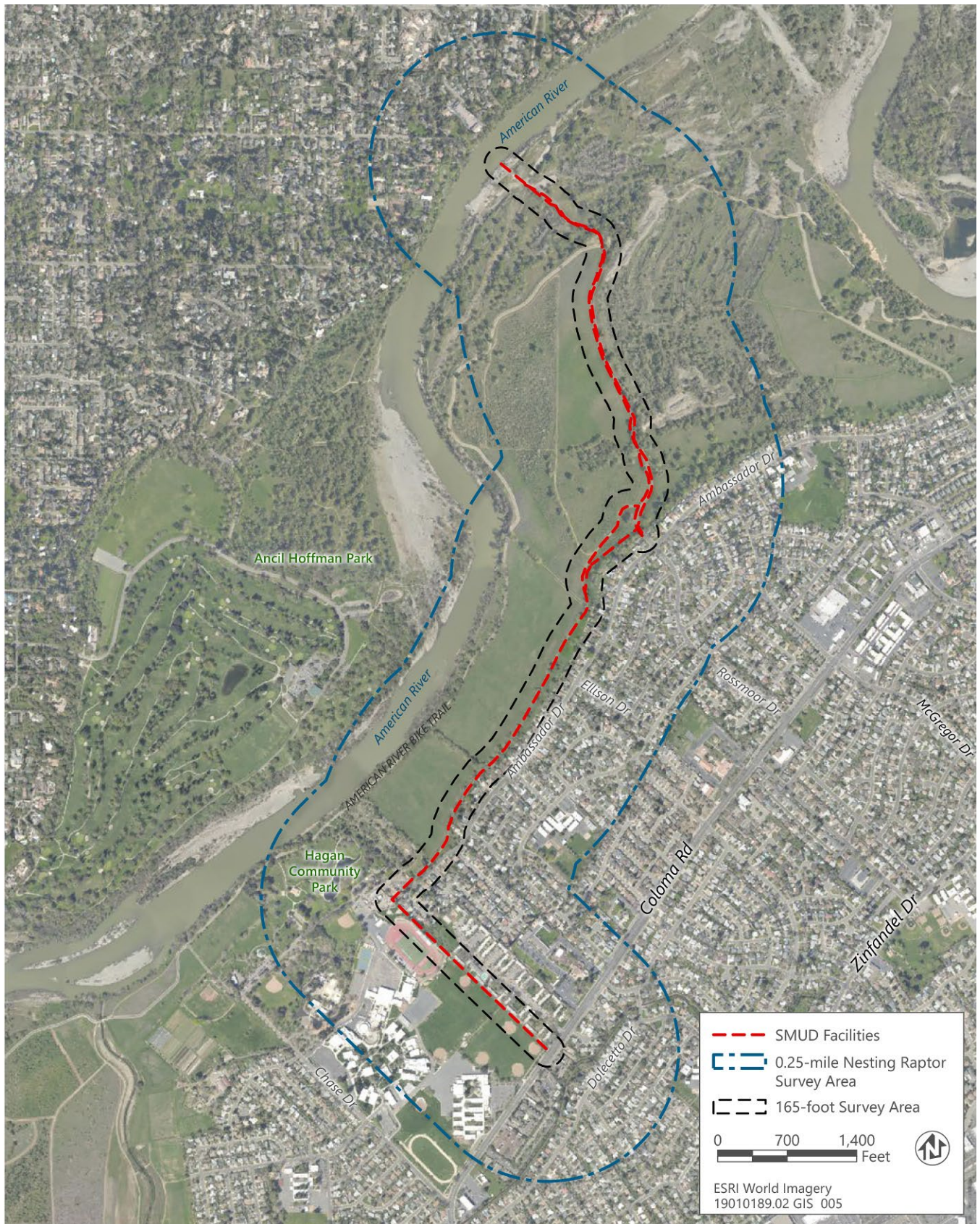
The CNDDDB is a statewide database, managed by the California Department of Fish and Wildlife (CDFW) that is continually updated with the location and condition of the state's rare and declining species and habitats. Although the CNDDDB is the most current and reliable tool available for tracking occurrences of special-status species, it contains only those records that have been reported to CDFW. Therefore, it is possible that a rare plant or animal could be present on the property but not documented in the CNDDDB.

Sensitive biological resources are protected and/or regulated by federal, state, and/or local laws and policies. Sensitive biological resources include special-status species and sensitive natural communities.



Source: Data received from SMUD in 2021

Figure 1 Project Location



Source: Data received from SMUD in 2021

Figure 2 Survey Area

Special-status species are plants and animals in the following categories:

- ▶ listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing;
- ▶ listed or candidates for listing by the State of California as threatened or endangered under CESA;
- ▶ listed as rare under the California Native Plant Protection Act;
- ▶ listed as Fully Protected under the California Fish and Game Code;
- ▶ identified by CDFW as species of special concern;
- ▶ taxa considered by CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR). The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, which are summarized as follows:
 - CRPR 1A - Plants presumed to be extinct in California;
 - CRPR 1B - Plants that are rare, threatened, or endangered in California and elsewhere;
 - CRPR 2A - Plants that are presumed extirpated in California, but more common elsewhere;
 - CRPR 2B - Plants that are rare threatened, or endangered in California, more common elsewhere.
 - CRPR 3 - Plants about which more information is needed (a review list); and
 - CRPR 4 - Plants of limited distribution (a watch list).

All plants with a CRPR are considered “special plants” by CDFW. The term “special plants” is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW’s CNDDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, 2A, and 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380. However, these species may be evaluated by the lead agency on a case-by-case basis.

- ▶ considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or
- ▶ otherwise meets the definition of rare or endangered under CEQA §15380 (b) and (d).

Sensitive natural communities are of limited distribution statewide or within a county or region that provide important habitat value to native species. Most types of wetlands and riparian communities are considered sensitive natural communities because of their limited distribution in California. In addition, sensitive natural communities include habitats that are subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of CWA, Section 1602 of the California Fish and Game Code, and the state’s Porter-Cologne Water Quality Control Act, which protects waters of the state. Sensitive natural communities have high potential to support special-status plant and animal species. Sensitive natural communities can also provide other important ecological functions, such as enhancing flood and erosion control and maintaining water quality.

4 KEY REGULATORY ISSUES

Biological resources in California are protected and/or regulated by a variety of federal and state laws and policies. Key regulatory issues that may be applicable to the project are discussed below.

4.1 FEDERAL ENDANGERED SPECIES ACT

Pursuant to ESA, USFWS has authority over projects that may affect the continued existence of federally listed (threatened or endangered) species. Section 9 of ESA prohibits any person from "taking" an endangered or threatened fish or wildlife species or removing, damaging, or destroying a listed plant species on federal land or where the taking of the plant is prohibited by state law. Take is defined under ESA, in part, as killing, harming, or harassing. Under federal regulations, take is further defined to include habitat modification or degradation where it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Section 10 of the ESA applies if a non-federal agency is the lead agency for an action that results in incidental take and no other federal agencies are involved in permitting the action. Section 7 applies if a federal discretionary action is required (e.g., a federal agency must issue a permit), in which case the involved federal agency is required to consult with USFWS if the action may affect federally listed species.

4.2 CLEAN WATER ACT

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land or changing the bottom elevation of any portion of a water of the United States. Waters of the United States include navigable waters of the United States, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Many surface waters and wetlands in California meet the criteria for waters of the United States.

In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate regional water quality control board (RWQCB) indicating that the action would uphold State water quality standards.

4.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations, Section 10.13. The list includes nearly all birds native to the United States.

4.4 CALIFORNIA ENDANGERED SPECIES ACT

Pursuant to CESA, a permit from CDFW is required for projects that could "take" a species state listed as threatened or endangered. Section 2080 of CESA prohibits take of state listed species. Under CESA, take is defined as any activity that would directly or indirectly kill an individual of a species. The definition does not include "harm" or "harass" as in the federal act. As a result, the threshold for take under CESA is higher than under ESA (i.e., habitat modification is not necessarily considered take under CESA). The take of state-listed species incidental to otherwise lawful activities requires a permit, pursuant to Section 2081(b) of CESA. The state has the authority to issue an incidental take permit under Section 2081 of the California Fish and Game Code or to coordinate with USFWS during the federal process, so the federal permit also would cover state-listed species.

4.5 CALIFORNIA NATIVE PLANT PROTECTION ACT

In addition to CESA, the California Native Plant Protection Act (NPPA; California Fish and Game Code Section 1900 et seq.) provides protection to endangered and “rare” plant species, subspecies, and varieties of wild native plants in California. The NPPA was enacted in 1977 and allows the California Fish and Game Commission to designate plants as rare or endangered. Sixty-four species, subspecies, and varieties of plants are protected as rare under the NPPA. The act prohibits take of endangered or rare native plants but includes exceptions for agricultural and nursery operations; for emergencies; and, after proper notification of CDFW, for vegetation removal from canals, roads, and other building sites, changes in land use, and other situations. When CESA was enacted in 1984, it expanded on the original NPPA and enhanced legal protection for plants. CESA established threatened and endangered species categories and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, three listing categories for plants are used in California: rare, threatened, and endangered.

4.6 PORTER-COLOGNE WATER QUALITY CONTROL ACT

Each of the nine RWQCBs in California must prepare and periodically update water quality control plans (basin plans) pursuant to the Porter-Cologne Water Quality Control Act. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Under the Porter-Cologne Act, features containing surface water are often classified as waters of the state. Projects that affect waters of the state must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification under Section 401 of the CWA.

4.7 California Fish and Game Code Section 1602—Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do the following without first notifying CDFW:

- ▶ substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or
- ▶ deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation (California Code of Regulations Title 14, Section 1.72). CDFW regulatory authority within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

4.8 CALIFORNIA FISH AND GAME CODE

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species.

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs.

4.9 CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA applies to projects proposed to be undertaken or requiring approval by state and local governmental agencies. "Projects" are public agency actions with potential to have an impact on the physical environment. Once an activity is determined to be a "project" under CEQA, the lead agency must decide whether it is categorically or statutorily exempt. If it is not exempt, the lead agency must assess the potential for significant environmental effects to occur as a result of the project. For this analysis, thresholds of significance related to biological resources, as described below, are used to determine if a significant impact may occur. The significance criteria are based on applicable parts of Appendix G of the State CEQA Guidelines.

The project would have a significant impact on biological resources if it would:

- ▶ have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- ▶ 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;
- ▶ 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;
- ▶ 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;
- ▶ conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- ▶ conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or State conservation plan.

4.10 CENTRAL Valley Protection Board

Portions of the project are within the designated floodway of the American River. Under CCR Title 23, Division 1 (Title 23), an encroachment permit from the Central Valley Flood Protection Board (CVFPB) may be needed for work within a designated floodway.

4.11 SACRAMENTO County American River Parkway Plan 2008

The American River Parkway Plan is the guiding management document for the Parkway. The plan guides land use decisions, including those related to recreation and other human uses. According to the Parkway Plan Concept, the American River Parkway is a unique regional facility which shall be managed to: a) preserve naturalistic open space and protect environmental quality within the urban environment, and b) contribute to the provision of recreational opportunities in the Sacramento area.

The Parkway Plan Goals are:

- ▶ To provide, protect, and enhance for public use a continuous open space greenbelt along the American River extending from the Sacramento River to Folsom Dam.
- ▶ To provide appropriate access and facilities so that present and future generations can enjoy the amenities and resources of the Parkway.
- ▶ To preserve, protect, interpret, and improve the natural, archaeological, historical, and recreational resources of the Parkway, including an adequate flow of high-quality water, anadromous and resident fishes, migratory and resident wildlife, and diverse natural vegetation.
- ▶ To mitigate adverse effects of activities and facilities adjacent to the Parkway.
- ▶ To provide public safety and protection within and adjacent to the Parkway.

4.12 AMERICAN RIVER PARKWAY - NATURAL RESOURCES MANAGEMENT PLAN (IN PREPARATION)

The Natural Resources Management Plan (NRMP) is a guide for implementation of a multifaceted natural resource management program for the Parkway. It integrates ecological resource management and conservation with cultural resources protection, recreational use and impacts, and other human uses in the Parkway. The NRMP informs the management, conservation, and rehabilitation of Parkway land and natural resources, and helps to ensure compliance with environmental laws and regulations. Utilizing an adaptive management approach, the effectiveness of natural resource management efforts in the Parkway will be reevaluated and the NRMP will be updated periodically.

The purpose of the NRMP is to establish resource management guidelines to minimize the impact of human uses on the Parkway and the environment. The NRMP includes goals and objectives designed to maintain natural communities located within the Parkway and identifies projects for implementation to accomplish goals and objectives. The NRMP takes an integrative approach to planning for ecological resources, cultural resources, and human use. However, it is important to note that the emphasis of the NRMP is to manage human uses in a manner that minimizes impacts to natural and cultural resources while maintaining recreational access. Sacramento County plans to adopt it in October 2022.

4.13 RANCHO CORDOVA MUNICIPAL CODE

Although the project is geographically within the City of Rancho Cordova, regulations from other jurisdictions may apply in certain areas. City of Rancho Cordova Municipal Code regulations would be applicable for those areas of the project that are within Mills Middle School, Cordova High School, Hagen Community Park, and Ambassador Drive.

Chapter 19.04 - Protection of Public Trees

Chapter 19.04 of the City of Rancho Cordova Municipal Code (Protection of Public Trees) establishes regulations pertaining to the planting, maintenance, protection, and preservation of all public trees growing on public property. A public tree is defined as a tree or shrub whose trunk is planted in a street, planting easement, public premises, public sidewalk, median, traffic island, or any other right-of-way owned or controlled by the city through an easement, license, fee title, or other permissive grant of use and maintained by the city. A public tree permit shall be required before any person shall plant, transplant, move, separate, trim, prune, cut above or below the ground, disrupt, alter, or do surgery upon any public tree.

Chapter 19.12 - Preservation and Protection of Private Trees

The City of Rancho Cordova Municipal Code Chapter 19.12 Preservation and Protection of Private Trees establishes regulations for the protection, removal, and preservation of landmark trees and protected trees within the city. A landmark tree is defined as any trees designated by council through resolution as a vital and historical part of the city's landscape such that the trees need to be designated as landmarks for protection and preservation. Protected trees are defined as:

1. Native oak – *Quercus lobata*, valley oak; *Quercus wislizenii*, interior live oak; *Quercus douglasii*, blue oak; or *Quercus morehus*, oracle oak – having a trunk diameter of at least six inches or greater; or
2. Any tree species other than a native oak having a trunk diameter of at least 12 inches or greater on nonresidential property; or
3. Any tree species other than a native oak having a trunk diameter of at least 24 inches or greater on residential property; or
4. Any tree planted as a requirement tree for site development, tree permit condition, landscape plan removal replacement, or other designated condition by the public works director or planning director.
5. "Protected tree" does not include any trees for sale within the city sold by a nursery.

Section 19.12.040 states that “no person shall trench, grade or fill within the dripline of any protected tree, or damage, kill or remove any protected tree, or perform a major trimming of any protected tree without an approved tree permit. It shall be the responsibility of the owner or lessee/tenant of the property on which the protected tree is located and the person performing tree work to have the approved tree permit and/or a copy of the conditions of permit approval at the work site.”

4.14 SACRAMENTO COUNTY CODE OF ORDINANCES

Sacramento County ordinances would be applicable for the portions of the project that are within the American River Parkway area.

Chapter 19.04

Chapter 19.04 of the Sacramento County Code of Ordinances provides for the protection, preservation, and regulation of trees on public property within Sacramento County. This includes all trees planted or maintained by the County on an easement, planting easement, street, County park, or public premises. A permit shall be required to plant, transplant, move, separate, trim, prune, cut above or below ground, disrupt, alter, or take any other action upon any tree located on public premises.

