APPENDIX A
NOTICE OF PREPARATION AND SCOPING COMMENTS

COUNTY OF COLUSA
COMMUNITY DEVELOPMENT DEPARTMENT
1213 Market Street, Colusa, CA 95932
(530) 458-0480

NOTICE OF PREPARATION
DRAFT ENVIRONMENTAL IMPACT REPORT

Date: June 24, 2024

To: State Clearinghouse, Agencies, and Interested Parties

From: Colusa County Community Development Department
1213 Market Street, Colusa CA, 95932

Subject: Notice of Preparation of a Draft Environmental Impact Report (EIR) for the Proposed Janus Solar and Battery Storage Project

The Purpose of This Notice of Preparation

The purpose of the Notice of Preparation (NOP) is to comply with Title 14 of the California Code of Regulations (CCR) Section 15082. Colusa County is the Lead Agency for the Project. The Project includes one or more discretionary approvals that trigger environmental review and County staff has determined that an environmental impact report (EIR) is the appropriate level of review.

The County is requesting input for the preparation of an EIR regarding the scope and content of environmental concerns from your agency's area of responsibility. The EIR will be utilized by various agencies for subsequent approvals. Please provide appropriate contact information for the person(s) in your agency for consultation regarding this Project that is subject to the California Environmental Quality Act (CEQA).

The NOP is available on the County website at:

https://www.countyofcolusa.org/996/Janus-Solar-Project

Project Location

The Project site includes two parcels with Assessor Parcel Numbers (APN) 018-050-005 and 018-050-006, which are approximately 630.5 and 255.7 acres, respectively, for a total area of 886.2 acres. The site is more generally located in Township 14 North, Range 4 West, Sections 1 and 2. The Project would connect to the existing PG&E Cortina Substation, which is located on Walnut Drive approximately 3 miles northeast of the Project site, as shown on the Site Plan (see Attachment A). The Project is approximately 6.5 miles southwest of the City of Williams. State Highway 20 runs approximately 1.5 miles from the Project site to the north and west.

The Project would connect to the electrical grid at the existing PG&E Cortina Substation via a roughly 4-mile long 60 kilovolt (kV) gen-tie line partially located within existing County right-of-way (ROW) along Walnut Drive and Spring Valley Road, as identified on the Site Plan (Attachment A).

Project Setting

The Project site is located in a transitional area of Colusa County between the farmed valley floor and the westerly foothills of the California Coast Range. Topographic and geotechnical surveys demonstrate that the site's topography varies from relatively flat to gently rolling hills with elevation changes of approximately 150 feet.

The Project site historically has been used for grazing activities and contains approximately 56 acres of land on the northwest portion that will continue to be used as a corral area to support the landowner's ongoing cattle grazing operation.

The Project site is under Williamson Act contract, although it is not irrigated and is not prime farmland. The EIR will include an assessment of potential Project-related impacts to agricultural resources including potential actions by the Board of Supervisors regarding the Williamson Act contracts.

Project Description

The Project will utilize approximately 666 acres of the approximately 886-acre Project site. Construction is planned to begin in July 2025 and conclude in June 2026, lasting approximately 11 months. The Project would generate and store up to 80 megawatts alternating current (MWAC), for the purpose of delivering renewable electricity to the grid in a cost-competitive manner.

A more detailed description is provided as follows:

Solar Arrays and Inverter Blocks - The solar PV power generation facilities would include solar arrays and inverter blocks. The solar PV modules (i.e., panels) would convert solar energy into direct current (DC) electricity. By design, the solar PV panels absorb sunlight to generate electrical output and are manufactured with anti-reflective glass that minimizes potential for glare. The PV modules would be mounted together in arrays on a modular tracking system such that the angle of the panels would change throughout the day. Each tracking assembly would consist of galvanized steel posts on which frames, ranging between 6 and 10 feet above grade, depending on the topography, would be placed. The Project would also include inverter blocks to convert the DC electricity from the solar arrays to alternating current (AC) electricity. The inverter blocks would be located along internal access roads within the solar arrays. Each inverter block would consist of enclosed inverter stations and a transformer approximately 10 feet in height above grade set on concrete or steel foundations. An electrical collection system would be installed underground in branch circuits to connect the electrical output of the energy facility to the on-site substation. Cable lengths would vary with the distance of the solar arrays to the on-site substation.

On-Site Substation - The Project would include an on-site substation located on an approximately 3-acre portion of the Project site within a perimeter fence. The substation would include a generator step-up transformer to increase the output voltage from the module blocks (34.5 kV) to the voltage of the 60-kV transmission line, protective relay and metering equipment, utility and customer revenue metering, and a station service transformer that would provide power to the substation and its weatherproof control house.

Battery Energy Storage System - The battery energy storage system (BESS) would be located to the east of the on-site substation within an approximately 4-acre area. The BESS would consist of lithium ion battery technology that would be used to either control electric frequency or store energy produced by the solar PV power generation facilities. The BESS would be housed in standard shipping containers.

Transmission Line and Point of Interconnection – The Project would connect to the electrical grid at the existing PG&E Cortina Substation via a roughly 4-mile long 60 kilovolt (kV) gen-tie line partially located within existing County right-of-way (ROW) along Walnut Drive and Spring Valley Road. The gen-tie line would be installed on existing, retrofitted, or new poles, either aboveground or underground depending on feasibility.

Related and Supporting Facilities - The Project-related supporting facilities and infrastructure would include an operations and maintenance (O&M) facility, internal service roads, security fencing, gates and lighting, a construction laydown yard, and other temporary construction areas.

Operations and Maintenance Facility - The O&M facility would include office space, storage, and sanitary facilities. The sanitary facilities would drain to an on-site septic system. Water would be supplied by either on-site wells or trucked to the site. An equipment storage area and a gravel parking lot for employees, visitors, and emergency response vehicles would be located adjacent to the container. The O&M facility would be located in the vicinity of the on-site substation and will occupy an area of approximately 1 acre.