Chapter 19.12

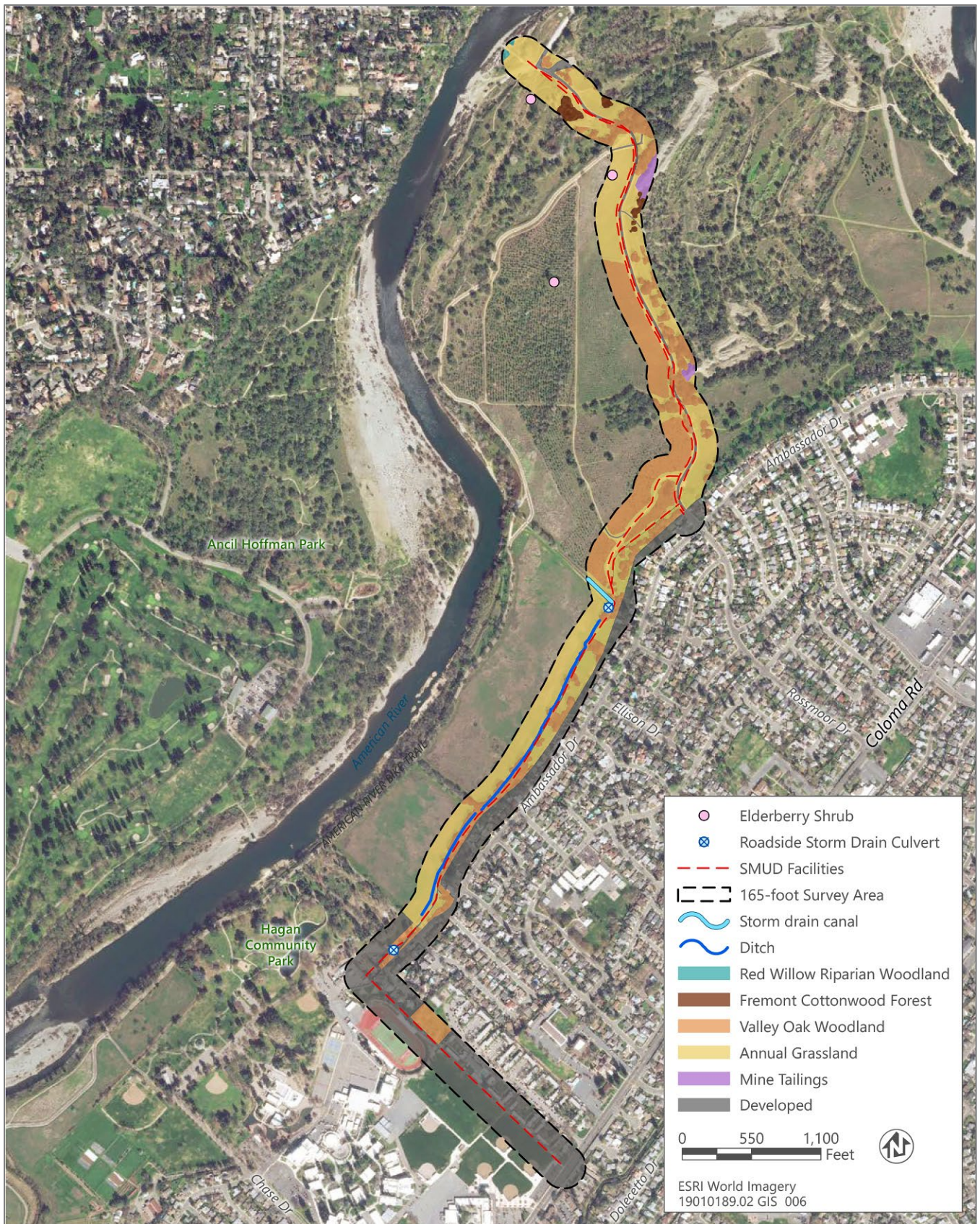
The Sacramento County Tree Preservation and Protection Ordinance (Chapter 19.12 of the Sacramento County Code of Ordinances) provides for the protection of native oak trees, including valley oak (*Quercus lobata*), interior live oak (*Q. wislizeni*), blue oak (*Q. douglasii*), and oracle oak (*Q. morehus*). Protected trees include any living native oak tree having at least one trunk of six inches or more diameter at standard height (DSH), or a multi-trunked native oak tree having an aggregate DSH of 10 inches. Chapter 19.12 states that no person shall trench, grade, or fill within the dripline of any native oak tree; or destroy, kill, or remove any native oak tree, on any property, public or private, without a tree permit.

5 RESULTS

5.1 LAND COVER TYPES

The project footprint for the 69kV alignment falls within a small portion of Mills Middle School, Cordova High School, and Hagan Community Park and the rest of the project footprint within the American River Parkway – Rossmoor Bar Area. The portion of the 12kV alignment starts within Cordova Park and would follow Ambassador Drive. Land cover types observed within the survey area include developed, valley oak woodland, annual grassland, Fremont cottonwood forest, mine tailings, and red willow riparian woodland (Figure 3). Each land cover type is described in more detail below. Vegetation types and descriptions in follow *A Manual of California Vegetation* (Sawyer et al. 2009 or current version; most current natural community data available at <http://vegetation.cnps.org/>), which is the current standard for vegetation classification in California.

The 69kV alignment on the south end falls within Mills Middle School, Cordova High School sport fields, then follows a utility right-of-way, until it reaches SMUD’s Cordova Park Substation at Hagan Community Park. It then follows an existing access road/trail until it reaches Rossmoor Drive, where the 69kV alignment turns and heads north towards the American River. The 69kV alignment stays along Rossmoor Drive until its termination near the American River, where the 69kV alignment connects to existing riser poles located between the boundaries of Rossmoor Drive and the American River. Along Rossmoor Drive, the 69kV circuit would be installed beneath existing pavement or within an existing fuel break adjacent to the pavement. Land use surrounding the survey area includes Mills Middle School, Cordova High School and Hagan Park to the west, American River Parkway to the north and northeast, and private residences to the south and east.



Source: Data received from SMUD in 2021

Figure 3 Landcover

5.1.1 Valley Oak Woodland Savannah

Oak woodland habitat within the study area is dominated by valley oak (*Quercus lobata*), blue oak (*Quercus douglassii*), and interior live oak (*Quercus wislizeni*). Due to the proximity of residences, fruit and non-native trees are also present and include almond (*Prunus* sp.), apricot (*Prunus armeniaca*), plum (*Prunus americana*), orange (*Citrus* sp.), mulberry (*Morus* sp.), sweetgum (*Liquidambar* sp.), and silver maple (*Acer saccharinum*). The understory is comprised of annual grasses, including ripgut brome (*Bromus diandrus*), wild oats (*Avena fatua*), rye grass (*Festuca perennis*), Bermuda grass (*Cynodon dactylon*) and Dallis grass (*Paspalum dilatatum*). Additional plants observed within the understory include, blue plumbago (*Plumbago auriculata*), flat top sedge (*Cyperus* sp.), California grape (*Vitis californica*), fig (*Ficus carica*). Due to the proximity of residential homes, there are some ornamental plants also present within the survey area including Chinese privet (*Ligustrum* sp.), bottlebrush (*Callistemon* sp.), aloe (*Aloe* sp.), prickly pear cactus (*Opuntia* sp.), calla lily (*Zantedeschia* sp.), and bear's breeches (*Acanthus mollis*). Figure 4 shows a representative photograph of valley oak woodland landcover with an understory of annual grassland that was recently mowed.



Figure 4 Annual Grassland, that was recently mowed, and Oak Woodland Landcover in the Study Area

5.1.2 Annual Grassland

Annual grassland habitat is dominated by nonnative grasses, including those mentioned as occurring in the understory of oak woodland habitat. Other plant species observed include yellow starthistle (*Centaurea solstitialis*), hairy vetch (*Vicia villosa*), clover (*Trifolium* sp.), bedstraw (*Galium* sp.), crane's bill geranium (*Geranium molle*), California burclover (*Medicago polymorpha*), and wild radish (*Raphanus raphanistrum*). Figure 5 shows a representative photograph of annual grassland landcover that was recently mowed.



Figure 5 Annual grassland landcover recently mowed within the Study Area

5.1.3 Fremont Cottonwood Forest

This land cover type is located within the American River Parkway area in proximity to mine tailing deposits. Observed species include Fremont cottonwood (*Populus fremontii*), blue oak, black walnut (*Juglans hindsii x regia*), willow (*Salix* sp.) with an understory Himalayan blackberry (*Rubus armeniacus*), coyote brush (*Baccharis* sp.), poison oak (*Toxicodendrum diversilobum*), and annual grasses. Figure 6 shows a representative photograph of this forest type.



Figure 6 Fremont cottonwood forest at the edge of mine tailings within the Study Area

5.1.4 Red Willow Riparian

This land cover type was observed at the edge of the American River. It is composed of young red willow (*Salix lasiolepis*) shrubs.

5.1.5 Mine Tailings

The mine tailing deposits are remnants of the gold mining operations. Vegetation quantity varies depending on depth of the mine tailings, some have trees growing within the mine tailings and some are bare or with very little vegetation. Figure 6 partly shows the mine tailing deposits with vegetation taking over.

5.1.6 Developed

The developed land cover type includes suburban single-family residential lots, residential streets, and landscaped areas. Landscaped areas support ornamental vegetation such as tall fescue (*Festuca* sp.), Kentucky bluegrass (*Poa pratensis*), Bermuda grass (*Cynodon dactylon*), mallow (*Malva parviflora*), Chinese privet, bottlebrush, aloe, prickly pear cactus, Chinese pistache (*Pistacia chinensis*), Italian cypress (*Cupressus* spp.), tree-of-heaven (*Ailanthus altissima*), Algerian ivy (*Hedera canariensis*).

5.1.7 Aquatic Resources

An abandoned irrigation ditch is located within the survey area north of Ambassador Drive. This irrigation ditch was previously used to irrigate the adjacent field when it was in agricultural production. However, this ditch is no longer in use. The irrigation ditch does not connect to the American River.

A concrete lined drainage canal is located a few feet east of where the drainage ditch ends. This canal is approximately 5 feet wide and may receive roadside runoff from Ambassador Drive; however, at the time of the surveys the canal was dry and showed no evidence of recent flows. The canal does not appear to be maintained, as it is overgrown with ruderal, upland plant species throughout its extent. The canal does not connect to the American River.

There is a culvert that daylights just east of the substation and north of the trail/access road. This culvert originates from a roadside storm drain along Ambassador Drive and it also receives runoff from adjacent residences. There is no watercourse associated with this culvert and it does not connect to the American River.

The American River is approximately 200 feet north of where the 69kV alignment connects to an existing riser pole. Based on CVFPB Best Available Maps, a portion of the 69kV alignment is within the FEMA Flood Zone AE (Area subject to 1% annual chance flood; Based Flood Elevations determined) (CVFPB 2022).

No other aquatic features were observed during the surveys. Outside of the American River, the USFWS National Wetlands Inventory does not show other aquatic resources within the survey area (USFWS 2022b).

5.2 COMMON WILDLIFE SPECIES

The study area contains suitable habitat for many common wildlife species, and many of these species were observed during the May 25 and 26, 2021 surveys. All wildlife observed within the project site are listed in Table 1. Several woodpeckers and tree swallows were observed nesting in cavities in tree limbs adjacent to the project footprint (Figure 6).

Table 1 Wildlife Observed in the Study Area During Site Surveys on May 25 and 26, 2021

Common Name	Scientific Name
Birds	
Cooper's hawk	<i>Accipiter cooperii</i>
White-throated swift	<i>Aeronautes saxatalis</i>
Mallard	<i>Anas platyrhynchos</i>
Great egret	<i>Ardea alba</i>
Great blue heron	<i>Ardea herodias</i>
Black-chinned hummingbird	<i>Archilochus alexandri</i>
Oak titmouse	<i>Baeolophus inornatus</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Canada goose	<i>Branta canadensis</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red shouldered hawk ¹	<i>Buteo lineatus</i>
California quail	<i>Callipepla californica</i>
Anna's hummingbird	<i>Calypte anna</i>
Turkey vulture	<i>Cathartes aura</i>
Killdeer	<i>Charadrius vociferus</i>
Northern flicker	<i>Colaptes auratus</i>
Rock pigeon	<i>Columba livia</i>
American crow	<i>Corvus brachyrhynchos</i>
Downy woodpecker	<i>Dryobates pubescens</i>
White-tailed kite ¹	<i>Elanus leucurus</i>
American kestrel	<i>Falco sparverius</i>
American coot	<i>Fulica americana</i>
House finch	<i>Haemorhous mexicanus</i>
Bald eagle (flyover)	<i>Haliaeetus leucocephalus</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Belted kingfisher	<i>Megasceryle alcyon</i>
Acorn woodpecker ¹	<i>Melanerpes formicivorus</i>
Wild turkey	<i>Meleagris gallopavo</i>
Song sparrow	<i>Melospiza melodia</i>
California towhee ¹	<i>Melospiza crissalis</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
House sparrow	<i>Passer domesticus</i>
Peafowl	<i>Pavo cristatus</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>

Common Name	Scientific Name
Yellow-billed magpie ¹	<i>Pica nuttalli</i>
Nuttall's woodpecker	<i>Picoides nuttallii</i>
Spotted towhee	<i>Pipilo maculatus</i>
American bushtit	<i>Psaltriparus minimus</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Black phoebe	<i>Sayornis nigricans</i>
Yellow-rumped warbler	<i>Setophaga coronata</i>
Western bluebird	<i>Sialia mexicana</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Lesser goldfinch	<i>Spinus psaltria</i>
Western meadowlark	<i>Sturnella neglecta</i>
European starling	<i>Sturnus vulgaris</i>
Tree swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>
Bewick's wren	<i>Thryomanes bewickii</i>
House wren	<i>Troglodytes aedon</i>
American robin	<i>Turdus migratorius</i>
Western kingbird	<i>Tyrannus verticalis</i>
Mourning dove	<i>Zenaida macroura</i>
Reptiles and Amphibians	
Northern Pacific rattlesnake (skin)	<i>Crotalus oreganus</i>
Gopher snake (skin)	<i>Pituophis catenifer</i>
Sierran treefrog	<i>Pseudacris sierra</i>
Western fence lizard	<i>Sceloporus occidentalis</i>
Marsupial	
Virginia opossum	<i>Didelphis virginiana</i>
Mammals	
Coyote (scat)	<i>Canis latrans</i>
Feral cat	<i>Felis catus</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Mule deer	<i>Odocoileus hemionus</i>
Raccoon (scat and prints)	<i>Procyon lotor</i>
Western gray squirrel	<i>Sciurus griseus</i>

¹. Nesting

Source: Compiled by Ascent Environmental 2021

5.3 SPECIAL STATUS SPECIES

Special-status species are defined as species that are legally protected or that are otherwise considered sensitive by federal, State, or local resource agencies. Special-status species are species, subspecies, or varieties in one or more of the following categories, regardless of their legal or protection status:

- ▶ species listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing;
- ▶ species listed or candidates for listing by the State of California as threatened or endangered under CESA;
- ▶ species listed as rare under the California Native Plant Protection Act;
- ▶ species listed as Fully Protected under the California Fish and Game Code;
- ▶ species identified by CDFW as species of special concern;
- ▶ plants considered by CNPS and CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR). Species on these lists may meet the CEQA definition of rare or endangered. They are summarized as follows:
 - CRPR 1A - Plants presumed to be extinct in California;
 - CRPR 1B - Plants that are rare, threatened, or endangered in California and elsewhere;
 - CRPR 2A - Plants that are presumed extirpated in California, but more common elsewhere;
 - CRPR 2B - Plants that are rare threatened, or endangered in California, more common elsewhere.
- ▶ species considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or
- ▶ species that otherwise meet the definition of rare or endangered under CEQA Section 15380(b) and (d).

Preliminary lists of special-status plant and animal species known or with potential to occur in the survey area were developed based on a review of the CNDDDB, CNPS, and USFWS IPaC databases. The data review preliminarily identified 14 special-status plant species and 27 special-status wildlife species with the potential to occur within the vicinity of the survey area (CNDDDB 2021, CNPS 2021, USFWS 2022a).

5.3.1 Special-Status Plant Species

None of the 14 special-status plant species identified during the review of existing data are expected to occur based on lack of suitable habitat (i.e., vernal pools, wetland, marsh habitat) (Appendix A and Appendix B – Table 1).

5.3.2 Special Status Wildlife Species

Of the 27 special-status wildlife species identified during the review of existing data (Appendix B – Table 2), it was determined that three species could occur within or in proximity of the project site, valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), white-tailed kite (*Elanus leucurus*), and Swainson’s hawk (*Buteo swainsoni*) (Table 2). A white-tailed kite active nest was identified within the 0.25-mile survey buffer (Figures 7 and 8) during reconnaissance surveys for the project in 2021.

Table 2 Special Status Animal Species Known to Occur in the Region and their Potential for Occurrence on the Project Site

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Invertebrates				
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	--	Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	May occur: One elderberry shrub with stems greater than 1-inch in diameter was found within the survey area. This elderberry is located 300 feet southwest of the intersection of Rossmoor Drive and the bike trail.
Birds				
White-tailed kite <i>Elanus leucurus</i>	--	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Present: A pair of white-tailed kites was observed nesting towards the northeast edge of the 0.25-mile nesting raptor survey buffer.
Swainson's hawk <i>Buteo swainsoni</i>	--	ST	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	May Occur: The project site is within the breeding range of the species. Surveys within 0.25 miles of the project site did not result in observations of nesting Swainson's hawks but this species is regularly observed in the area.

Note: CNDDDB = California Natural Diversity Database

¹ Legal Status Definitions

Federal:

FE Endangered (legally protected)
 FT Threatened (legally protected)
 FC Candidate

State:

FP Fully protected (legally protected)
 SSC Species of special concern (no formal protection other than CEQA consideration)
 SE Endangered (legally protected)
 ST Threatened (legally protected)
 SC Candidate

² Potential for Occurrence Definitions

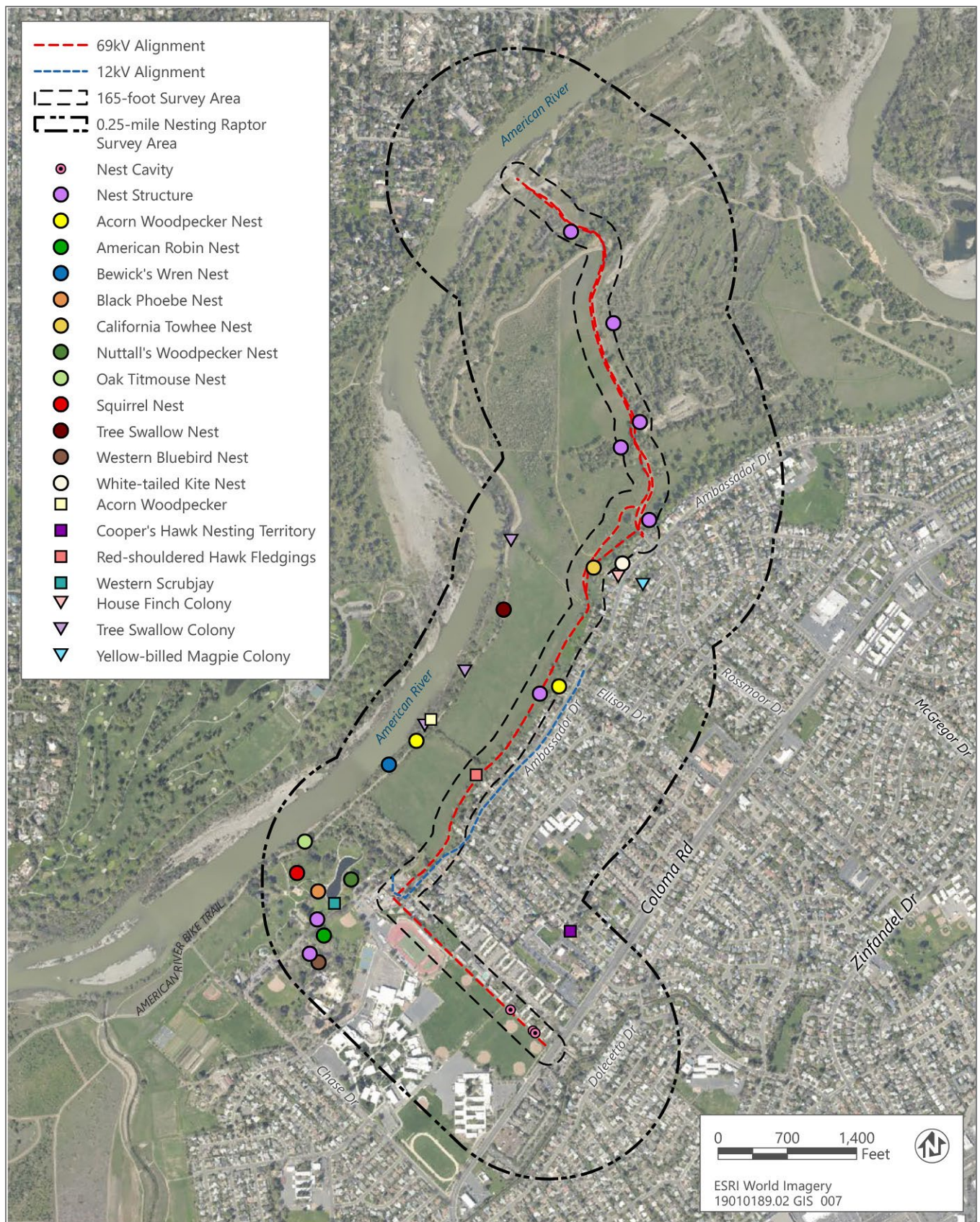
Not expected to occur: Species is unlikely to be present in the study area due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available in the study area; however, there are little to no other indicators that the species might be present.