Internal Service Roads - Internal service roads would be constructed to access the Project, for ingress and egress to the Project site, to individual Project components, and between the solar array rows to facilitate installation, maintenance, and cleaning of the solar panels. Roads throughout the arrays would provide access to the inverter equipment pads and substations and would be graveled. The roads would be approximately 12 feet wide.

Security Fencing, Gates, and Lighting - The site perimeter would be bordered by a 6- to 8-foot-tall woven wire or chain link fence. This type of fence would provide necessary security for the Project while also being friendly to wildlife. A locked security gate would be located at the site entrance.

Construction Laydown Yards - Temporary, construction laydown yards would be included in the Project. The laydown yards would, collectively, be approximately 5 acres in size and located within the Project site. The laydown yards would be graded with a gravel surface and temporarily fenced to provide storage for supplies, vehicles, and equipment during construction.

Potential Environmental Impacts

Pursuant to CEQA and Title 14 of the California Code of Regulations (CCR) Section 15064, the discussion of potential environmental impacts in the EIR shall be focused on impacts identified by the County as potentially significant. The EIR will also evaluate cumulative impacts of the Project when considered in conjunction with other related past, current, and reasonably foreseeable future projects. The Lead Agency has initially identified the following environmental considerations as potentially significant effects of the Project:

Aesthetics – The Project is located in a rural area surrounded by existing agricultural uses consisting of grazing lands and scattered residential buildings and accessory buildings. The Project would alter the existing character of the site and surrounding area. The Project site is located to the east of Spring Valley Road and residents and travelers in the area would observe alterations to the existing landscape. The EIR will provide an assessment of the Project's potential impacts to visual resources, as well as the potential for glint and glare impacts.

Agriculture and Forestry Resources - The site is unirrigated and current activities are limited to grazing. The Project site is designated as Farmland of Local Importance by the California Farmland Mapping and Monitoring Program. The Project site is under Williamson Act contract but is not designated Prime or Unique Farmland. The EIR will provide an assessment of potential Project-related impacts to agricultural resources including potential actions by the Board of Supervisors regarding the Williamson Act contracts.

Air Quality and Greenhouse Gas Emissions - The EIR will describe regional and local air quality in the vicinity of the proposed Project site and evaluate impacts to air quality associated with the construction and operation of the Project. An air quality study will establish baseline conditions, and Project and cumulative impacts. The proposed Project's estimated air emissions will be compared to emissions thresholds of the Colusa County Air Pollution Control District and California Air Resources Board. The EIR will describe existing air quality conditions within the Sacramento Valley Air Basin and will evaluate the proposed Project's potential air quality impacts. Potential air quality emissions include fugitive dust and combustion exhaust. The EIR will also include a discussion of greenhouse gas emissions and the proposed Project's contribution to potential cumulative impacts on global climate change.

Biological Resources - Construction of the proposed Project may modify biotic habitats used by sensitive plant and wildlife species. As such, site development may be regulated by state or federal agencies, in addition to being subject to CEQA. A preliminary biological assessment of special status species was completed in November 2019. The assessment indicated that the Project site primarily consists of non-native grasslands, with smaller areas of disturbed potential wetland, riparian woodland, and native forbs are present on the Project site. The Project site contains ephemeral and riverine drainages, which have been heavily disturbed due to historical and existing ranching activities. Additional plant and wildlife studies and a wetland delineation study will be prepared prior to publication of the EIR, and the Project's potential impacts to biological resources will be further analyzed in the EIR.

Cultural and Tribal Cultural Resources - The County will initiate the AB 52 process by notifying seven tribes, six from the NAHC lists and another who has requested consultation in the past. A records search, tribal consultation, and a cultural pedestrian survey will be included for the Project site. There are no known historic architectural resources on the site. The EIR will examine the Project's potential to affect cultural resources and tribal cultural resources.

Energy - The EIR will include an analysis of the Project's potential to result in impacts on energy conservation and/or consumption.

Geology/Soils and Mineral Resources - Initial construction, buildout, and operation of the proposed Project could result in impacts related to geotechnical hazards, including seismicity of the area, potential for liquefaction and subsidence, potential for soil erosion, soil stability characteristics, and shrink/swell potential of site soils, as applicable. Mineral resources in the County are generally related to gravel along existing waterways. While no significant waterways exist on the Project site, gravel resources have the potential to be present due to the proximity of the Coast Range and possible alluvial fans. If paleontological resources exist on the site, ground-disturbing activities could result in potentially significant impacts. The EIR will provide a geological evaluation of the proposed Project site to establish baseline conditions and assess the potential for impacts related to geology, soils, mineral resources, and paleontological resources.

Greenhouse Gas Emissions - The temporary construction activities associated with the proposed Project, which would involve operation of heavy off-road equipment, on-road trucks, and construction worker commute trips, would generate greenhouse gas (GHG) emissions. However, as a solar facility, the proposed Project is expected to displace traditional sources of electricity production that involve combustion energy sources (e.g., burning coal, fuel oil, or natural gas). As such, the provision of solar energy by the proposed Project would produce GHG-free electricity that is anticipated to offset GHGs that would otherwise be generated by traditional sources of electricity. The potential impacts associated with GHG emissions generated during construction of the Project and the potential GHG offsets resulting from operation of the Project will be evaluated in the EIR. The proposed Project's estimated GHGs will be evaluated for consistency with the Colusa County General Plan (adopted July 31, 2012) and 2022 State Scoping Plan.

Hazards and Hazardous Materials - There are no known hazards or hazardous materials located within the proposed Project site according to the Phase 1 Environmental Site Assessment. The EIR will evaluate the potential for the proposed Project to result in, or be affected by, impacts associated with hazards and hazardous materials.