Likely to occur: The species, or evidence of its presence, was observed in the study area during reconnaissance surveys, or was reported by others.

Present: Species observed within the study area.

Source: CNDDDB 2021; eBird 2021



Source: Data received from SMUD in 2021

Figure 7 Nest Location



Figure 8 Active White-tailed Hawk Nest in the Vicinity of the Project Site observed in 2021.

VALLEY ELDERBERRY LONGHORN BEETLE

Valley elderberry longhorn beetle is federally listed as threatened. This species is endemic to the Central Valley of California and is only found in association with its host plant, elderberry (*Sambucus* spp.). The beetle spends most of its life in the larval stage, living within the stems of an elderberry plant, and feeding on pith. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just before the pupal stage. The life cycle takes one or two years to complete. Adult emergence is from late March through June, about the same time the elderberry produces flowers.

The nearest known occurrences of valley elderberry longhorn beetle include two occurrences along the banks of the American River Parkway. One occurrence includes Goethe Park (now known as River Bend Park) to the Rossmoor Bar boat ramp. This occurrence is one of the earliest known population locations of valley elderberry longhorn beetle dating back to 1976, and last reported as present in 2013. The second occurrence is along the American River east of El Manto Drive in the vicinity of Sacramento Bar. This occurrence location also dates back to 1976 and was last reported as present in 2006.

One elderberry shrub was observed within the survey area. This shrub is located in the American River Parkway within annual grassland habitat and is approximately 300 feet southwest of the intersection of Rossmoor Drive and the bike trail (see Figure 3.4-1). This elderberry is approximately 95 feet from the edge of the fire break or 135 feet from the west lane of Rossmoor Drive. Two additional elderberry shrubs were observed outside of the survey area.

SWAINSON'S HAWK

Swainson's hawk is state listed as threatened. Swainson's hawks typically are found in California only during the breeding season (March–September) and generally begin to arrive in the Central Valley in March. Nesting territories

are usually established by April, with incubation and rearing of young occurring through June. Most Swainson's hawk leave the Central Valley by late August to mid-September to migrate to South America. Nesting pairs frequently return to the same nest site for multiple years. Sacramento, Yolo, Solano, and San Joaquin Counties support the largest concentration of nesting Swainson's hawks in California.

The nearest known nesting occurrence of Swainson's hawk is approximately 0.72 miles north of the study area (CNDDDB 2021). Swainson's hawk has been observed flying over Rossmoor Bar Area on several occasions, included as recently as April 18, 2021 (eBird 2021). The study area and vicinity contain suitable nesting trees and also contains suitable grassland foraging habitat for this species.

WHITE-TAILED KITE

White-tailed kite is a CDFW fully protected species. The nearest active white-tailed kite nesting occurrence is in the backyard of a private residence near the northeast edge of the 0.25-mile nesting raptor survey buffer. The study area and vicinity contain suitable nesting trees and suitable adjacent foraging grassland habitat. This species is known to nest frequently in the project area and adjacent trees (CNDDDB 2021). The occupied nest observed during the May 25-26, 2021 visit could also be used by white-tailed kite during future nesting seasons.

5.4 FEDERAL AND STATE PROTECTED AQUATIC RESOURCES

A formal delineation of aquatic resources was not conducted for the survey area; however, based on the reconnaissance-level survey, potentially jurisdictional aquatic resources exist within and adjacent to the survey area. Potentially jurisdictional aquatic resources include riparian and riverine (i.e., the American River) habitats. The expected work area closest to potentially jurisdictional resources associated with the American River would be within Rossmoor Drive and within a dirt/cobble access road. The base of the power pole where work activities would end is approximately 125 feet from the nearest red willow riparian habitat and approximately 200 feet from the wet portion of the American River. Based on the Central Valley Flood Protection Board, a portion of the survey area is within the designated floodway of the American River.

The abandoned irrigation ditch and canal are man-made drainage features that do not connect to the American River. Therefore, these features would not be regulated as waters of the U.S. under the CWA. These features may be regulated as waters of the State under the Porter-Cologne Water Quality Control Act.

No other aquatic features were observed during the surveys. Outside of the American River, the USFWS National Wetlands Inventory does not show other aquatic resources within the survey area (USFWS 2022b).

5.5 SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are those native plant communities defined by CDFW as having limited distribution statewide or within a county or region and that are often vulnerable to environmental effects of projects (CDFW 2022). These communities may or may not contain special-status plants or their habitat (CDFW 2022). CDFW designates sensitive natural communities based on their State rarity and threat ranking using NatureServe's Heritage Methodology. Natural communities with rarity ranks of S1 to S3 (where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable) are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2022). Many riparian plant communities qualify as sensitive natural communities based on the plant associations therein. In addition, riparian habitats are protected under Section 1602 of California Fish and Game Code and wetlands are protected under the CWA and Porter-Cologne Water Quality Protection Act.

Sensitive natural communities are generally identified at the alliance level of vegetation classification hierarchy using the Manual of California Vegetation (Sawyer et al. 2009; CNPS 2022). The following sensitive natural communities are present in the survey area: red willow riparian woodland, valley oak woodland (S3) and Fremont cottonwood forest

(S3). Vegetation alliances with a State rarity ranking of S3 are considered sensitive natural communities under CEQA. Refer to descriptions of these sensitive natural communities under "Land Cover," above.

5.6 CRITICAL HABITAT

The Federal Endangered Species Act requires that USFWS and National Marine Fisheries Service (NMFS) designate critical habitat for species listed as federally endangered or threatened. Critical habitat includes areas identified under Section 4 of ESA and is described in Code of Federal Regulations Title 50 Parts 17 and 226. Federally designated critical habitat consists of geographic areas that contain physical or biological features essential to the conservation of a federally listed threatened or endangered species and which may require special management considerations or protection. Critical habitat may include areas that are not currently occupied by the species but that are essential for the conservation of the species. A critical habitat designation only applies to activities performed by federal agencies or that involve a federal permit, license, or funding, and that are likely to destroy or adversely affect the area of critical habitat.

A review of GIS-based habitat data for USFWS *Critical Habitat for Threatened and Endangered Species* (USFWS 2022c) shows that the survey area is not located within designated critical habitat for any listed species. However, critical habitat for the following species is found within close proximity to the survey area:

- ▶ Valley Elderberry Longhorn Beetle
- ▶ Central Valley Spring-run Chinook Salmon Evolutionary Significant Unit (ESU)
- ▶ California Central Valley Steelhead Distinct Population Segment (DPS)

USFWS designated critical habitat for the valley elderberry longhorn beetle on September 15, 1980. The American River Parkway Zone include two separate areas. One includes the American River Parkway south bank from approximately El Manto River Access south along El Manto Drive to Ambassador Drive and its extension east to approximately to Sunriver Park. The other area includes Goethe Park (now River Bend Park), and that portion of the American River Parkway northeast of Goethe Park, west of the Jedediah Smith Memorial Bicycle Trail, and north to a line extended eastward from Palm Drive. The survey area is approximately 0.11 mile south and 0.38 mile west of the two areas designated as critical habitat.

5.7 ESSENTIAL FISH HABITAT

The lower American River is designated by NMFS as critical habitat for steelhead California Central Valley DPS from the confluence of the Sacramento River to Nimbus Dam, and for chinook salmon – Central Valley spring-run ESU from the confluence of the Sacramento River to Watt Avenue Bridge. The nearest project work area is approximately 200 feet from the wetted portion of the American River.

5.8 PROTECTED TREES

During the survey, one property owner stated that County personnel had recently mowed or disked the grass in the survey area, while doing so, some of the underground line flag markers were removed, however, some of the markers indicate that the line occurs within the dripline of some of the oaks and existing trees. Some of these trees would likely fall within the protection of Sacramento County or the City of Rancho Cordova Tree Ordinance and a permit from Sacramento County or the City of Rancho Cordova to work under the canopy or remove the trees will likely be required.

6 CONCLUSIONS AND RECOMMENDATIONS

Sensitive biological resources that could occur in the study area include three special-status wildlife species (valley elderberry longhorn beetle, Swainson's hawk and white-tailed kite) and trees protected by Sacramento County or City of Rancho Cordova Tree Preservation Ordinance. Based on direct observation and the potential for habitats that could support special-status wildlife species, the following measures are suggested to avoid or minimize impacts on sensitive biological resources. Other biological resources typically included in CEQA analysis are also discussed below.

6.1 SPECIAL-STATUS WILDLIFE SPECIES

6.1.1 Valley Elderberry Longhorn Beetle and Habitat

Valley elderberry longhorn beetle is listed as threatened under the federal ESA. This species is dependent upon elderberry shrubs for egg-laying and development. Only one elderberry was found within the survey area. Although there is designated critical habitat for this species in the vicinity, the designated habitat does not occur within the survey area. The USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) (Framework) (USFWS 2017) details a protocol for determining occupancy of valley elderberry longhorn beetle. Based on this protocol, any elderberry shrub within the study area is assumed to be occupied by valley elderberry longhorn beetle because of its close proximity to occupied riparian habitat. Construction activities could occur as close as 100 feet to this elderberry shrub. Direct effects to this elderberry (i.e., cutting) would be avoided but indirect effects from construction activities (i.e., dust deposition, accidental trampling or crushing by construction personnel or equipment, etc.) could occur. The following measures would avoid disturbance to and protect valley elderberry longhorn beetle and its habitat.

- ▶ The elderberry shrub and a 20-foot buffer from the dripline of the shrub shall be fenced or flagged as close to the edge of construction as feasible and avoided during construction activities.
- ▶ A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of valley elderberry longhorn beetle, its host plant and habitat, the need to avoid damaging elderberry shrubs, and the possible penalties for non-compliance.
- ▶ As much as feasible, all activities that could occur within 165 feet of an elderberry shrub (but outside of the 20-foot no disturbance buffer), shall be conducted outside of the flight season of the valley elderberry longhorn beetle (the flight season typically occurs between March-July).
- ▶ Project activities such as truck traffic or other use of machinery, shall not create excessive dust on the project site, such that the growth or vigor of elderberry shrubs could be adversely affected. Establishing and enforcing a 15 miles per hour speed-limit for off-road usage and watering non-paved access roads shall be implemented as needed to minimize excessive dust.
- ▶ A qualified biologist (i.e., a biologist that holds a wildlife biology, botany, ecology, or other relevant degree from an accredited university and: 1) be knowledgeable in relevant species life histories and ecology, 2) be able to correctly identify relevant species and habitats, 3) have experience conducting field surveys of relevant species or resources, 4) be knowledgeable about survey protocols, 5) be knowledgeable about State and federal laws regarding the protection of special-status species, and 6) have experience with CDFW's CNDDDB and Biogeographic Information and Observation System (BIOS). The project proponent will review the resume and approve the qualifications of biologists.) shall monitor the work area within 165 feet of the elderberry shrub at project-appropriate intervals to ensure the avoidance and minimization measures listed above are implemented.

6.1.2 Swainson's Hawk, White-tailed Kite, and Other Nesting Raptors

Construction activities, such as grading, operation of loud equipment, or tree trimming or removal may disturb nesting raptors and interfere with their normal nesting behavior. If the disturbance is severe, adults could abandon nest sites, resulting in the mortality of eggs or young. The following measures would protect active nests from project-related disturbances that could lead to nest abandonment.

- ▶ For project activities, including tree removal, that begin between February 1 and September 15, a qualified biologist will conduct preconstruction surveys for Swainson's hawk, white-tailed kite, and other nesting raptors to identify active nests on and within 0.25 mile of the project footprint for Swainson's hawk and on or within 500 feet for other raptors. The survey for Swainson's hawks will be conducted before the beginning of any construction activities between March 1 and September 15, following the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000).
- ▶ If active nests are found, a qualified biologist will establish appropriate buffers around the active nest sites identified during preconstruction raptor surveys such that project-related activities are unlikely to result in nest abandonment or disruption of normal nesting activities. No project activity will commence within the buffer areas until a qualified biologist has determined, the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of 0.25-mile buffer for Swainson's hawk and white-tailed kite and 500-feet for other raptors, but the size of the buffer may be adjusted if a qualified biologist, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.

6.1.3 Other Native Nesting Birds

Construction activities may disturb other native, nesting birds protected under California Fish and Game Code Section 3503 and interfere with their normal nesting behavior. If the disturbance is severe, adults may abandon nest sites, resulting in the mortality of eggs or young. The following measure would minimize the potential for loss of active native bird nests.

- ▶ A qualified biologist will conduct a preconstruction nesting bird survey no more than two weeks before the start of construction for activities occurring during the breeding season (February 1 to August 31) within 50 feet of project-related ground disturbance or tree trimming or removal. Surveys for common nesting birds adjacent to the access routes is not required except if trees would be trimmed or removed during the breeding season because use of the access routes is not expected to disturb common nesting birds. If active native bird nests are found, a qualified biologist will establish a non-disturbance buffer until the nest is no longer active. The buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance.

6.2 RIPARIAN, SENSITIVE NATURAL COMMUNITIES, AND WETLANDS

Although riparian and wetlands habitat (i.e., the American River) habitats were found within the study area there would be no effect on these resources. The expected work area would be within Rossmoor Drive and within previously disturbed dirt/cobble access road. The base of the power pole where work activities would end is approximately 125 feet from the nearest red willow shrub.

Oak woodland is considered a sensitive natural community. Removal of oak woodland is a potentially significant impact. However, more detailed project plans (e.g., how many trees would be removed, trimmed, or avoided; area of

soil disturbance within the dripline of trees) are required to evaluate short- and long-term effects to the oak woodland in the study area to determine if the project would result in a substantial adverse effect on oak woodlands.

6.3 WILDLIFE MOVEMENT CORRIDORS

The project is not expected to substantially interfere with wildlife movement corridors. Although the American River Parkway is an important wildlife movement area, the construction activities would be temporary and not result in any new, substantially different, permanent structures that would interfere with wildlife movement in the area.

6.4 SACRAMENTO COUNTY CODE OF ORDINANCES AND CITY OF RANCHO CORDOVA MUNICIPAL CODE

Tree removal within the study area may require compliance with the City of Rancho Cordova Tree Ordinance and/or Sacramento County Code of Ordinances depending on location. Project construction activities could result in the removal of trees that qualify as protected trees. Depending on the final alignment with the survey area, it is possible that construction activities could directly or indirectly impact up to 240 trees protected under City and/or County ordinances. The following measure would avoid potential conflicts with these provisions.

Prior to site disturbance, SMUD shall provide to the City of Rancho Cordova and Sacramento County a plan for all tree work. A Certified Arborist shall approve all work plans prior to submittal to the City of Rancho Cordova and Sacramento County. Tree planting will comply with the City of Rancho Cordova's and Sacramento County's landscaping requirements.

For those trees that will be preserved on site during project construction, the following guidelines are recommended to ensure the long-term survival and stability of the trees.

- ▶ **Educate Workers:** Educate all workers on site about tree protection guidelines and requirements prior to construction.
- ▶ **Establish a Tree Protection Zone:** Establish a tree protection zone (TPZ) around any tree or group of trees designated for retention. The TPZ should at minimum be equal to 1.5 times the radius of the dripline. The TPZ may be adjusted on a case-by-case basis after consultation with a Certified Arborist.
- ▶ **Install Fencing and Signage:** Install fencing around the TPZ of all trees or groups of trees designated for retention. The fencing should remain in place for the duration of construction activities. Post appropriate signage to help convey the importance of the TPZ to workers.
- ▶ **Prohibit Construction Activities within the TPZ:** Prohibit construction-related activities, including grading, trenching, construction, demolition, or other work, within the TPZ. No heavy equipment or machinery should be operated within the TPZ. No construction materials, equipment, machinery, or other supplies should be stored within the TPZ. Vehicle and foot traffic should not be permitted within the TPZ. No wires or signs should be attached to any trees designated for retention.
- ▶ **Prune Selected Trees:** Prune selected trees to provide necessary clearance during construction and to remove any defective limbs or other tree parts that may pose a failure risk. All pruning should be completed by a Certified Arborist or Tree Worker and adhere to the Tree Pruning Guidelines of the International Society of Arboriculture.
- ▶ **Monitor Trees and TPZs:** Monitor the integrity of the TPZs and the health of the trees designated for retention regularly throughout the construction process. A Certified Arborist should monitor the health and condition of the protected trees and, if necessary, recommend additional mitigations and appropriate actions. This could include the monitoring of trees adjacent to project facilities to determine if construction activities (including the removal of nearby trees) would affect protected trees in the future.

- ▶ **Treat Impacted Trees:** Provide supplemental irrigation and other care, such as mulch and fertilizer, as deemed necessary by a Certified Arborist, to any trees impacted by construction. Treatment of any injuries should be performed by a Certified Arborist.

6.5 CONSISTENCY WITH HABITAT CONSERVATION PLANS

The study area is not within the planning area for the South Sacramento Habitat Conservation Plan or other approved conservation plan. Therefore, the project would not conflict with any conservation plan.

6.6 COUNTY OF SACRAMENTO AMERICAN RIVER PARKWAY PLAN AND AMERICAN RIVER PARKWAY NATURAL RESOURCES MANAGEMENT PLAN

Portions of the project alignments are within the American River Parkway and are subject to the provision of the County of Sacramento American River Parkway Plan.

The American River Parkway NRMP is still in preparation. Because the American River Parkway – NRMP is still under development and has not yet been finalized or adopted, it is uncertain whether the proposed project would conflict with the goals or policies outlined within the forthcoming NRMP. However, given that the proposed project will be constructed underground primarily within access road/trail, paved roads, or fire break within the parkway and will not result in total conversion of natural habitats, it would not conflict with the NRMP as currently drafted.

Similarly, the American River Parkway Management Plan allows for the development of facilities within the Parkway. Under Policy 3.1 “any development of facilities within the Parkway, including but not limited to building, roads, turfed areas, trails, bridges, tunnels, pipelines, *overhead electrical lines* [emphasis added], levees and parking areas, shall be designated and located such that any impact upon native vegetation is minimized and appropriate mitigation measures are incorporated into the project.”

Since SMUD is proposing a project that minimizes vegetation trimming and removal, has adopted a less damaging alternative that uses either an existing paved road and/or a fire break, and provides mitigation measures consistent with the policies within the American River Parkway Management Plan, it does not conflict with the goals and policies of the American River Parkway Management Plan.

7 REFERENCES

- California Natural Diversity Database. 2021. Rarefind 5. Commercial Version dated October 30, 2016. An online subscription database application for the use of the California department of fish and Wildlife's natural diversity database. California Natural Heritage Division, California Department of Fish and Wildlife, Sacramento, CA. Accessed May 24, 2021.
- California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). California Native Plant Society, Sacramento, CA. Website <http://www.rareplants.cnps.org>. Accessed May 24, 2021.
- . 2022. A Manual of California Vegetation, Online Edition. <http://www.cnps.org/cnps/vegetation>. Accessed April 11, 2022.
- Central Valley Flood Protection Board. 2021. Best Available Maps (BAM) – Floodway Map Link Online Viewer. <https://gis.bam.water.ca.gov/bam/> Accessed June 26, 2021.
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- Swainson's Hawk Technical Advisory Committee. 2000 (May). Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990&inline>. Accessed May 25, 2021.
- U.S. Fish and Wildlife Service. 2022a. Information for Planning and Conservation. Available online at: <http://ecos.fws.gov/ipac/>. Accessed March 31, 2022.
- . 2022b. National Wetlands Inventory Wetlands Mapper Online Viewer. Accessed April 4, 2022.

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Appendix A

Database Query Results

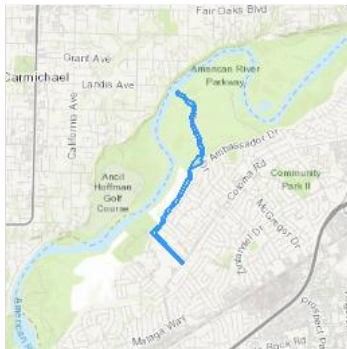
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Sacramento County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
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Delta Smelt <i>Hypomesus transpacificus</i>	Threatened
Wherever found	
There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i>	Candidate
Wherever found	
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i>	Threatened
Wherever found	
There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7850	

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i>	Endangered
Wherever found	
There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8246	
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i>	Threatened
Wherever found	
There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i>	Endangered
Wherever found	
There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2246	

Flowering Plants

NAME	STATUS
Sacramento Orcutt Grass <i>Orcuttia viscida</i>	Endangered
Wherever found	
There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5507	
Slender Orcutt Grass <i>Orcuttia tenuis</i>	Threatened
Wherever found	
There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1063	

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Long-eared Owl <i>asio otus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15

Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Tricolored Blackbird <i>Agelaius tricolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Wrentit <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie <i>Pica nuttalli</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

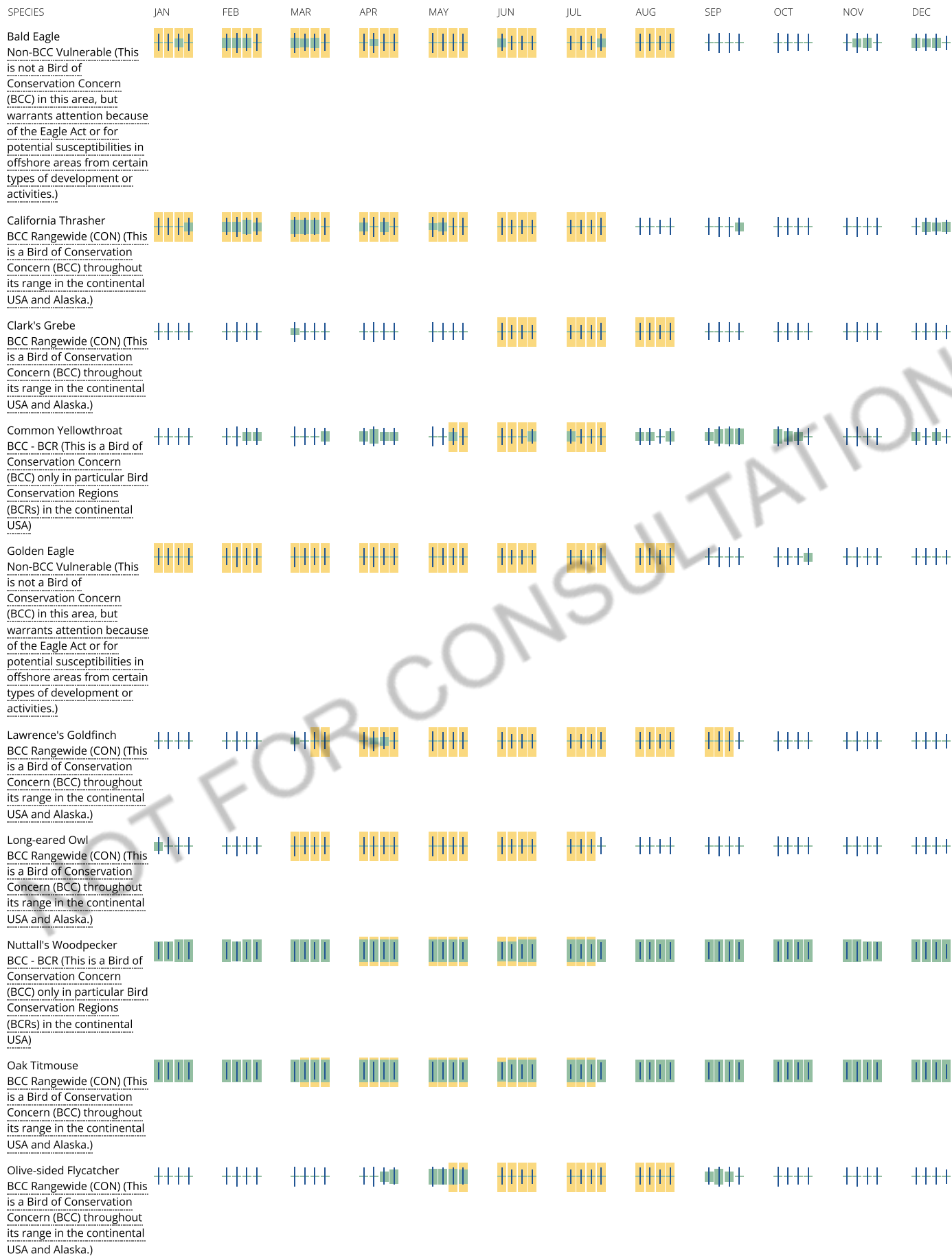
No Data (—)

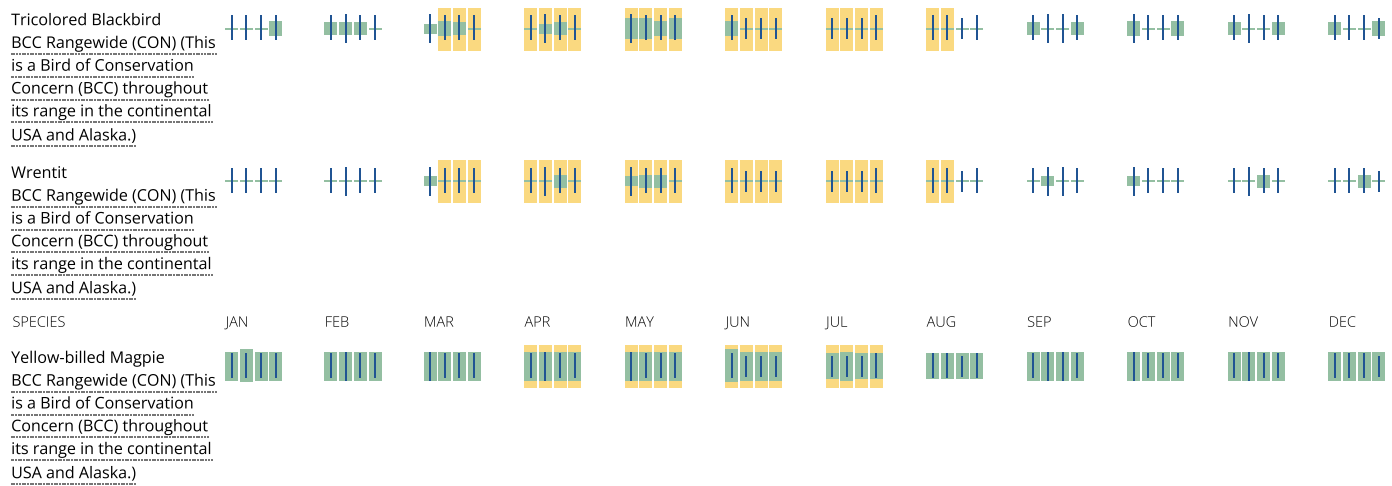
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort - no data





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical](#)

[Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



Selected Elements by Scientific Name
 California Department of Fish and Wildlife
 California Natural Diversity Database



Query Criteria: BIOS selection

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Andrena blennospermatis</i> Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
<i>Andrena subapasta</i> An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branchinecta mesoovallensis</i> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Clarkia biloba ssp. brandegeae</i> Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Cuscuta obtusiflora var. glandulosa</i> Peruvian dodder	PDCUS01111	None	None	G5T4?	SH	2B.2
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Dumontia oregonensis</i> hairy water flea	ICBRA23010	None	None	G1G3	S1	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Elderberry Savanna</i> Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Falco columbarius</i> merlin	ABNKD06030	None	None	G5	S3S4	WL
<i>Fritillaria agrestis</i> stinkbells	PMLIL0V010	None	None	G3	S3	4.2
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S1S2	
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
<i>Great Valley Valley Oak Riparian Forest</i> Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Juncus leiospermus var. ahartii</i> Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
<i>Lasthenia chrysantha</i> alkali-sink goldfields	PDAST5L030	None	None	G2	S2	1B.1
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Lepidium latipes var. heckardii</i> Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1	1B.2
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Melospiza melodia</i> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<i>Navarretia myersii ssp. myersii</i> pincushion navarretia	PDPLM0C0X1	None	None	G2T2	S2	1B.1
<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondi western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Xanthocephalus xanthocephalus yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 59



*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

13 matches found. [Click on scientific name for details](#)

Search Criteria
California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3812164, 3812163, 3812162, 3812154, 3812153, 3812152, 3812144 3812143 and 3812142;

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4?
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	1B.2	S1	G2T1
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
Navarretia myersii ssp. myersii	pincushion navarretia	Polemoniaceae	annual herb	Apr-May	1B.1	S2	G2T2
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	1B.1	S2	G2
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	1B.1	S1	G1
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 24 May 2021].

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Questions and Comments

rareplants@cnps.org

Appendix B

Special-Status Species Tables

Appendix B

Special-Status Species

Special-Status Plants Known to Occur in the Project Region and their Potential to Occur in the Survey Area

Name	Federal Status ¹	State Status ¹	CRPR ¹	Habitat	Potential to Occur in the Survey Area ²
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	--	--	2B.2	Wetland. Marshes and swamps (freshwater). Freshwater marsh. 49–919 feet in elevation. Blooms July–October.	Not expected to occur: The survey area does not support wetland, freshwater marshes, and swamp habitat suitable for this species.
Dwarf downingia <i>Downingia pusilla</i>	--	--	2B.2	Wetland. Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 3–1608 feet in elevation. Blooms March–May.	Not expected to occur: The survey area does not support vernal pool or mesic habitat suitable for this species.
Boggs Lake hedge-hyssop <i>Griatiola heterosepala</i>	--	SE	1B.2	Wetland. Marshes and swamps (freshwater), vernal pools. Clay soils; usually in vernal pools, sometimes on lake margins. 33–7792 feet in elevation. Blooms April–August.	Not expected to occur: The survey area does not support wetland habitat suitable for this species.
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	--	--	1B.2	Wetland. Marshes and swamps (freshwater). Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. 0–509 feet in elevation. Blooms June–September.	Not expected to occur: The survey area does not support wetland, freshwater marsh, and swamp habitat suitable for this species. This species was not observed along the bank of the American River.
Northern California black walnut <i>Juglans hindsii</i>	--	--	1B.1	Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized. Deep alluvial soil, associated with a creek or stream. 0–2100 feet in elevation. Blooms April–May.	Not expected to occur: The survey area is outside of the current known distribution of Northern California black walnut. Observed walnut trees are likely hybrids between <i>J. hindsii</i> and <i>J. major</i> .
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	--	--	1B.2	Valley and foothill grassland. Restricted to the edges of vernal pools in grassland. 98–328 feet in elevation. Blooms March–May.	Not expected to occur: The survey area does not support vernal pool habitat suitable for this species.
Alkali-sink goldfields <i>Lasthenia chrysantha</i>	--	--	1B.1	Vernal pools. Alkaline. 0–656 feet in elevation. Blooms February–June.	Not expected to occur: The survey area does not support vernal pool habitat suitable for this species.
Legenere <i>Legenere limosa</i>	--	--	1B.1	Vernal pools, wetland. In beds of vernal pools. 3–2887 feet in elevation. Blooms April–June.	Not expected to occur: The survey area does not support vernal pool habitat suitable for this species.
Heckard's pepper-grass <i>Lepidium latipes</i> var. <i>heckardii</i>	--	--	1B.2	Valley and foothill grassland, vernal pools. Grassland, and sometimes vernal pool edges. Alkaline soils. 3–98 feet in elevation. Blooms March–May.	Not expected to occur: The survey area does not support vernal pool habitat suitable for this species.
Pincushion navarretia <i>Navarretia myersii</i> ssp. <i>myersii</i>	--	--	1B.1	Vernal pools, wetland. Clay soils within non-native grassland. 148–328 feet in elevation. Blooms April–May.	Not expected to occur: The survey area does not support vernal pool or wetland habitat suitable for this species.
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT	SE	1B.1	Vernal pools, wetland. Often in gravelly substrate. 82–5758 feet in elevation. Blooms May–September (October).	Not expected to occur: The survey area does not support vernal pool or wetland habitat suitable for this species.

Name	Federal Status ¹	State Status ¹	CRPR ¹	Habitat	Potential to Occur in the Survey Area ²
Sacramento Orcutt grass <i>Orcuttia viscida</i>	FE	SE	1B.1	Vernal pools, wetland. 49–279 feet in elevation. Blooms April–July (September).	Not expected to occur: The survey area does not support vernal pool or wetland habitat suitable for this species.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	--	--	1B.2	Wetland. Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2133 feet in elevation. Blooms May–October (November).	Not expected to occur: The survey area does not support vernal pool or wetland habitat suitable for this species. Although the CNDDDB has an occurrence within the survey area (concrete lined drainage canal), this occurrence was not observed during the field surveys.
Saline clover <i>Trifolium hydrophilum</i>	--	--	1B.2	Wetland. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0–984 feet in elevation. Blooms April–June.	Not expected to occur: The survey area does not support vernal pool or wetland habitat suitable for this species.

Notes: CRPR = California Rare Plant Rank; CNDDDB = California Natural Diversity Database

^{1&2} Legal Status Definitions

Federal:

FE Endangered (legally protected)

FT Threatened (legally protected)

State:

SE Endangered (legally protected)

California Rare Plant Ranks:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks:

0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)

0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)

0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

² Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present within the survey area due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available within the survey area; however, there are little to no other indicators that the species might be present.

Likely to occur: All of the species life history requirements can be met by habitat present in the survey area, and populations/occurrences are known to occur in the immediate vicinity.

Sources: CNDDDB 2021; CNPS 2022.