Hydrology/Water Quality - According to the Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (Map Numbers 06011C0625F and 06011C0650F), the majority of the Project site is located within Zone X. Zone X is an area determined to be outside the 0.2 percent annual chance floodplain. There are some locations along drainages that are identified as Zone A and are considered to be within the 100 Year Flood Plain. The EIR will analyze the proposed Project's impacts on hydrology and water quality.

Land Use/Planning - The EIR will describe the proposed Project's potential effects on existing and planned uses on and around the Project site. The General Plan land use designation is Agricultural Upland (AU). The site is zoned as Foothill Agriculture (F-A), which has a minimum parcel size of 80 acres. The designations are intended to promote and support agricultural uses such as grazing. The F-A zoning designation allows for energy generation for off-site use with a Use Permit. The EIR will provide a discussion of relevant local plans and policies.

Noise - The EIR will describe the noise levels associated with construction and operations and will compare these levels to applicable noise thresholds to determine whether the proposed Project would result in potentially significant noise impacts. A noise study will establish baseline, Project, and cumulative impacts.

Population/Housing - The EIR will evaluate the Project's effect on population and housing in the local area based on estimations of Project employment and distribution of the employees by place of residence.

Public Services - The EIR will evaluate the proposed Project's potential to create an adverse impact to schools, and will also evaluate effects on local police and fire services along with parks and regional recreational facilities.

Recreation - Recreational activities in the vicinity of the Project will be analyzed in the EIR.

Transportation/Traffic - The EIR will evaluate the proposed Project's impact on regional and local transportation facilities based on a transportation analysis that will assess both construction-related impacts (heavy truck trips and construction worker trips), as well as operational impacts (employee and visitor trips).

Construction-related vehicles would primarily access the Project site from State Route 20, Walnut Drive and Spring Valley Road. The EIR will evaluate traffic safety, road damage impacts, and agricultural aircraft operations.

Utilities and Service Systems - The proposed Project would not require extension/connection to urban services such as potable water service, wastewater treatment, and storm-water drainage. However, the EIR will analyze drainage, wastewater, natural gas, and electrical systems and the proposed Project's impact on these systems. The EIR will analyze water supply for construction and maintenance activities, as well as describe the existing solid waste facilities that serve the Project site.

Wildfire – As of April 1, 2024, the proposed Project site is designated by CALFIRE as a High Fire Hazard Severity Zone within the State Responsibility Area (SRA). The Project site is not within a Fire-Threat Area as designated by the California Public Utilities Commission (CPUC). The EIR will evaluate the potential impacts of the Project related to wildfire.

Growth Inducement - The EIR will evaluate the proposed Project's potential for growth inducement resulting from the construction and operation of the Project, as well as new demand for housing, and goods and services. The effect of primary and secondary increases in employment and economic activity will be discussed.

Cumulative Impacts - The EIR will discuss the incremental contribution of the proposed Project to cumulative effects of other past, current, and planned and reasonably foreseeable projects in the vicinity. The summary of projects method will be used where applicable. Also, to the extent feasible, the cumulative impacts analysis will quantify the degree of severity of any cumulative impact.

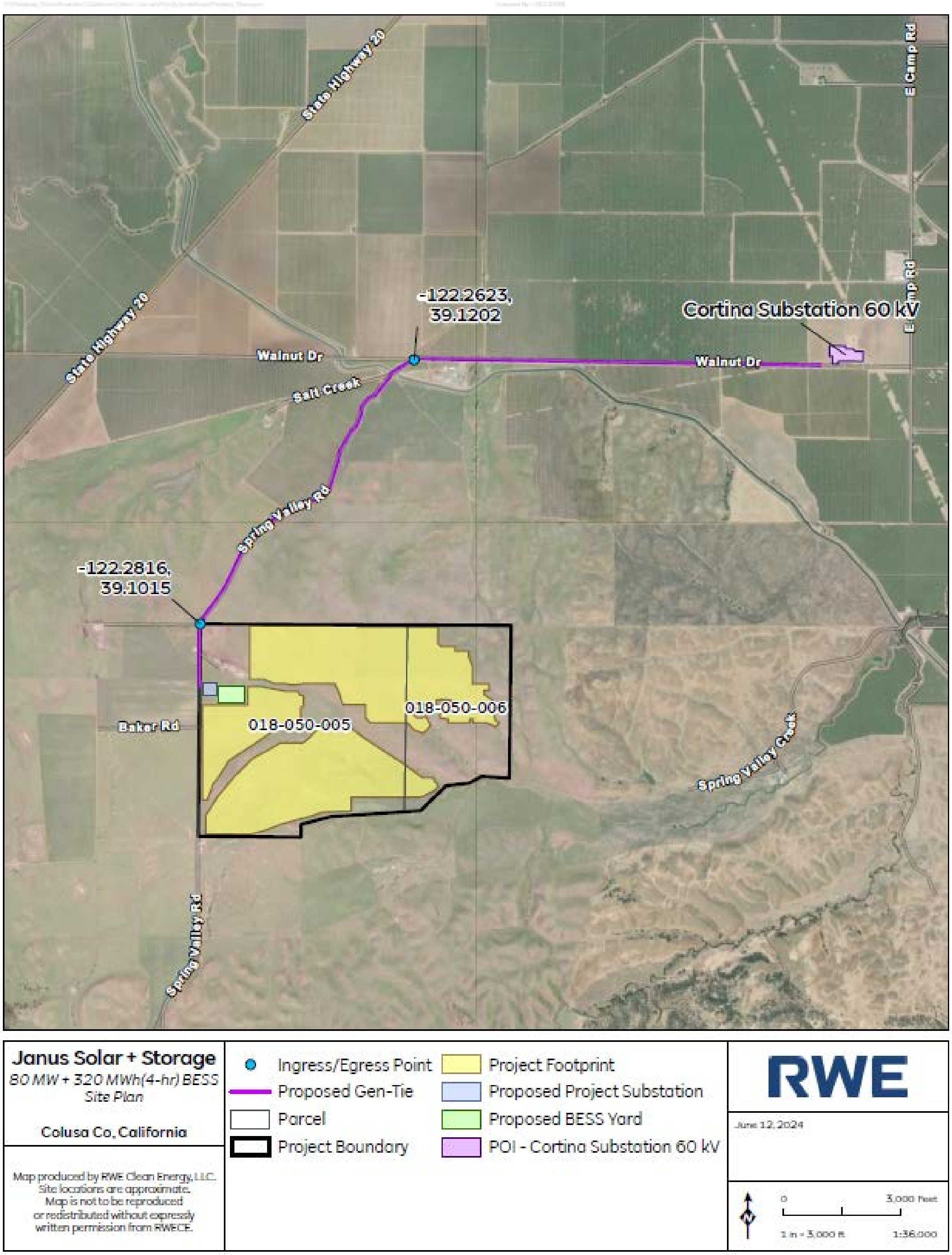
Alternatives Evaluated Under the EIR - In accordance with CEQA Guidelines Section 15126.6, the EIR will describe a reasonable range of alternatives to the proposed Project that are capable of meeting most of the proposed Project's objectives, but would avoid or substantially lessen any of the significant effects of the proposed Project. The EIR will also identify any alternatives that were considered but rejected by the Lead Agency as infeasible and briefly explain the reasons why. The EIR will also provide an analysis of a No Project Alternative.