Special-Status Wildlife Known to Occur in the Project Region and their Potential to Occur on the Survey Area

Name	Federal Status ¹	State Status ¹	Habitat	Potential to Occur in the Survey Area
Invertebrates				
Crotch bumble bee <i>Bombus crotchii</i>	None	SC	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Not expected to occur: The survey area is within the historic range of this species, and the nearest known occurrence of crotch bumble bee is approximately 5 miles south (CNDDDB 2021). Crotch bumble bee has recently undergone a decline in abundance and distribution and is no longer present across much of its historic range. In California, crotch bumble bee populations are currently largely restricted to the Central Valley and adjacent foothills (Williams et al. 2014, Xerces 2018). Although California poppy and buckwheat occur within the parkway, the project will occur mostly within turf, access road/trail, paved road and/or fire break areas where ongoing usage and weed abatement (i.e., mowing and tilling) preclude the presence of this species.
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	--	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	Not expected to occur: The survey area does not support vernal pool or wetland habitat suitable for this species.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	--	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not expected to occur: The survey area does not support vernal pool or wetland habitat suitable for this species.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	--	Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	May occur: One elderberry shrub with stems greater than 1-inch in diameter was found within the survey area. This elderberry is located 300 feet southwest of the intersection of Rossmoor Drive and the bike trail.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	--	Valley and foothill grassland, vernal pool, wetland. Inhabits vernal pools and swales in	Not expected to occur: The survey area does not support

Name	Federal Status ¹	State Status ¹	Habitat	Potential to Occur in the Survey Area
			the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	vernal pool or wetland habitat suitable for this species.
Fish				
Delta smelt <i>Hypomesus transpacificus</i>	FT	SE	Aquatic, estuary. Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	Not expected to occur: The survey area does not support aquatic habitat suitable for this species.
Steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus</i> pop. 11	FT	--	Aquatic. Sacramento/San Joaquin flowing waters. Populations in the Sacramento and San Joaquin rivers and their tributaries.	Not expected to occur: Although this species is known to occur in the American River north of Rossmore Bar Park, the project elements and construction will not occur within the wetted portion of the American River.
Chinook salmon –Central Valley fall / late fall-run ESU <i>Oncorhynchus tshawytscha</i> pop. 13		SSC	Aquatic. Sacramento/San Joaquin flowing waters. Populations spawning in the Sacramento and San Joaquin rivers and their tributaries.	Not expected to occur: Although this species is known to occur in the American River north of Rossmore Bar Park, the project elements and construction will not occur within the wetted portion of the American River.
Chinook salmon –Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i> pop. 6	FT	ST	Aquatic. Sacramento/San Joaquin flowing waters. Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 C are lethal to adults. Federal listing refers to populations spawning in Sacramento River and tributaries.	Not expected to occur: Although this species is known to occur in the American River north of Rossmore Bar Park, the project elements and construction will not occur within the wetted portion of the American River.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	--	SSC	Aquatic, estuary, freshwater marsh, Sacramento/San Joaquin flowing waters. Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Not expected to occur: The survey area does not support aquatic habitat suitable for this species.
Longfin smelt <i>Spirinchus thaleichthys</i>	FC	SSC	Aquatic, estuary. Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Not expected to occur: The survey area does not support aquatic habitat suitable for this species.
Amphibians				
California tiger salamander <i>Ambystoma californiense</i>	FT	ST	Cismontane woodland, meadow and seep, riparian woodland, valley and foothill grassland, vernal pool, and wetlands. Central	Not expected to occur: The survey area does not support

Name	Federal Status ¹	State Status ¹	Habitat	Potential to Occur in the Survey Area
			Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	aquatic habitat suitable for this species.
California red-legged frog <i>Rana draytonii</i>	FT	SSC	Aquatic, artificial flowing waters, artificial standing waters, freshwater marsh, marsh & swamp, riparian forest, riparian scrub, riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, south coast flowing waters. Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Not expected to occur: The survey area does not support aquatic habitat suitable for this species.
Western spadefoot <i>Spea hammondi</i>	--	SSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pool, and wetlands. Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not expected to occur: The survey area does not support aquatic habitat suitable for this species.
Reptiles				
Western pond turtle <i>Actinemys marmorata</i>	--	SSC	Aquatic, artificial flowing waters, Klamath/north coast flowing waters, Klamath/north coast standing waters, marsh and swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing and standing waters. A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Not expected to occur: Although the American River is within the known dispersal range of this species, the bank slope would preclude this species from accessing the survey area.
Giant gartersnake <i>Thamnophis gigas</i>	FT	ST	Marsh and swamp, riparian scrub, wetland. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Not expected to occur: The survey area is outside of the current known range of this species.
Birds				
Tricolored blackbird <i>Agelaius tricolor</i>	--	ST/SSC	Freshwater marsh, marsh and swamp, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Not expected to occur: The survey area does not support marsh habitat suitable for this species to nest.

Name	Federal Status ¹	State Status ¹	Habitat	Potential to Occur in the Survey Area
Golden eagle <i>Aquila chrysaetos</i>	GEBEPA	FP	Broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodlands, upper montane coniferous forest, and valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Not expected to occur: The survey area does not support nesting habitat suitable for this species.
Burrowing owl <i>Athene cucularia</i>	--	SSC	Coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not expected to occur: Although the grassland habitat provides suitable habitat for this species, human usage and presence of predatory species (i.e., feral and domestic cats, dogs, coyotes) likely preclude the presence of this species
Swainson's hawk <i>Buteo swainsoni</i>	--	ST	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	May occur: The survey area is within the breeding range of the species. Surveys within 0.25 miles of the survey area did not result in observations of nesting Swainson's hawks but this species is regularly observed in the area.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT	SE	Riparian forest. Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not expected to occur: The survey area does not support large and dense riparian habitat suitable for this species.
White-tailed kite <i>Elanus leucurus</i>	--	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Present: A pair of white-tailed kites was observed nesting towards the northeast edge of the 0.25 mile nesting raptor survey buffer.
Bald eagle <i>Haliaeetus leucocephalus</i>	GEBEPA	SE/FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Not expected to occur: Although this species was observed foraging over the American River during the nesting raptor survey. No nests attributable to this species were observed within the 0.25 nesting raptor survey area.

Name	Federal Status ¹	State Status ¹	Habitat	Potential to Occur in the Survey Area
Song sparrow ("Modesto" population) <i>Melospiza melodia</i>	--	SSC	Marsh and swamp, wetlands. Emergent freshwater marshes, riparian willow thickets, riparian forests of valley oak (<i>Quercus lobata</i>), and vegetated irrigation canals and levees.	Not expected to occur: Although this species may forage within the grassland habitat, its preferred nesting habitat is not present within the survey area.
Purple martin <i>Progne subis</i>	--	SSC	Broadleaved upland forest, lower montane coniferous forest. Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	Not expected to occur: Although this species may forage over the survey area, this species is known to nest within bridge overpasses in the Sacramento area which are not present within the survey area.
Bank swallow <i>Riparia riparia</i>	--	ST	Riparian scrub, riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not expected to occur: The survey area does not support vertical banks/cliff habitat suitable for this species.
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	--	SSC	Marsh and swamp, wetland. Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	Not expected to occur: The survey area does not support marsh and swamp or wetland habitat suitable for this species.
Mammals				
Pallid bat <i>Antrozous pallidus</i>	--	SSC	Inhabits deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Very sensitive to disturbance of hibernation roost sites, which must protect bats from high temperatures, including buildings, caves, or cracks in rocks.	Not expected to occur (Roost): Although this species may forage in the area, there is no suitable roosting habitat present and thus this species not expected to roost in the survey area.
American badger <i>Taxidea taxus</i>	--	SSC	Alkali marsh, alkali playa, alpine, alpine dwarf scrub, bog a fen, brackish marsh, broadleaved upland forest, chaparral, chenopod scrub, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not expected to occur: The survey area is isolated from potential migratory routes for this species to use. No sign of this species was observed during reconnaissance surveys.

General references: Unless otherwise noted all habitat and distribution data provided by CNDDB.

Note: CNDDB = California Natural Diversity Database

¹ Legal Status Definitions

Federal:

FE Endangered (legally protected)

FT Threatened (legally protected)

State:

SE Endangered (legally protected)

ST Threatened (legally protected)

FP Fully protected (legally protected)

SSC Species of special concern (no formal protection other than CEQA consideration)

² Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present in the plan area due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available in the plan area; however, there are little to no other indicators that the species might be present.

Likely to occur: All of the species life history requirements can be met by habitat present on the site, and populations/occurrences are known to occur in the immediate vicinity.

Present. Species observed within the study area.

Source: CNDDDB 2021; USFWS 2022a

Appendix C

Photographs



Source: Ascent Environmental in 2022

Photograph 1. Start of survey area where the overhead lines are just northwest of Coloma Road looking at Coloma Road. Representative photograph of developed habitat.



Source: Ascent Environmental in 2022

Photograph 2. Representative photograph of developed habitat between residential homes and school grounds.



Source: Ascent Environmental in 2022

Photograph 3. Start of trail/access road from substation looking northeast. Representative photograph of valley oak woodland



Source: Ascent Environmental in 2022

Photograph 4. Trail/access road looking southeast towards substation. Representative photograph of annual grassland with valley oak woodland in the background.



Source: Ascent Environmental in 2022

Photograph 5. Representative photograph of trees growing over the trail/access road. Photograph looking northeast.



Source: Ascent Environmental in 2022

Photograph 6. Existing electrical infrastructure. Photograph looking northeast.



Source: Ascent Environmental in 2022

Photograph 7. Representative photograph of old irrigation ditch to the north of trail/access road.



Source: Ascent Environmental in 2022

Photograph 8. Representative photograph of acorn woodpecker cavity nest found during surveys.



Source: Ascent Environmental in 2022

Photograph 9. White-tailed kite nest found during nesting raptor survey. Nest is located in pine tree in background.



Source: Ascent Environmental in 2022

Photograph 10. White-tailed kite observed during nesting raptor surveys.



Source: Ascent Environmental in 2022

Photograph 11. Nuttall's woodpecker feeding chick in nesting cavity. Observed during nesting raptor survey.



Source: Ascent Environmental in 2022

Photograph 12. Representative photograph of flagging that survived mowing.



Source: Ascent Environmental in 2022

Photograph 13. Representative photograph of fire access road alternative route before reaching Rossmoor Drive. The proposed trench would be within the fire access road.



Source: Ascent Environmental in 2022

Photograph 14. Representative photograph of pedestrian trail alternative route before reaching Rossmoor Drive. The proposed trench would be within the pedestrian trail area.



Source: Ascent Environmental in 2022

Photograph 15. Representative photograph of fire break area west of Rossmoor Drive. The proposed trench would be within the fire break area.



Source: Ascent Environmental in 2022

Photograph 16. Representative photograph of fire break area west of Rossmoor Drive near tree vegetation.



Source: Ascent Environmental in 2022

Photograph 17. Representative photograph of fire break area west of Rossmoor Drive just before reaching the bike trail. The proposed trench would be within the fire break area.



Source: Ascent Environmental in 2022

Photograph 18. Elderberry shrub at the edge of the survey area southwest of the intersection of Rossmoor Drive and bike trail.



Source: Ascent Environmental in 2022

Photograph 19. Representative photograph of Rossmoor Drive north of bike trail. The survey area is centered on Rossmoor Drive.



Source: Ascent Environmental in 2022

Photograph 20. Representative photograph of vegetation along Rossmoor Drive near the north end of survey area, photograph is looking south.



Source: Ascent Environmental in 2022

Photograph 19. Representative photograph of vegetation along Rossmoor Drive near the north end of survey area, photograph is looking north.



Source: Ascent Environmental in 2022

Photograph 20. Representative photograph of vegetation at end of Rossmoor Drive and start of dirt access area. Photograph taken from base of power pole where SMUD line would tie into.

Appendix E

Arborist Report

Arborist Report for the
**SMUD Cordova Park Underground
Cable Replacement Project**



Prepared for:



April 2022

Arborist Report for the

SMUD Cordova Park Underground Cable Replacement Project



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LIST OF ABBREVIATIONS

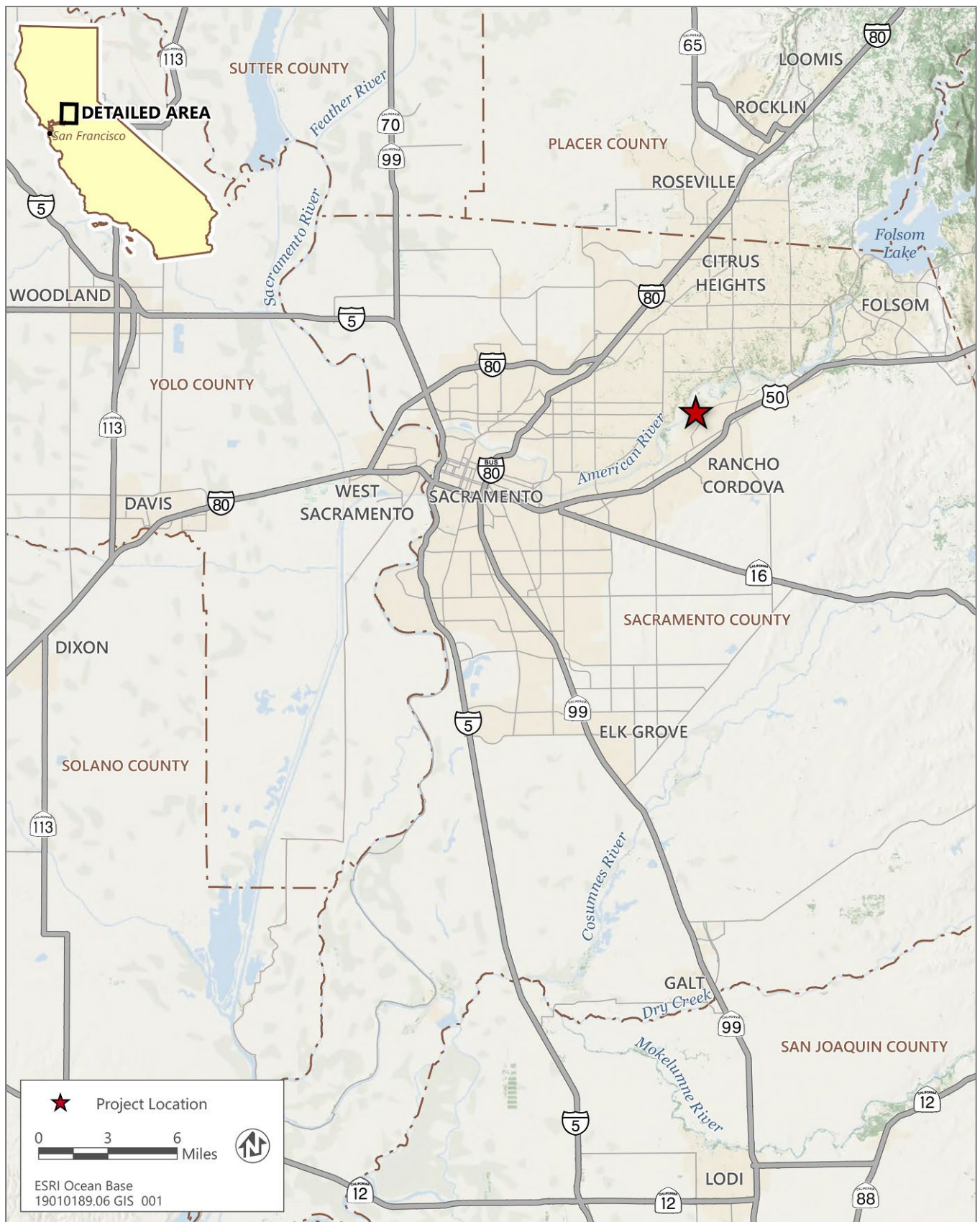
project	Cordova Park Underground Cable Replacement Project
SMUD	Sacramento Municipal Utility District
TPZ	Tree Protection Zone

1 INTRODUCTION

This report was prepared to document the results of an arborist survey conducted for the proposed Sacramento Municipal Utility District (SMUD) Cordova Park Underground Cable Replacement Project (project). Ascent Environmental was contracted by SMUD to perform a tree survey and prepare an arborist report for the survey area.

1.1 PROJECT DESCRIPTION

SMUD replaces aging electrical infrastructure as part of its routine maintenance and upgrade protocols. Accordingly, SMUD proposes to install approximately 0.6 miles of 12 kilovolt (kV) underground cable, approximately 2.12 miles of 69kV underground cable and up to 13 new utility vaults in the City of Rancho Cordova, near the location of existing 12kV and 69kV underground cables that are approaching the end of their operational lives (see Figure 1). The proposed 69kV alignment begins on the northwest side of Coloma Road, approximately 200 feet southeast of Sierra Madre Court. The 69kV alignment heads northwest from Coloma Road, crossing through the property of Mills Middle School and Cordova High School, until it connects to SMUD's Cordova Park Substation located near the intersection of Ambassador Drive and Trails Court. From the substation, the 69kV alignment heads northeast along the backs of homes facing Ambassador Drive until it reaches Rossmoor Drive. At Rossmoor Drive, the alignment turns and heads north towards the American River. The 69kV alignment stays along Rossmoor Drive until its termination near the American River, when the alignment connects to existing riser poles located between the terminus of Rossmoor Drive and the American River. The existing 12kV and 69kV lines that run through the American River Parkway would be abandoned in place, and new conduit containing the new lines would be installed in separate trenches within the alignments described above. The proposed 12kV and 69kV alignments are highly disturbed due to vehicle traffic, including areas of pavement and dirt. There are residences adjacent to portions of the proposed 12kV and 69kV alignments. Along Ambassador Drive, the 12kV circuit would be installed beneath existing roadways, sidewalks, or curbs and gutters. Along Rossmoor Drive, the 69kV circuit would be installed beneath existing pavement or within an existing fuel break adjacent to the pavement. Installation of the new conduit and manholes would be done via open trenching. Figure 2 shows the project alignments.



Source: adapted by Ascent Environmental in 2022

Figure 1 Regional Location



Source: adapted by Ascent Environmental in 2022

Figure 2 Project Alignment

2 REGULATORY SETTING

2.1 CITY OF RANCHO CORDOVA MUNICIPAL CODE

2.1.1 Chapter 19.04

Chapter 19.04 of the City of Rancho Cordova Municipal Code (Protection of Public Trees) establishes regulations pertaining to the planting, maintenance, protection, and preservation of all public trees growing on public property. A public tree is defined as a tree or shrub whose trunk is planted in a street, planting easement, public premises, public sidewalk, median, traffic island, or any other right-of-way owned or controlled by the city through an easement, license, fee title, or other permissive grant of use and maintained by the city. A public tree permit shall be required before any person shall plant, transplant, move, separate, trim, prune, cut above or below the ground, disrupt, alter, or do surgery upon any public tree.

2.1.2 Chapter 19.12

Chapter 19.12 of the City of Rancho Cordova Municipal Code (Preservation and Protection of Private Trees) establishes regulations for the protection, removal, and preservation of landmark trees and protected trees within the city. A landmark tree is defined as any trees designated by council through resolution as a vital and historical part of the city's landscape such that the trees need to be designated as landmarks for protection and preservation. Protected trees are defined as:

1. Native oak – *Quercus lobata*, valley oak; *Quercus wislizenii*, interior live oak; *Quercus douglasii*, blue oak; or *Quercus morehus*, oracle oak – having a trunk diameter of at least six inches or greater; or
2. Any tree species other than a native oak having a trunk diameter of at least 12 inches or greater on nonresidential property; or
3. Any tree species other than a native oak having a trunk diameter of at least 24 inches or greater on residential property; or
4. Any tree planted as a requirement tree for site development, tree permit condition, landscape plan removal replacement, or other designated condition by the public works director or planning director.
5. "Protected tree" does not include any trees for sale within the city sold by a nursery.

Section 19.12.040 states that "no person shall trench, grade or fill within the dripline of any protected tree, or damage, kill or remove any protected tree, or perform a major trimming of any protected tree without an approved tree permit. It shall be the responsibility of the owner or lessee/tenant of the property on which the protected tree is located and the person performing tree work to have the approved tree permit and/or a copy of the conditions of permit approval at the work site."

3 SURVEY METHODS

The tree survey was conducted by International Society of Arboriculture Certified Arborist Joshua Boldt (Certification # WE-7069A) on January 26, February 2, and February 3, 2022. Trees were surveyed according to standard professional practices. Survey methods consisted of identifying, measuring, assessing, and tagging all accessible trees within the survey area. Trees were tagged with aluminum tags with identification numbers where possible. Trees five inches or less in diameter, tree in poor health, and trees that are located on private properties or were otherwise inaccessible were not tagged. All tree location data was collected with a Global Positioning System. Information collected included the species of the tree, diameter at standard height (measured at 4.5 feet from the base of the tree), the general

condition of the tree and its components (root collar, trunk, limbs, and foliage), the general structural health of the tree, and its overall vigor ("Condition"). The "Condition" of the tree is defined as follows:

Excellent: Tree is without any visible deficiencies. Tree is in excellent health and is structurally sound, with little evidence of dieback and good overall annual growth. The tree shows no sign of disease, decay, or mistletoe infestation. The tree has a balanced branching structure.

Good: Tree has no major deficiencies but may have minor defects such as minor dieback or overcrowding. Tree is in good health and is structurally sound. Minor defects are not detrimental to overall health of tree.

Fair: Tree has no major deficiencies but many minor defects. Tree is in average health and may have some structural deficiencies such as decay and numerous dead limbs. Overall health and integrity of the tree is not adversely affected at present, but the tree may have limited growth, and unbalanced or asymmetrical form. Deficiencies may be detrimental to long-term health of tree.

Poor: Tree has major deficiencies that are detrimental to health of tree, including major decay in the trunk or main limbs, extensive dieback, sparse foliage, extreme overcrowding, and unbalanced or asymmetrical form.

Trees may be ascribed a condition that falls between the described major categories (i.e. "Good to Fair"). These trees have elements of both categories.

4 RESULTS

The results of the data collected during the tree survey are presented in Figures 3a through 3i, Table 1, and Attachment A. Information provided in Table 1 includes a summary of the native and non-native tree species observed in the survey area. Figures 3a through 3i present all the trees identified and mapped during the field survey.

Table 1 Summary of Trees in the Survey Area

Tree Species	Number of Trees
Native Trees	
<i>Quercus lobata</i> valley oak	214
<i>Quercus wislizeni</i> interior live oak	98
<i>Quercus agrifolia</i> coast live oak	20
<i>Fraxinus latifolia</i> Oregon ash	16
<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	6
Non-Native Trees	
<i>Prunus</i> sp.	23
<i>Juniperus</i> sp. Juniper	2
<i>Ligustrum lucidum</i> glossy privet	1
<i>Robinia pseudoacacia</i> black locust	1
Unknown ornamental ¹	13

¹ Due to the timing of the tree survey (January and February), deciduous ornamental trees were not bearing leaves which made identification of some tree species difficult.



Source: Data received from SMUD in 2021

Figure 3a Tree Location (1 of 9)



Source: Data received from SMUD in 2021

Figure 3b Tree Location (2 of 9)



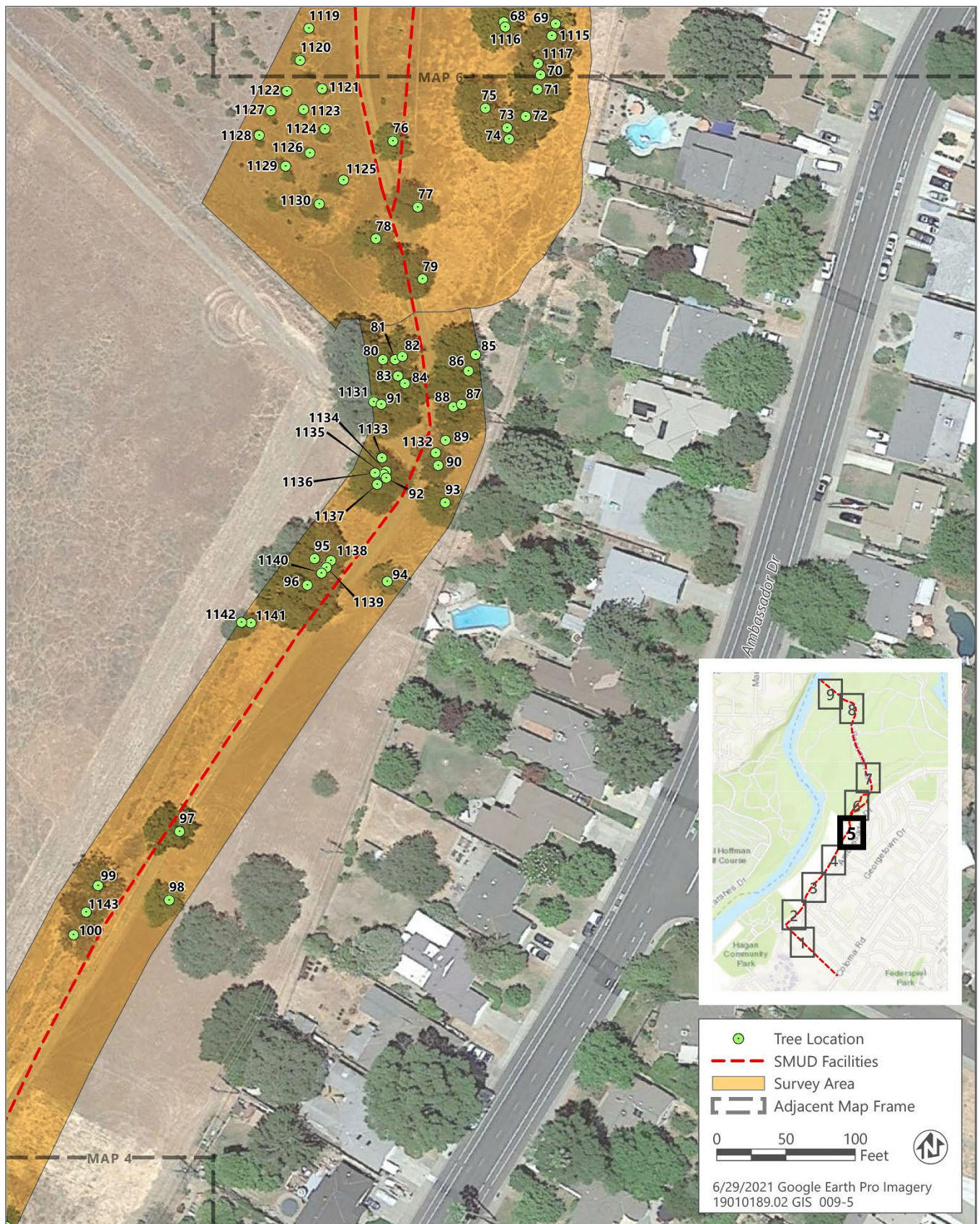
Source: Data received from SMUD in 2021

Figure 3c Tree Location (3 of 9)



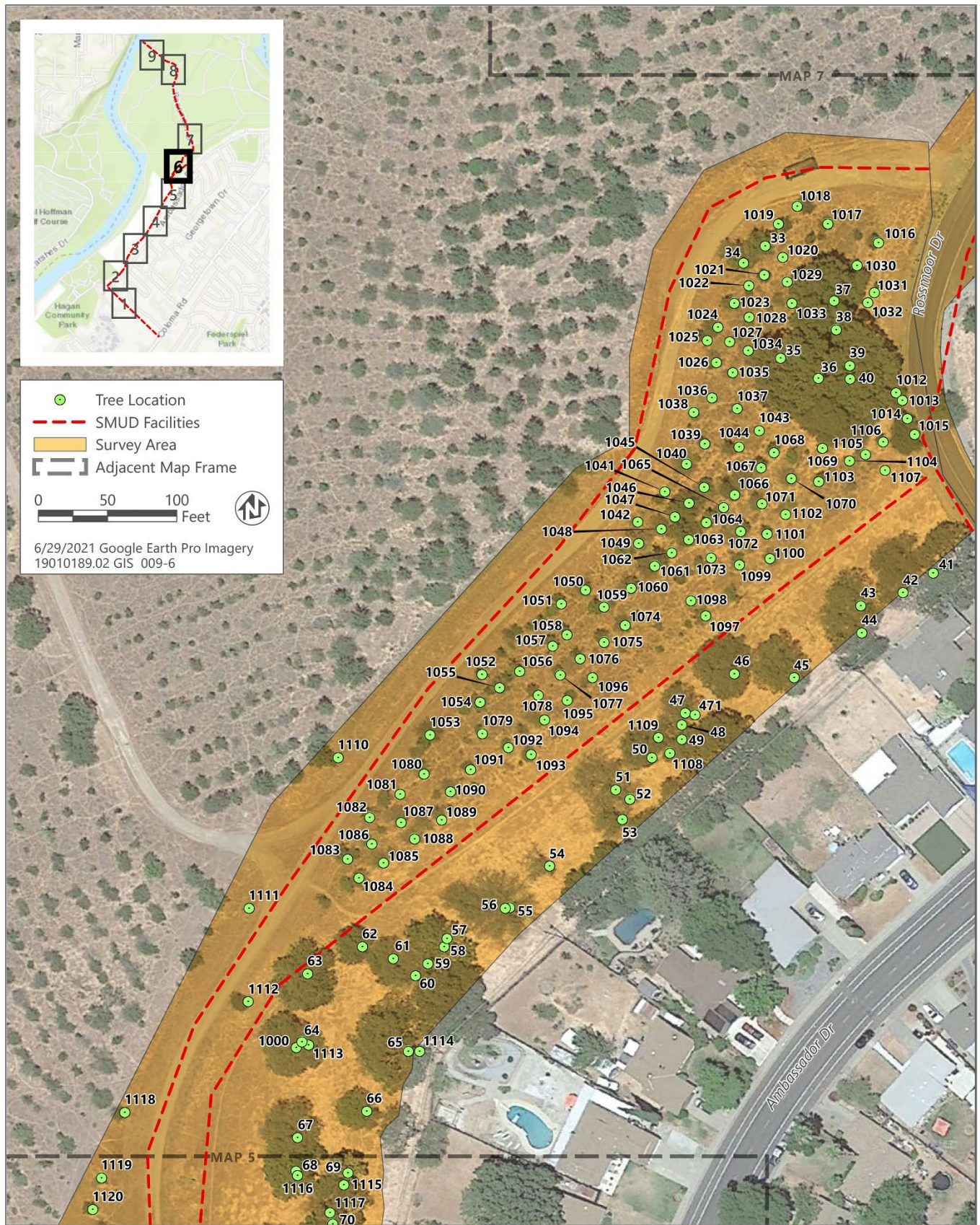
Source: Data received from SMUD in 2021

Figure 3d Tree Location (4 of 9)



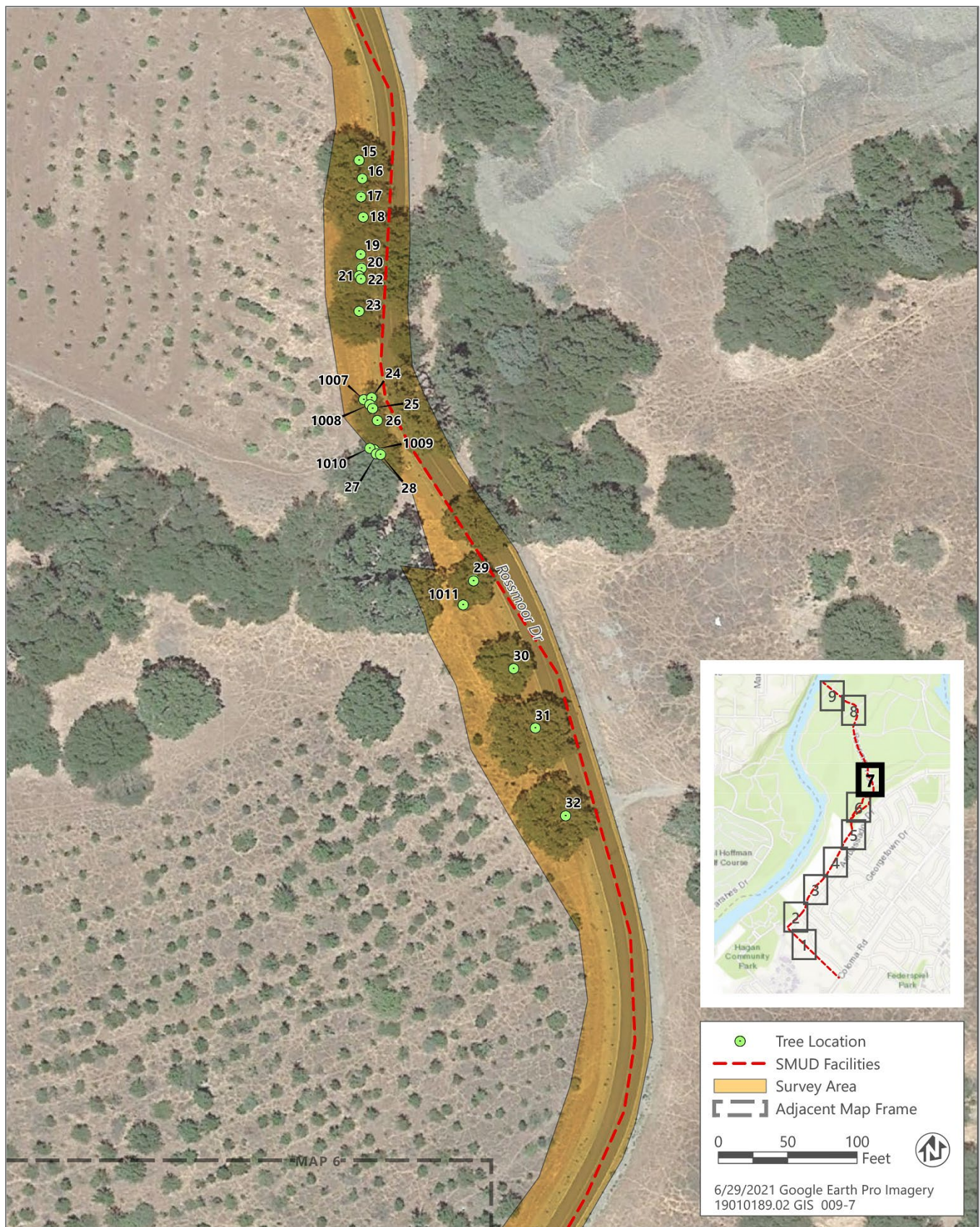
Source: Data received from SMUD in 2021

Figure 3e Tree Location (5 of 9)



Source: Data received from SMUD in 2021

Figure 3f Tree Location (6 of 9)