Opportunity for Public Comment

Interested individuals, groups, and agencies may provide to the County of Colusa Community Development Department, written comments on topics to be addressed in the EIR for the proposed Project. Because of time limits mandated by state law, comments should be provided no later than 5:00 p.m. on July 31, 2024. Agencies that will need to use the EIR when considering permits or other approvals for the proposed Project should provide the name of a staff contact person. Please send all comments to:

Greg Plucker, Community Development Director
Colusa County Community Development Department
1213 Market Street, Colusa CA, 95932
(530) 458-0480
gplucker@countyofcolusa.com

Attachment A: Janus Solar and Battery Storage Project - Site Plan



Scoping Comments Addressed in the Draft EIR

Janus Solar and Battery Storage Project

The NOP for the Janus Solar Project was published on June 25, 2024, after which a 30-day scoping period was opened to solicit public comments to ensure environmental concerns from the public were addressed in the Draft Environmental Impact Report (DEIR). Multiple comments were received during the scoping process. However, not all comments received were related to the environmental consequences of the Project.

The table below is intended as a summary of the comments that were received during the scoping period that specifically pertain to CEQA and identify sections of the DEIR in which they have been addressed. All other comments received that do not pertain to the environmental consequences of the Project are expected to be addressed outside of the EIR.

Commentor	Comment	Response Location
Beth Ferrini Katsaris	Will the EIR analyze water runoff? How will drainage be handled?	**Chapter 4.10,** *Hydrology and Water Quality*; Impact 4.10-3
Beth Ferrini Katsaris	Will the EIR analyze hazardous materials in the solar panels? What happens if they break or leak?	**Chapter 4.9**, *Hazards and Hazardous Materials*; **Section 4.9.1.3**, Solar Photovoltaic Panels
Beth Ferrini Katsaris	Why don't we use another site? Will alternative sites be analyzed? Should consider a site that is not located a high fire hazard zone.	**Chapter 5**, *Alternatives Analysis*; **Section 5.7,** Northeast Site
Beth Ferrini Katsaris	How much of the land will become impervious due to the project?	**Chapter 4.10**, *Hydrology and Water Quality*; Impact 4.10-3
Beth Ferrini Katsaris	Would the site be considered prime farmland if it were irrigated? Why is that not considered?	**Chapter 4.2**, *Agriculture and Forestry Resources*; Impact 4.2-1
Beth Ferrini Katsaris	I would like the applicants to consider the alternative of putting an orchard instead of solar project?	**Chapter 3,** *Introduction to the Alternatives*; **Section 3.3.2**, Orchard
Beth Ferrini Katsaris	Traffic was not adequately addressed in the previous EIR	**Chapter 4.17**, *Transportation*; Impact 4.17-2
Beth Ferrini Katsaris	The project is within a 'Very high fire hazard' zone per CalFire and the NOP says it is a 'High hazard zone'. It also says it's not in a fire hazard zone per the CPUC – why is there a discrepancy between the two?	**Chapter 4.20**, *Wildfire*; **Section 4.20.1.4,** CAL FIRE-Designated Wildfire Hazard Zones; **Section 4.20.1.5,** CPUC-Designated Wildfire Hazard Zones

Commentor	Comment	Response Location
Jean Terkildsen, Matt Ferrini, and Beth Ferrini Katsaris	An alternative to the addition of above ground power poles needs to be analyzed. Power poles make aerial applications for farming operations more dangerous and sometimes impossible. The installation of underground power lines needs to be considered in the EIR.	**Chapter 5**, *Alternatives*; **Section 5.6**, Undergrounded Gen-Tie
Stephen Marsh	Where will water come from? How will water be delivered to the project site during construction and operation?	**Appendix H-2:** *Addendum to the Water Supply Assessment* **Chapter 4.10,** *Hydrology and Water Quality***;** Impact 4.10-2
Stephen Marsh, Karan Marsh, Annamarie Louie, Antoinette Marsh, Vernette Marsh, and Leslie Marsh	Will the land use permit grazing under the panels?	**Chapter 4.11**, *Land Use/Planning*; **Table 4.11-1**
Stephen Marsh, Karan Marsh, Annamarie Louie, Antoinette Marsh, Vernette Marsh, and Leslie Marsh	How long is construction? Days per week, hours, dust suppression?	**Chapter 2**, *Project Description*; **Section 2.5.8.5**, Construction Schedule and Workforce **Chapter 4.3**, *Air Quality*; **Section 4.3.7**, Mitigation Measures
Stephen Marsh, Karan Marsh, Annamarie Louie, Antoinette Marsh, Vernette Marsh, and Leslie Marsh	How will the applicant ensure the project will be decommissioned?	**Chapter 2**, *Project Description*; **Section 2.5.10**, Decommissioning and Site Reclamation
Stephen and Karan Marsh	Will Spring Valley Road be maintained during construction and who will pay for repairs, if warranted?	**Chapter 4.17**, *Transportation*; **Section 4.5.6** Mitigation Measures
Stephen Marsh, Karan Marsh, Annamarie Louie, Antoinette Marsh, Vernette Marsh, and Leslie Marsh	How much water will be required by the project during construction and operation? Will it be potable or non-potable?	**Appendix H**: *Water Supply Assessment*
California Department of Fish and Wildlife	The DEIR should clearly identify and describe all short-term, long-term, permanent, or temporary impacts to biological resources under CDFW's jurisdiction, including all direct and foreseeable indirect impacts caused by the proposed Project.	**Chapter 4.4**, *Biological Resources*; **Section 4.4.5**, Impacts Analysis
California Native Plant Society	Request for an alternatives analysis to examine an alternative location.	**Chapter 5**, *Alternatives Analysis*; **Section 5.7,** Northeast Site
California Native Plant Society	Consider consulting with wildlife agencies over the scope and appropriate protocols for special status species surveys	**Chapter 4.4,** *Biological Resources***;** Impact 4.4-1

Commentor	Comment	Response Location
California Native Plant Society	Consider the “lake effect” as the project falls within the Pacific Flyway.	**Chapter 4.4,** *Biological Resources***;** Impact 4.4-1
California Native Plant Society	Analyze the cumulative impacts on biological resources.	**Chapter 4.4,** *Biological Resource***; Section 4.4.8,** Cumulative Impacts
Native American Heritage Commission	Discuss impacts to Trial Cultural Resources	**Chapter 4.5,** *Cultural Resources***; Section 4.5.5,** Impacts Analysis **Chapter 4.18,** *Tribal Cultural Resources;* **Section 4.18.4,** Impacts Analysis
Native American Heritage Commission	Consider feasible mitigation.	**Chapter 4.5,** *Cultural Resources;* **Section 4.5.6,** Mitigation Measures
Regional Water Quality Control Board	Project must obtain a Construction Storm Water General Permit	**Chapter 4.10,** *Hydrology and Water Quality***; Section 4.10.4,** Impact Analysis
Regional Water Quality Control Board	Project must obtain Clean Water Act Section 401 and 404 Permits	**Chapter 4.10,** *Hydrology and Water Quality***; Section 4.10.4,** Impact Analysis
Regional Water Quality Control Board	Project must obtain Waste Discharge Requirement permit	**Chapter 4.10,** *Hydrology and Water Quality***; Section 4.10.4,** Impact Analysis
Regional Water Quality Control Board	Project must obtain NPDES Permit.	**Chapter 4.10,** *Hydrology and Water Quality***; Section 4.10.4,** Impact Analysis

NATIVE AMERICAN HERITAGE COMMISSION

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

July 19, 2024

Greg Plucker
County of Colusa Community Development Department
1213 Market Street
Colusa CA 95932

Re: 2024061043, Janus Solar and Battery Storage Project, Colusa County

Dear Mr. Plucker:

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

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

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

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

AB 52

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

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

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

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

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

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

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

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

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

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

SB 18

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

Some of SB 18's provisions include:

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

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

NAHC Recommendations for Cultural Resources Assessments

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

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

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

3. Contact the NAHC for:

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

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

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

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

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

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

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

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse

Janus Solar EIR Comment

Submitted to:
Greg Plucker, Senior Planner
County of Colusa Planning and Building Department
.
Colusa, CA 95667 - via email:

Submitted by:
Residents: Stephen Marsh, Karan Marsh

This letter is to document our opposition of the proposed Janus Solar Project at **Spring Valley Rd (SVR)** and Walnut Rd in Williams, CA, County of Colusa. Following are where we see this proposal conflicts with the existing Colusa County General Plan and general concerns:

Property Taxes

Please explain how/how often the following items will be taxable, i.e., one-time or for the life of the operation? If Appreciable?

- Ownership - Will the project be on leased land or owned land?
- BES
- On-site Sub Station
- Power Lines - To/from the road to the industrial complex. How will these lines be taxed?

Financing: Who pays for the construction and maintenance. The last Solar Panel proposal did not address who (or what fund) will be used for the development.

Water: How many gallons of water will be used for the construction and operation? What type of water, i.e., potable, grey, drinking? Where will water be sourced? What is water transport conditions (how) and schedule (how often)? Explain

Fire: The local fire department should have a fire plan for dealing with solar facilities and the BES prior to permit approval. This plan should include either a signed and enforceable mutual aid or automatic aid. What extinguishing systems will be available on day 1, on site?

BES Battery Energy Storage (BES): Will the BES be a taxable AND appreciable structure? Will the BES be sodium rather than lithium? Explain with evidence which is the safer element.

Power Lines: Will lines be on county property, or will they require an easement over private property?

Construction: Define the percentage of union project construction workers compared to verified residents (who have resided in Colusa County for over 12 consecutive months).

Road maintenance SPV and Walnut roads: Explain who pays for and who provides maintenance on primary roads. During construction and throughout operations.

GOAL 2.1: LAND USE Protection and conservation of existing communities and rural centers...
Will the land use permit grazing under the panels or not?

Policy 2.1.1.7 requires...as adequate roadways, utilities, and other public service infrastructure become available and wildfire hazards are mitigated as required by an approved Fire Safe Plan.