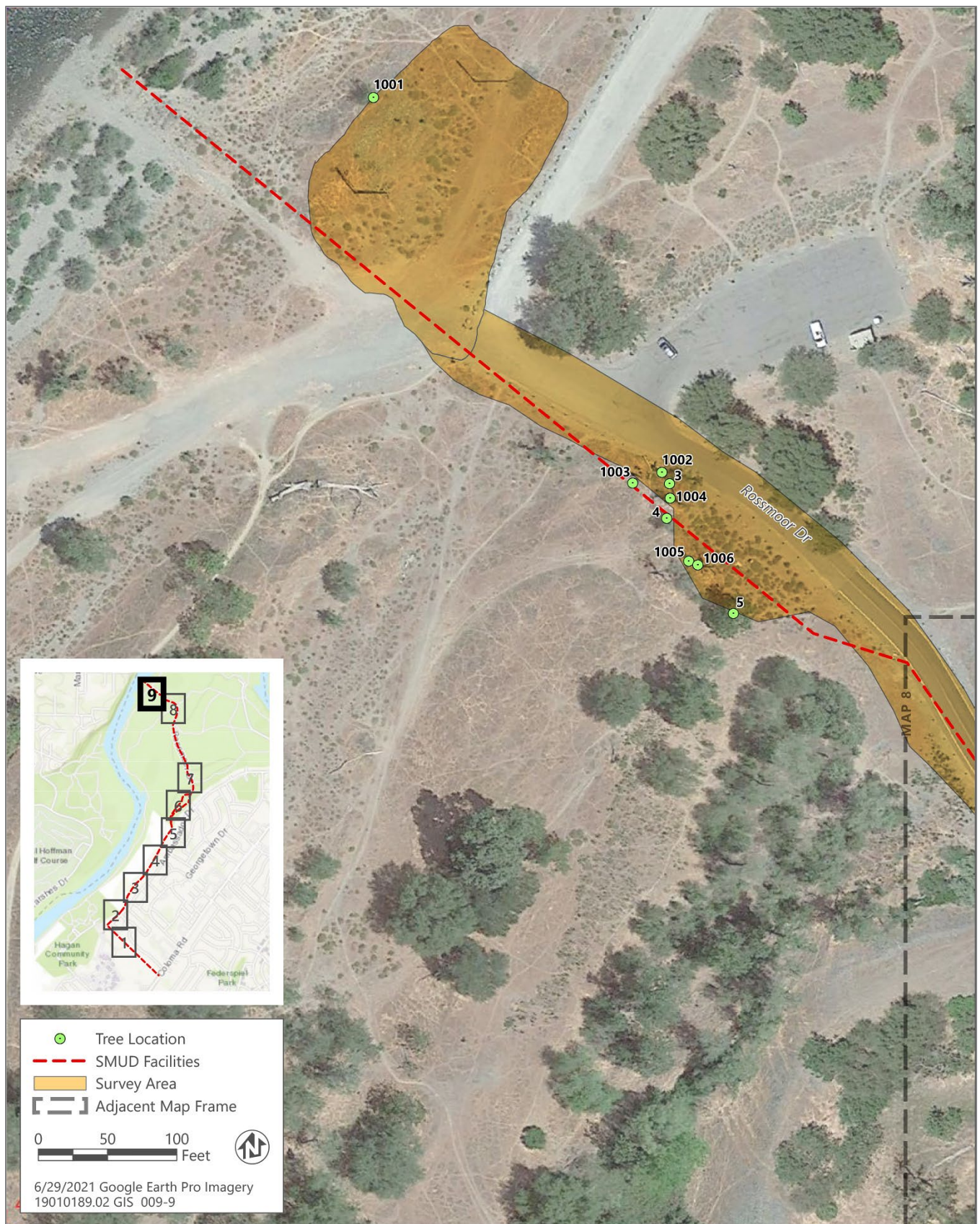
Source: Data received from SMUD in 2021

Figure 3g Tree Location (7 of 9)



Source: Data received from SMUD in 2021

Figure 3h Tree Location (8 of 9)



Source: Data received from SMUD in 2021

Figure 3i Tree Location (9 of 9)

4.1 PROTECTION MEASURES

4.1.1 Tree Preservation Guidelines

For those trees that will be preserved on site during project construction, the following guidelines are recommended to ensure the long-term survival and stability of the trees.

- ▶ **Educate Workers:** Educate all workers on site about tree protection guidelines and requirements prior to construction.
- ▶ **Establish a Tree Protection Zone:** Establish a tree protection zone (TPZ) around any tree or group of trees designated for retention. The TPZ should at minimum be equal to 1.5 times the radius of the dripline. The TPZ may be adjusted on a case-by-case basis after consultation with a Certified Arborist.
- ▶ **Install Fencing and Signage:** Install fencing around the TPZ of all trees or groups of trees designated for retention. The fencing should remain in place for the duration of construction activities. Post appropriate signage to help convey the importance of the TPZ to workers.
- ▶ **Prohibit Construction Activities within the TPZ:** Prohibit construction-related activities, including grading, trenching, construction, demolition, or other work, within the TPZ. No heavy equipment or machinery should be operated within the TPZ. No construction materials, equipment, machinery, or other supplies should be stored within the TPZ. Vehicle and foot traffic should not be permitted within the TPZ. No wires or signs should be attached to any trees designated for retention.
- ▶ **Prune Selected Trees:** Prune selected trees to provide necessary clearance during construction and to remove any defective limbs or other tree parts that may pose a failure risk. All pruning should be completed by a Certified Arborist or Tree Worker and adhere to the Tree Pruning Guidelines of the International Society of Arboriculture.
- ▶ **Monitor Trees and TPZs:** Monitor the integrity of the TPZs and the health of the trees designated for retention regularly throughout the construction process. A Certified Arborist should monitor the health and condition of the protected trees and, if necessary, recommend additional mitigations and appropriate actions. This could include the monitoring of trees adjacent to project facilities to determine if construction activities (including the removal of nearby trees) would affect protected trees in the future.
- ▶ **Treat Impacted Trees:** Provide supplemental irrigation and other care, such as mulch and fertilizer, as deemed necessary by a Certified Arborist, to any trees impacted by construction. Treatment of any injuries should be performed by a Certified Arborist.

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Attachment A

Tree Data

Table A **Arborist Survey Data**

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
3	<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	14	14	Poor	Yes
4	<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	8	8	Poor	No
5	<i>Fraxinus latifolia</i> Oregon ash	4,5,5,6,8,11	39	Fair	Yes
6	<i>Fraxinus latifolia</i> Oregon ash	6,7,7,12	32	Good/Fair	Yes
7	<i>Quercus wislizeni</i> interior live oak	7,7	14	Good	Yes
8	<i>Quercus wislizeni</i> interior live oak	6,6,9	21	Fair	Yes
9	<i>Fraxinus latifolia</i> Oregon ash	6,8	14	Poor	Yes
10	<i>Fraxinus latifolia</i> Oregon ash	7,8	15	Fair	Yes
11	<i>Quercus wislizeni</i> interior live oak	6	6	Good/Fair	Yes
12	<i>Quercus lobata</i> valley oak	38	38	Good	Yes
13	<i>Quercus wislizeni</i> interior live oak	12,13,14,14	53	Good	Yes
14	<i>Quercus lobata</i> valley oak	50	50	Good	Yes
15	<i>Quercus wislizeni</i> interior live oak	16	16	Good	Yes
16	<i>Quercus lobata</i> valley oak	17	17	Good	Yes
17	<i>Quercus lobata</i> valley oak	17	17	Good	Yes
18	<i>Quercus lobata</i> valley oak	7,12,14	33	Good/Fair	Yes
19	<i>Quercus wislizeni</i> interior live oak	3,7,8	18	Fair	Yes
20	<i>Quercus wislizeni</i> interior live oak	10	10	Good/Fair	Yes
21	<i>Quercus wislizeni</i> interior live oak	8,9	17	Fair	Yes
22	<i>Quercus lobata</i> valley oak	13	13	Good	Yes
23	<i>Quercus wislizeni</i> interior live oak	20	20	Good	Yes
24	<i>Quercus lobata</i> valley oak	6	6	Fair	Yes
25	<i>Quercus wislizeni</i> interior live oak	12	12	Good	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
26	<i>Quercus wislizeni</i> interior live oak	11	11	Good	Yes
27	<i>Quercus lobata</i> valley oak	8	8	Fair	Yes
28	<i>Quercus wislizeni</i> interior live oak	10	10	Good/Fair	Yes
29	<i>Quercus lobata</i> valley oak	8,15	23	Good/Fair	Yes
30	<i>Quercus lobata</i> valley oak	19	19	Good/Fair	Yes
31	<i>Quercus lobata</i> valley oak	26	26	Good	Yes
32	<i>Quercus lobata</i> valley oak	24	24	Good	Yes
33	<i>Quercus lobata</i> valley oak	7	7	Good/Fair	Yes
34	<i>Quercus lobata</i> valley oak	4,5,5,7	21	Fair	Yes
35	<i>Quercus lobata</i> valley oak	12	12	Fair	Yes
36	<i>Quercus lobata</i> valley oak	28	28	Good	Yes
37	<i>Quercus lobata</i> valley oak	17	17	Good/Fair	Yes
38	<i>Quercus lobata</i> valley oak	16	16	Good/Fair	Yes
39	<i>Quercus lobata</i> valley oak	40	40	Good/Fair	Yes
40	<i>Quercus lobata</i> valley oak	14,17,17	48	Fair	Yes
41	<i>Quercus lobata</i> valley oak	21	21	Good	Yes
42	<i>Quercus lobata</i> valley oak	7	7	Fair	Yes
43	<i>Quercus lobata</i> valley oak	20	20	Good	Yes
44	<i>Quercus lobata</i> valley oak	14	14	Good	Yes
45	<i>Quercus lobata</i> valley oak	20	20	Good	Yes
46	<i>Quercus lobata</i> valley oak	27	27	Good/Fair	Yes
47	<i>Quercus lobata</i> valley oak	7,11	18	Good/Fair	Yes
48	<i>Quercus lobata</i> valley oak	12	12	Fair	Yes
49	<i>Quercus lobata</i> valley oak	13	13	Good/Fair	Yes
50	<i>Quercus lobata</i> valley oak	15	15	Fair	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
51	<i>Quercus lobata</i> valley oak	25	25	Fair/Poor	Yes
52	<i>Quercus lobata</i> valley oak	14	14	Good/Fair	Yes
53	<i>Quercus lobata</i> valley oak	5,7,10,10	32	Fair	Yes
54	<i>Quercus lobata</i> valley oak	9	9	Fair	Yes
55	<i>Quercus lobata</i> valley oak	23	23	Good	Yes
56	<i>Quercus wislizeni</i> interior live oak	15	15	Fair	Yes
57	<i>Fraxinus latifolia</i> Oregon ash	12	12	Good/Fair	Yes
58	<i>Fraxinus latifolia</i> Oregon ash	13	13	Fair	Yes
59	<i>Quercus lobata</i> valley oak	9	9	Fair	Yes
60	<i>Quercus lobata</i> valley oak	13,14	27	Good/Fair	Yes
61	<i>Quercus lobata</i> valley oak	4,6,7,8,14	39	Fair	Yes
62	<i>Quercus lobata</i> valley oak	14	14	Good	Yes
63	<i>Quercus lobata</i> valley oak	23	23	Good	Yes
64	<i>Quercus lobata</i> valley oak	22	22	Good	Yes
65	<i>Quercus lobata</i> valley oak	40	40	Good/Fair	Yes
66	<i>Quercus lobata</i> valley oak	9,9	18	Fair	Yes
67	<i>Quercus lobata</i> valley oak	22	22	Good	Yes
68	<i>Fraxinus latifolia</i> Oregon ash	6,9,12,14,15	56	Good/Fair	Yes
69	<i>Fraxinus latifolia</i> Oregon ash	11	11	Fair	No
70	<i>Robinia pseudoacacia</i> black locust	9,11	20	Fair/Poor	Yes
71	<i>Fraxinus latifolia</i> Oregon ash	10,13	23	Fair	Yes
72	<i>Fraxinus latifolia</i> Oregon ash	4,5,5,5,6,7	32	Fair	Yes
73	<i>Fraxinus latifolia</i> Oregon ash	5,6,7,7,7,8,8,8,9,9,10,10,11	105	Fair	Yes
74	<i>Quercus lobata</i> valley oak	8	8	Fair	Yes
75	<i>Quercus lobata</i> valley oak	13,7,8	28	Fair	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
76	<i>Prunus</i> sp.	7,9,9,10	35	Fair/Poor	Yes
77	<i>Quercus lobata</i> valley oak	18	18	Good	Yes
78	<i>Prunus</i> sp.	6,7,7,7,7,10,11	62	Poor	Yes
79	<i>Quercus lobata</i> valley oak	19	19	Good/Fair	Yes
80	<i>Quercus lobata</i> valley oak	34	34	Good/Fair	Yes
81	<i>Quercus lobata</i> valley oak	13	13	Good/Fair	Yes
82	<i>Quercus lobata</i> valley oak	11	11	Fair	Yes
83	<i>Quercus lobata</i> valley oak	6,8	14	Fair	Yes
84	<i>Quercus lobata</i> valley oak	14	14	Good/Fair	Yes
85	<i>Quercus lobata</i> valley oak	13	13	Good/Fair	Yes
86	<i>Quercus lobata</i> valley oak	4,5,8,8	25	Fair/Poor	Yes
87	<i>Quercus wislizeni</i> interior live oak	8,13,14	35	Good/Fair	Yes
88	<i>Fraxinus latifolia</i> Oregon ash	8,9	17	Fair	Yes
89	<i>Quercus lobata</i> valley oak	10,12	22	Fair	Yes
90	<i>Prunus</i> sp.	5,8	13	Fair	Yes
91	<i>Quercus wislizeni</i> interior live oak	27	27	Good	Yes
92	<i>Quercus wislizeni</i> interior live oak	5,7,9,9,10	40	Good/Fair	Yes
93	<i>Prunus</i> sp.	4,5,5,6,6,7,8,8	49	Fair	Yes
94	<i>Prunus</i> sp.	4,8,8,8	28	Poor	Yes
95	<i>Quercus lobata</i> valley oak	11,12,12,14	49	Good/Fair	Yes
96	<i>Quercus lobata</i> valley oak	10,15,17	42	Good/Fair	Yes
97	<i>Fraxinus latifolia</i> Oregon ash	9,11,12	32	Good	Yes
98	<i>Prunus</i> sp.	4,5,8,10,11	38	Fair/Poor	Yes
99	<i>Fraxinus latifolia</i> Oregon ash	22	22	Poor	Yes
100	<i>Fraxinus latifolia</i> Oregon ash	10,11	21	Good/Fair	Yes
101	<i>Quercus lobata</i> valley oak	23	23	Fair	Yes
102	<i>Quercus wislizeni</i> interior live oak	15	15	Good	Yes
103	<i>Quercus lobata</i>	14	14	Fair	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
	valley oak				
104	<i>Quercus lobata</i> valley oak	6,7,11	24	Fair	Yes
105	<i>Quercus wislizeni</i> interior live oak	17	17	Good/Fair	Yes
106	<i>Quercus wislizeni</i> interior live oak	7	7	Good/Fair	Yes
107	<i>Quercus lobata</i> valley oak	4,8	12	Good/Fair	Yes
108	<i>Prunus</i> sp.	7,9	16	Fair	Yes
109	<i>Quercus lobata</i> valley oak	10,13,24	47	Good/Fair	Yes
110	<i>Quercus wislizeni</i> interior live oak	12,14	26	Fair	Yes
111	<i>Quercus lobata</i> valley oak	26	26	Fair/Poor	Yes
112	<i>Quercus wislizeni</i> interior live oak	13,14	27	Fair	Yes
113	<i>Quercus wislizeni</i> interior live oak	4,6	10	Fair	Yes
114	<i>Quercus lobata</i> valley oak	5,7	12	Fair	Yes
115	<i>Quercus lobata</i> valley oak	25	25	Good	Yes
116	<i>Quercus lobata</i> valley oak	15	15	Good	Yes
117	<i>Quercus lobata</i> valley oak	16,20	36	Good/Fair	Yes
118	<i>Quercus lobata</i> valley oak	19,21	40	Good/Fair	Yes
119	<i>Quercus lobata</i> valley oak	18	18	Good	Yes
120	<i>Quercus lobata</i> valley oak	21	21	Good	Yes
121	<i>Quercus lobata</i> valley oak	21	21	Good/Fair	Yes
122	<i>Quercus lobata</i> valley oak	25	25	Good	Yes
123	<i>Quercus wislizeni</i> interior live oak	26	26	Good	Yes
124	<i>Quercus lobata</i> valley oak	28	28	Good/Fair	Yes
125	<i>Quercus wislizeni</i> interior live oak	17,21	38	Good/Fair	Yes
126	<i>Quercus wislizeni</i> interior live oak	8,14	22	Fair	Yes
127	<i>Prunus</i> sp.	6,6,8,8	28	Fair/Poor	Yes
128	<i>Quercus lobata</i> valley oak	15,22	37	Fair/Poor	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
129	<i>Quercus lobata</i> valley oak	7,20	27	Good/Fair	Yes
130	<i>Quercus wislizeni</i> interior live oak	12,16	28	Fair	Yes
131	<i>Quercus lobata</i> valley oak	8,22,23	53	Good/Fair	Yes
132	<i>Quercus wislizeni</i> interior live oak	12	12	Fair	Yes
133	<i>Quercus lobata</i> valley oak	9,10,17	36	Fair	Yes
134	<i>Quercus lobata</i> valley oak	9,11,13	33	Fair	Yes
135	<i>Quercus lobata</i> valley oak	18	18	Good/Fair	Yes
136	Unknown ornamental ⁵	7	7	Good	No
137	<i>Quercus lobata</i> valley oak	10,11	21	Fair	Yes
138	<i>Quercus lobata</i> valley oak	9	9	Fair	Yes
139	<i>Quercus lobata</i> valley oak	6,8,9,10	33	Good/Fair	Yes
140	<i>Quercus lobata</i> valley oak	7,10,10,13	40	Good/Fair	Yes
141	<i>Quercus lobata</i> valley oak	20,21	41	Good	Yes
142	<i>Quercus wislizeni</i> interior live oak	11,14	25	Fair	Yes
143	<i>Quercus lobata</i> valley oak	10,13	23	Fair	Yes
144	<i>Quercus lobata</i> valley oak	3,5,7,8	23	Fair	Yes
145	<i>Quercus lobata</i> valley oak	12,15	27	Good/Fair	Yes
146	<i>Quercus lobata</i> valley oak	24	24	Good	Yes
147	<i>Quercus lobata</i> valley oak	14	14	Good/Fair	Yes
148	<i>Quercus lobata</i> valley oak	28	28	Good/Fair	Yes
149	<i>Quercus lobata</i> valley oak	12	12	Fair	Yes
150	<i>Quercus lobata</i> valley oak	13,16	29	Fair	Yes
151	<i>Quercus lobata</i> valley oak	13,21	34	Fair	Yes
152	<i>Quercus lobata</i> valley oak	16	16	Good/Fair	Yes
153	<i>Quercus lobata</i> valley oak	8	8	Fair	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
154	<i>Quercus lobata</i> valley oak	7	7	Good	Yes
155	<i>Quercus wislizeni</i> interior live oak	19	19	Good/Fair	Yes
156	<i>Quercus agrifolia</i> coast live oak	13	13	Good	Yes
157	<i>Quercus wislizeni</i> interior live oak	11,13	24	Fair	Yes
158	<i>Quercus lobata</i> valley oak	17,22,29	68	Good/Fair	Yes
159	<i>Quercus wislizeni</i> interior live oak	16	16	Good/Fair	Yes
160	<i>Quercus lobata</i> valley oak	17	17	Good	Yes
161	<i>Quercus lobata</i> valley oak	18	18	Good	Yes
162	<i>Quercus lobata</i> valley oak	15,31	46	Good/Fair	Yes
163	<i>Quercus lobata</i> valley oak	12,15,17	44	Fair	Yes
164	<i>Quercus lobata</i> valley oak	16	16	Good	Yes
165	<i>Quercus lobata</i> valley oak	7,15	22	Good/Fair	Yes
166	<i>Quercus lobata</i> valley oak	8,12,13,16	49	Fair	Yes
167	<i>Quercus lobata</i> valley oak	18	18	Good/Fair	Yes
168	<i>Quercus lobata</i> valley oak	15	15	Good	Yes
169	<i>Quercus lobata</i> valley oak	19	19	Good/Fair	Yes
170	<i>Quercus wislizeni</i> interior live oak	4,5,7	16	Fair	Yes
171	<i>Quercus lobata</i> valley oak	4,5,8	17	Fair	Yes
172	<i>Prunus</i> sp.	4,5,8,9	26	Fair	Yes
173	<i>Quercus wislizeni</i> interior live oak	6,11	17	Good/Fair	Yes
174	<i>Quercus wislizeni</i> interior live oak	4,7	11	Fair	Yes
175	<i>Quercus lobata</i> valley oak	11	11	Good/Fair	Yes
176	<i>Quercus lobata</i> valley oak	22,25	47	Good/Fair	Yes
177	<i>Quercus lobata</i> valley oak	20	20	Good/Fair	Yes
178	<i>Quercus lobata</i> valley oak	11	11	Good/Fair	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
179	<i>Quercus lobata</i> valley oak	7	7	Fair	Yes
180	<i>Quercus wislizeni</i> interior live oak	7,13	20	Good/Fair	Yes
181	<i>Quercus lobata</i> valley oak	9	9	Fair	Yes
182	<i>Quercus lobata</i> valley oak	14	14	Fair	Yes
183	Unknown ornamental ⁵	12,14	26	Fair	Yes
184	<i>Quercus lobata</i> valley oak	26	26	Fair	Yes
185	<i>Quercus lobata</i> valley oak	8,12	20	Fair	Yes
186	<i>Prunus</i> sp.	10,13	23	Poor	Yes
187	<i>Quercus lobata</i> valley oak	15	15	Fair	Yes
188	<i>Quercus agrifolia</i> coast live oak	14	14	Good	Yes
189	<i>Quercus lobata</i> valley oak	13	13	Good/Fair	Yes
190	<i>Quercus agrifolia</i> coast live oak	9	9	Good	No
191	<i>Quercus agrifolia</i> coast live oak	7	7	Good	No
192	<i>Quercus agrifolia</i> coast live oak	17,23	40	Good	Yes
193	Unknown ornamental ⁵	20	20	Fair	Yes
194	<i>Quercus lobata</i> valley oak	25	25	Good/Fair	Yes
195	<i>Quercus agrifolia</i> coast live oak	18	18	Good	Yes
196	<i>Quercus agrifolia</i> coast live oak	6,7	13	Fair	Yes
197	<i>Quercus lobata</i> valley oak	9	9	Fair	Yes
198	<i>Quercus lobata</i> valley oak	10	10	Good/Fair	Yes
199	<i>Quercus lobata</i> valley oak	8	8	Good/Fair	Yes
200	<i>Quercus lobata</i> valley oak	24	24	Good	Yes
201	<i>Quercus lobata</i> valley oak	8	8	Fair/Poor	Yes
202	<i>Quercus lobata</i> valley oak	15,17	32	Good/Fair	Yes
203	<i>Quercus agrifolia</i> coast live oak	9	9	Good/Fair	No
204	<i>Quercus lobata</i> valley oak	8	8	Good	Yes