1. Should an emergency require evacuation from the proposed site, we anticipate increased bottlenecks at SVR exit and Walnut Rd with such a proposal which will impact our SPV neighbors negatively.
2. SPV is in the High Fire Hazard Severity Zone based on the CALFIRE maps. CALFIRE is in the middle of updating the zones. Should a proposal be approved and if CalFire's risk changes, impacts would likely be felt with canceled fire insurance policies, and or increased premiums.
3. The Williams fire station is not equipped to adequately respond to a major fire incident in such proposed facilities. What fees from the applicant are to be provided for emergency services training to respond to the site once needed?
4. How would a disaster at the facility impact its rural neighbors? There are no safeguards within the proposal to safeguard its residential rural and suburban neighbors from potential disasters.
5. The proposal includes solar power; it is not evident PGE has permitted, approved or confirmed their ability to absorb that generation of power?
6. The proposal recommends the use of a temporary in-ground septic system for their 150+ room transient facilities? We do not recall seeing such a "commercial" provision in the General Plan.
7. The Colusa County staff is not sufficiently staffed to accommodate the increased workload of inspections and reviews of elder care, community housing and hotels. We work with Colusa and understand they are understaffed without this proposal being approved.
8. The Proposal will likely increase traffic volume, speed and road rage incidents.

GOAL 2.3: NATURAL LANDSCAPE FEATURES Maintain the characteristic natural landscape features unique to each area of the County.

9.

GOAL 2.4: EXISTING COMMUNITY IDENTITY Maintain and enhance the character of existing rural and urban communities, emphasizing both the natural setting and built design elements which contribute to the quality of life, economic health, and community pride of County residents.

10. We see the Proposal going against keeping rural as rural as established by this General Plan goal.
11. Residents have moved to this rural suburb for its peace and quiet, as our family did back in the 1900s. Permitting such an industrial facility defeats the rural community identity.
12. We, and our neighbors will see an increase in light, dust and noise pollution and operation of night events.
13. How long is construction planned? How many days per week, hours? Dust suppression?

So many unanswered questions from this proposal. Many thanks for your consideration and review of our comments against this proposal.

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
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

July 17, 2024

Greg Plucker
Community Development Director
Colusa County Community Development Department
1213 Market Street
Colusa, CA 95932

Subject: JANUS SOLAR AND BATTERY STORAGE
NOTICE OF PREPARATION
SCH NO. 2024061043

Dear Greg Plucker:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Preparation (NOP) from Colusa County Community Development Department for the Janus Solar and Battery Storage Project (Project) in Colusa County pursuant 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 and wildlife. 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.

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.) The Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the

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[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.

extent implementation of the Project as proposed may result in “take” as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required. CDFW also administers the Native Plant Protection Act, Natural Community Conservation Program, and other provisions of the Fish and Game Code that afford protection to California’s fish and wildlife resources.

PROJECT DESCRIPTION SUMMARY

The Project site is located on private property in an area of Colusa County primarily used for cattle grazing. From the Project site, the nearest community is Williams, approximately 6.5 miles to the northeast. The Project site includes two parcels with Assessor’s Parcel Numbers 018-050-005-000 and 018-050-006-000, which are 630.5 and 255.7 acres, respectively, totaling 886.2 acres. The Project will utilize approximately 666 acres of the approximately 886-acre Project site. The project would generate and store up to 80 megawatts of alternating current, for the purpose of delivering renewable electricity to the grid.

The solar Photovoltaic (PV) power generation facilities would include solar arrays and inverter blocks. The PV modules would be mounted together in arrays on a modular tracking system such that the angle of the panels would change throughout the day. Each tracking assembly would consist of galvanized steel posts on which frames, ranging between 6 and 10 feet above grade, depending on the topography, would be placed. An electrical collection system would be installed underground in branch circuits to connect the electrical output of the energy facility to the on-site substation. The Project would include an on-site substation located on an approximately 3-acre portion of the Project site within a perimeter fence. The battery energy storage system (BESS) would be located to the east of the on-site substation within an approximately 4-acre area. The BESS would consist of lithium-ion battery technology that would be used to either control electric frequency or store energy produced by the solar PV power generation facilities. The BESS would be housed in standard shipping containers.

The Project would connect to the electrical grid at the existing PG&E Cortina Substation via a roughly 4-mile long 60 kilovolt gen-tie line partially located within existing County right of way along Walnut Drive and Spring Valley Road. The gen-tie line would be installed on existing, retrofitted, or new poles, either aboveground or underground depending on feasibility.

The Project-related supporting facilities and infrastructure would include an operations and maintenance facility, internal service roads, security fencing, gates and lighting, a construction laydown yard, and other temporary construction areas.

The Project description should include the whole action as defined in the CEQA Guidelines section 15070 and should include appropriate detailed exhibits disclosing the Project area including temporary impacted areas such as equipment staging area, spoils areas, adjacent infrastructure development, and access and haul roads if applicable.

ENVIRONMENTAL SETTING

CDFW recommends that the DEIR includes a complete environmental assessment of the existing biological conditions within the Project area including but not limited to the type, quantity and locations of the habitats, flora and fauna. Maps and information regarding any survey efforts should be included within the DEIR. Any surveys of the biological conditions and related environmental analysis should be completed by qualified personnel with sufficient experience in the work performed for the Project. CDFW recommends that the California Natural Diversity Database (CNDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats.

To identify a correct environmental baseline, the DEIR should include a complete and current analysis of endangered, threatened, candidate, and locally unique species potentially present in or near the Project area. CDFW recommends placing special emphasis on evaluating the presence and status of sensitive habitats and any biological resources that are rare or unique to the area. For this Project this includes, but is not limited to vernal pools, streambeds, riparian vegetation, oak woodlands, and open grasslands that may be present within the Project boundaries or its vicinity.

Species-specific surveys should be conducted at the appropriate time to ascertain the presence of species within the Project vicinity. Results from recent surveys conducted within the Project limits and its vicinity should be included within the DEIR. CDFW recommends using the widely accepted survey protocols. Additional information regarding survey protocols can be obtained at https://wildlife.ca.gov/Conservation/Survey-Protocols. Project site assessments for rare plants and rare natural communities follow CDFW's 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The guidance document is available here: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline.

IMPACT ANALYSIS AND MITIGATION MEASURES

The DEIR should clearly identify and describe all short-term, long-term, permanent, or temporary impacts to biological resources under CDFW's jurisdiction, including all direct and foreseeable indirect impacts caused by the proposed Project. The DEIR should define the threshold of significance for each impact and describe the criteria used to determine each threshold (CEQA Guidelines, § 15064, subd. (f)).

CDFW is concerned based on the information provided in the DEIR that the proposed Project may result in direct, indirect and cumulative adverse impacts to biological resources within the Project area. The Project area may reduce riparian and terrestrial habitats, including habitats for sensitive species with the system and could result in the direct "take" of CESA-listed species. The lead agency should consider: (1) the Project's cumulative impacts to natural resources and determine if that contribution would result in a significant impact. (2) present, past, and probable future projects producing related impacts to resources; And (3) reducing vegetation and habitat within the area and the potential cumulative effects.

CDFW recommends that the DEIR identify habitats and provide a discussion of how the proposed Project will affect their function and value, and provide scientifically supported discussion of the significance of the project's impacts and any proposed avoidance, minimization, and/or mitigation measures to address the Project's impact upon fish and wildlife and their habitat. CDFW recommends that the DEIR identify natural habitats and provide a discussion of how the proposed Project will affect their function and value. The DEIR should incorporate mitigation performance standards that would ensure that any significant impacts are reduced as expected. Mitigation measures proposed in the DEIR 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.

Threatened, Endangered, Candidate Species

The Project area as shown in the NOP includes habitat for State and federally listed (and candidate) species such as Crotch's Bumble Bee (*Bombus crotchii*), giant garter snake (*Thamnophis gigas*), Swainson's hawk (*Buteo swainsoni*) (SWHA) and tricolored blackbird (*Agelaius tricolor*). If during the environmental analysis for the Project, it is determined that the Project may have the potential to result in "take", as defined in the Fish & G. Code, section 86, of a State-listed species, the Draft Environmental Impact Report (DEIR) shall disclose an Incidental Take Permit (ITP) or a consistency determination (Fish & G. Code, §§ 2080.1 & 2081) may be required prior to starting construction activities. The DEIR must include all avoidance and minimization to reduce the impacts to a less than significant level. If impacts to listed species are expected to occur even with the implementation of these measures, mitigation measures shall be proposed to fully mitigate the impacts to State-listed species (Cal. Code Regs., tit. 14, § 783.2, subd.(a)(8)).

CDFW encourages early coordination to determine appropriate measures to offset Project impacts and facilitate future permitting processes and to coordinate with the U.S. Fish and Wildlife Service to coordinate specific measures if federally-listed species are present within the Project limits.

Species of Special Concern

The Project area as shown in the NOP includes suitable habitat for CDFW Species of Special Concern (SSC) such as Burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), Northern harrier (*Circus hudsonius*), and Loggerhead shrike (*Lanius ludovicianus*).

CDFW recommends that the project mitigate potential impacts to sensitive species by conducting surveys of the project site and the surrounding vicinity. Surveys should be designed to disclose the presence of SSC and be conducted at the time of year when the species are both evident and identifiable. Field surveys should be scheduled to coincide with the appropriate breeding or other life history stage of animals. If the survey discloses that sensitive species are present on or adjacent to the project site, then the DEIR should contain mitigation proposals which reduce the project's impacts to those species to a level that is less than significant.

Lake and Streambed Alteration Program

The DEIR 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 DEIR 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 DEIR 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:

1. Substantially divert or obstruct the natural flow of any river, stream or lake;

2. Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or

3. Deposit debris, waste or other materials where it may 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 DEIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended, since modification of the Project may avoid or reduce impacts to fish and wildlife resources. All LSA Notification types must be submitted online through CDFW's Review/EPIMS Permit Information Management System (EPIMS). For more information about EPIMS, please visit https://wildlife.ca.gov/Conservation/Environmental-Review/EPIMS. More information about LSA Notifications, paper forms and fees may be found at 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.

CDFW relies on the lead agency DEIR 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. CDFW recommends incorporating this information into any forthcoming CEQA document(s):

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.

3. Notification of a Streambed Alteration Agreement under Fish and Game Code section 1602, since an ephemeral drainage and associated tributaries are present within the project area and maintain a hydrologic connection to Spring Creek.

Migratory Birds and Birds of Prey

Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C., §§ 703-712). CDFW implemented the MBTA by adopting the Fish & G. Code section 3513. Fish & G. Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Potential habitat for nesting birds and birds of prey is present within the Project area. The proposed Project should disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the Project footprint and its close vicinity. Appropriate avoidance, minimization, and/or mitigation measures to avoid take must be included in the DEIR. Measures to avoid the impacts should include species specific work windows, biological monitoring, installation of noise attenuation barriers, etc.

General Avian and Bat Impacts

The primary threats of solar array development to avian and bat species appear to be from collisions and electrocutions. Collisions with PV equipment can include direct collisions into guy wires or transmission lines. Other collisions are less understood such as the "lake effect", first described in Horvath et al. (2009). Utility-scale PV facilities may attract migrating waterfowl and shorebirds through the "lake effect", where birds and/or insects can mistake a reflective solar facility for a water body and collide with the structures as they attempt to land on the panels. Injuries from collisions with collectors/reflectors may result in immediate death due to fatal blunt trauma, or stranding. Stranding can occur when an individual is injured by collision impact and is unable to take off or when they require a running start on the water's surface. The document should include evaluation of the potential impacts to migratory birds and measures to reduce the risks of avian collisions such as adding special patterns to the photovoltaic panels.