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
205	<i>Quercus lobata</i> valley oak	25	25	Good	Yes
206	<i>Quercus lobata</i> valley oak	22	22	Fair	Yes
207	<i>Quercus lobata</i> valley oak	19	19	Fair	Yes
208	<i>Quercus agrifolia</i> coast live oak	26	26	Fair	Yes
209	<i>Quercus agrifolia</i> coast live oak	14,18	32	Good/Fair	Yes
210	<i>Juniperus</i> sp. Juniper	17	17	Fair/Poor	Yes
211	<i>Quercus agrifolia</i> coast live oak	12	12	Good	Yes
212	<i>Quercus agrifolia</i> coast live oak	11	11	Good/Fair	No
213	<i>Quercus agrifolia</i> coast live oak	14	14	Good	Yes
214	<i>Quercus agrifolia</i> coast live oak	11	11	Good	No
215	<i>Quercus lobata</i> valley oak	9	9	Good	Yes
471	<i>Quercus lobata</i> valley oak	10	10	Good	Yes
1000	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1001	<i>Quercus wislizeni</i> interior live oak	3,4	7	Good	No
1002	<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	14	14	Dead	No
1003	<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	21	21	Dead	No
1004	<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	12,14,14	40	Dead	No
1005	<i>Quercus wislizeni</i> interior live oak	1	1	Good	No
1006	<i>Populus fremontii</i> ssp. <i>fremontii</i> Fremont cottonwood	17	17	Dead	No
1007	<i>Quercus lobata</i> valley oak	7	7	Dead	No
1008	<i>Quercus lobata</i> valley oak	3	3	Fair	No
1009	<i>Quercus lobata</i> valley oak	3	3	Fair/Poor	No
1010	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
1011	<i>Quercus wislizeni</i> interior live oak	2,2	4	Good	No
1012	<i>Quercus wislizeni</i> interior live oak	3,4	7	Good	Yes
1013	<i>Quercus wislizeni</i> interior live oak	2,3	5	Good	No
1014	<i>Quercus wislizeni</i> interior live oak	1,1,3,3	8	Good	Yes
1015	<i>Quercus wislizeni</i> interior live oak	6,9	15	Good	Yes
1016	<i>Quercus lobata</i> valley oak	2	2	Good	No
1017	<i>Quercus lobata</i> valley oak	2	2	Good	No
1018	<i>Quercus wislizeni</i> interior live oak	3,4	7	Good	Yes
1019	<i>Quercus lobata</i> valley oak	4	4	Fair	No
1020	<i>Quercus lobata</i> valley oak	1	1	Good	No
1021	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1022	<i>Quercus wislizeni</i> interior live oak	1	1	Good	No
1023	<i>Quercus lobata</i> valley oak	2	2	Good	No
1024	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1025	<i>Quercus lobata</i> valley oak	1	1	Good	No
1026	<i>Quercus lobata</i> valley oak	2	2	Good	No
1027	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1028	<i>Quercus wislizeni</i> interior live oak	1	1	Good	No
1029	<i>Quercus wislizeni</i> interior live oak	1	1	Good/Fair	No
1030	<i>Quercus wislizeni</i> interior live oak	1	1	Good	No
1031	<i>Quercus wislizeni</i> interior live oak	1	1	Good	No
1032	<i>Quercus wislizeni</i> interior live oak	1	1	Good	No
1033	<i>Quercus wislizeni</i> interior live oak	1	1	Good	No
1034	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1035	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
1036	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1037	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1038	<i>Quercus lobata</i> valley oak	1	1	Good	No
1039	<i>Quercus lobata</i> valley oak	2	2	Good	No
1040	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1041	<i>Quercus lobata</i> valley oak	2	2	Good	No
1042	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1043	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1044	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1045	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1046	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1047	<i>Quercus lobata</i> valley oak	2	2	Good	No
1048	<i>Quercus lobata</i> valley oak	2	2	Good	No
1049	<i>Quercus lobata</i> valley oak	2	2	Good	No
1050	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1051	<i>Quercus lobata</i> valley oak	1	1	Good	No
1052	<i>Quercus lobata</i> valley oak	2	2	Good	No
1053	<i>Quercus lobata</i> valley oak	3	3	Good	No
1054	<i>Quercus lobata</i> valley oak	2	2	Good	No
1055	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1056	<i>Quercus lobata</i> valley oak	2	2	Good	No
1057	<i>Quercus lobata</i> valley oak	2	2	Good/Fair	No
1058	<i>Quercus lobata</i> valley oak	2	2	Good	No
1059	<i>Quercus lobata</i> valley oak	2	2	Good	No
1060	<i>Quercus lobata</i> valley oak	2	2	Good	No

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
1061	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1062	<i>Quercus lobata</i> valley oak	2	2	Good	No
1063	<i>Quercus lobata</i> valley oak	5	5	Good	No
1064	<i>Quercus lobata</i> valley oak	2	2	Good	No
1065	<i>Quercus lobata</i> valley oak	1	1	Fair	No
1066	<i>Quercus lobata</i> valley oak	6	6	Good	Yes
1067	<i>Quercus lobata</i> valley oak	3	3	Good	No
1068	<i>Quercus lobata</i> valley oak	3	3	Good	No
1069	<i>Quercus wislizeni</i> interior live oak	4	4	Good	No
1070	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1071	<i>Quercus lobata</i> valley oak	2	2	Good	No
1072	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1073	<i>Quercus lobata</i> valley oak	2	2	Good	No
1074	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1075	<i>Quercus lobata</i> valley oak	1	1	Good	No
1076	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1077	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1078	<i>Quercus lobata</i> valley oak	2	2	Good	No
1079	<i>Quercus lobata</i> valley oak	3	3	Good	No
1080	<i>Quercus lobata</i> valley oak	3	3	Good	No
1081	<i>Quercus lobata</i> valley oak	3	3	Good	No
1082	<i>Quercus lobata</i> valley oak	2	2	Good/Fair	No
1083	<i>Quercus lobata</i> valley oak	3	3	Good	No
1084	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1085	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
1086	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1087	<i>Quercus lobata</i> valley oak	3	3	Good	No
1088	<i>Quercus lobata</i> valley oak	3	3	Good	No
1089	<i>Quercus lobata</i> valley oak	2	2	Good/Fair	No
1090	<i>Quercus wislizeni</i> interior live oak	4	4	Good	No
1091	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1092	<i>Quercus lobata</i> valley oak	2	2	Good	No
1093	<i>Quercus lobata</i> valley oak	3	3	Good	No
1094	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1095	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1096	<i>Quercus lobata</i> valley oak	1	1	Fair	No
1097	<i>Quercus wislizeni</i> interior live oak	4	4	Good	No
1098	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1099	<i>Quercus lobata</i> valley oak	3	3	Good	No
1100	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1101	<i>Quercus lobata</i> valley oak	3	3	Good	No
1102	<i>Quercus lobata</i> valley oak	1	1	Fair	No
1103	<i>Quercus lobata</i> valley oak	2	2	Good/Fair	No
1104	<i>Quercus wislizeni</i> interior live oak	4	4	Good	No
1105	<i>Quercus lobata</i> valley oak	3	3	Good	No
1106	<i>Quercus lobata</i> valley oak	2	2	Good/Fair	No
1107	<i>Quercus lobata</i> valley oak	1	1	Fair	No
1108	<i>Quercus lobata</i> valley oak	2	2	Fair	No
1109	<i>Quercus wislizeni</i> interior live oak	8	8	Good	Yes
1110	<i>Quercus lobata</i>	4	4	Good	No

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
1111	<i>Quercus wislizeni</i> interior live oak	4	4	Good	No
1112	<i>Quercus wislizeni</i> interior live oak	3,3,3,4	13	Good	Yes
1113	<i>Prunus</i> sp.	10	10	Dead	No
1114	<i>Quercus wislizeni</i> interior live oak	5	5	Fair	No
1115	<i>Fraxinus latifolia</i> Oregon ash	5,6,6,8,10,11	46	Dead	No
1116	<i>Quercus lobata</i> valley oak	3	3	Fair	No
1117	<i>Prunus</i> sp.	6,9	15	Dead	No
1118	<i>Quercus lobata</i> valley oak	2	2	Good/Fair	No
1119	<i>Quercus lobata</i> valley oak	3	3	Good	No
1120	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1121	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1122	<i>Quercus wislizeni</i> interior live oak	2	2	Good	No
1123	<i>Quercus lobata</i> valley oak	1	1	Good/Fair	No
1124	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1125	<i>Quercus wislizeni</i> interior live oak	4	4	Good	No
1126	<i>Quercus lobata</i> valley oak	3	3	Good	No
1127	<i>Quercus wislizeni</i> interior live oak	3	3	Good	No
1128	<i>Quercus wislizeni</i> interior live oak	2	2	Fair	No
1129	<i>Quercus lobata</i> valley oak	2	2	Good	No
1130	<i>Quercus wislizeni</i> interior live oak	4	4	Good	No
1131	<i>Prunus</i> sp.	4,5,5,5	19	Poor	Yes
1132	<i>Quercus lobata</i> valley oak	5	5	Fair	No
1133	<i>Prunus</i> sp.	4,4,5	13	Poor	Yes
1134	<i>Prunus</i> sp.	4,6,6	16	Poor	Yes
1135	<i>Prunus</i> sp.	3,4,4,6,6	23	Poor	Yes
1136	<i>Prunus</i> sp.	5,5,6	16	Poor	Yes
1137	<i>Prunus</i> sp.	5,7,7,9	28	Poor	Yes
1138	<i>Prunus</i> sp.	3,3,5	11	Poor	No
1139	<i>Prunus</i> sp.	4,5	9	Poor	No
1140	<i>Prunus</i> sp.	4	4	Poor	No

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
1141	<i>Quercus lobata</i> valley oak	3,4,4,4,5	20	Fair	Yes
1142	<i>Quercus wislizeni</i> interior live oak	5	5	Good/Fair	No
1143	<i>Prunus</i> sp.	5,5,6	16	Poor	Yes
1144	<i>Quercus wislizeni</i> interior live oak	6	6	Fair	Yes
1145	<i>Quercus lobata</i> valley oak	6	6	Fair/Poor	Yes
1146	<i>Quercus wislizeni</i> interior live oak	2	2	Fair	No
1147	<i>Prunus</i> sp.	4	4	Fair/Poor	No
1148	<i>Quercus wislizeni</i> interior live oak	2,2,3,3	10	Good	Yes
1149	<i>Quercus wislizeni</i> interior live oak	3	3	Fair	No
1150	<i>Quercus wislizeni</i> interior live oak	4,5	9	Good	Yes
1151	<i>Quercus lobata</i> valley oak	4	4	Fair	No
1152	<i>Quercus wislizeni</i> interior live oak	3	3	Fair	No
1153	<i>Quercus lobata</i> valley oak	3	3	Fair	No
1154	<i>Quercus lobata</i> valley oak	2	2	Fair	No
1155	<i>Quercus wislizeni</i> interior live oak	3,5,5	13	Good	Yes
1156	<i>Quercus lobata</i> valley oak	2,4,4	10	Fair	Yes
1157	<i>Quercus wislizeni</i> interior live oak	2,3,3,5	13	Fair	Yes
1158	<i>Quercus lobata</i> valley oak	8	8	Fair	Yes
1159	<i>Quercus wislizeni</i> interior live oak	7	7	Fair	Yes
1160	<i>Quercus lobata</i> valley oak	6	6	Good/Fair	Yes
1161	<i>Quercus agrifolia</i> coast live oak	5	5	Fair	No
1162	<i>Quercus agrifolia</i> coast live oak	4,5	9	Fair	No
1163	<i>Quercus lobata</i> valley oak	5	5	Fair	No
1164	<i>Ligustrum lucidum</i> glossy privet	1,3,4,4	12	Fair	Yes
1165	<i>Juniperus</i> sp. Juniper	4,4,4	12	Fair	Yes
1166	<i>Quercus agrifolia</i>	1	1	Poor	No

Tree ID ¹	Species	DSH ² (inches)	Total DSH	Condition ³	Protected Tree ⁴
	coast live oak				
1167	<i>Quercus agrifolia</i> coast live oak	2	2	Fair/Poor	No
1168	<i>Quercus agrifolia</i> coast live oak	2,4	6	Good	No
1169	<i>Quercus agrifolia</i> coast live oak	2	2	Good	No
1170	Unknown ornamental ⁵	14	14	Good/Fair	Yes
1171	Unknown ornamental ⁵	12	12	Good	Yes
1172	Unknown ornamental ⁵	15	15	Good	Yes
1173	Unknown ornamental ⁵	12	12	Good	Yes
1174	Unknown ornamental ⁵	14	14	Good/Fair	Yes
1175	Unknown ornamental ⁵	16	16	Good/Fair	Yes
1176	Unknown ornamental ⁵	22	22	Good/Fair	Yes
1177	Unknown ornamental ⁵	26	26	Fair/Poor	Yes

¹ Tree IDs 100-129 were not tagged with a metal ID tag during the survey due to inaccessibility.

² DSH (diameter at standard height): the diameter of a tree measured at 4.5 feet above ground level. Trees with multiple trunks and DSH measurements are separated by a comma.

³ General health of the tree including root collar, trunk, limbs, foliage, structure, and general vigor.

⁴ Tree protected under Chapter 19.12 (Preservation and Protection of Trees) of the Rancho Cordova Code of Ordinances.

⁵ Due to the timing of the tree survey (January and February), deciduous ornamental trees were not bearing leaves which made identification of some tree species difficult.