Linear features such as generator-tie lines, collector lines, and interior and perimeter fences present collision hazard to birds, and electric lines represent a potential electrocution hazard (Huso, et al. 2016). The DEIR should include measures that require all powerlines to be placed underground, if feasible. When lines cannot be placed underground, appropriate avian protection designs should be employed, such as being be fitted with bird flight diverters or visibility enhancement devices. As a minimum requirement, the collection system should conform with the most current edition of the Avian Power Line Interaction Committee guidelines to prevent electrocutions found at this link: https://www.aplic.org/Electrocutions.

The DEIR should include a requirement for avian mortality surveys to meet the following objectives:

- Estimate the total number of birds and bats killed at the Project site within a specified time period.
- Determine whether there are any spatial or temporal/seasonal patterns of total bird fatality.
- Evaluate species composition and which taxonomic groups may be at risk.
- Provide results that allow comparisons with other solar sites and to evaluate changes in fatality due to adaptive management.

The DEIR should include a requirement to develop an Avian and Bat Protection Plan or Bird and Bat Conservation Strategy (BBCS) in coordination with the U.S. Fish and Wildlife Service (USFWS) and CDFW. The purpose of the BBCS is to:

- Describe baseline conditions for bird and bat species present within the Project site, including results of site-specific surveys;
- Assess potential risk to birds and bats based on the proposed activities;
- Specify conservation measures that will be employed to avoid, minimize, and/or mitigate any potential adverse effects to these species;
- Describe the incidental monitoring and reporting techniques that will take place during construction; and provide details for post-construction monitoring; and specify the adaptive management process that will be used to address potential adverse effects on avian and bat species.

Swainson's hawk Protocol-level Surveys

The Project is located within suitable foraging and nesting habitat for SWHA (*Buteo swainsoni*), a state threatened species, also protected under Fish and Game Code section 3503, 3503.5 and the federal Migratory Bird Treaty Act (MBTA). Therefore, impacts to

SWHA may be considered potentially significant unless adequate mitigation is incorporated.

CDFW recommends the DEIR incorporate a requirement for a qualified biologist to conduct SWHA protocol-level surveys during all survey periods throughout the nesting season prior to the commencement of all construction activities, regardless of potential vegetation removal. Protocol-level surveys should be conducted within a minimum 1/2-mile radius around the project area in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000) as follows:

- January to March 20- One (1) Survey, All Day
- March 20 to April 5- Three (3) Surveys, Sunrise to 1000 / 1600 to Sunset
- April 5 to April 20- Three (3) Surveys, Sunrise to 1200 / 1630 to Sunset
- April 21 to June 10- Monitoring
- June 10 to July 30- Three (3) Surveys, Sunrise to 1200 / 1600 to Sunset

Nests found within 0.50 miles should be monitored either continuously or periodically depending on the construction or maintenance activities and level of disturbance until young have fledged, are feeding independently and are no longer dependent on the nest. Additionally, CDFW recommends on-site monitoring by a qualified biologist familiar with the species, as buffers may need to be increased based on the birds' tolerance level to the disturbance as activities change and as the birds' transition through different stages of the nesting cycle.

Loss of Swainson's hawk Foraging Habitat

To reduce impacts to SWHA to less than significant, CDFW recommends the follow measure is incorporated into the DEIR:

<u>Compensatory Mitigation for Permanent Impacts to SWHA Foraging Habitat.</u> RWE Solar Development, LLC (RWE) shall quantify the total acreage of Project impacts to SWHA foraging habitat. Two seasons of temporary impacts to foraging habitat shall be considered and mitigated for as permanent impacts. To reduce impacts to SWHA foraging habitat to a less than significant level, RWE will mitigate impacts by either purchasing SWHA foraging habitat credits from a CDFW-approved conservation bank OR by providing both the permanent protection and management of Habitat Management (HM) lands, including calculation and deposit of management funds as approved by CDFW.

CDFW recommends that a combination of onsite and off-site conservation should be evaluated in the DEIR.

Pollinators

The DEIR should include measures to increase use by pollinators or by designing the Project to optimize a balance between electrical generation and agricultural production

(Jossi 2018) or native plants. Solar sites can be planted with deep-rooted native flowers and grasses that capture and filter storm water, build topsoil, and provide abundant and healthy food for bees and other insects that provide critical services to our food and agricultural systems as described on the Fresh Energy website at https://fresh-energy.org/beeslovesolar/. CDFW recommends consideration of pollinator patches through the project site, particularly along fence lines and habitat edges.

Wildlife Connectivity

The DEIR should 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. The DEIR should preserve, protect, and avoid impacts to natural, undisturbed habitats that provide movement corridors for sensitive wildlife species. If corridors are adversely affected, damaged habitat shall be replaced with habitat of equivalent value or enhanced to enable the continued movement of species. Particular attention shall be focused on retaining habitat areas that are contiguous with other existing natural areas and/or wildlife movement corridors.

Mass Grading and Solar Panel Site Selection

Mass grading permanently alters the landscape decreasing habitat complexity and natural landform. Some solar arrays require flat, even ground to be constructed and some developers prefer solar arrays to have a gravel or road base beneath the panels for ease of access and maintenance. The construction of solar array footings and other operation-related structures can result in degradation of habitat, habitat loss, and fragmentation. Estimates suggest that close to 90 percent or more of the vernal pool habitat in the Central Valley and in other parts of the state has been lost. Recent studies have documented continuing vernal pool habitat loss in recent decades, with over 13 percent of the remaining Central Valley vernal pool habitat (137,100 acres) being lost from baseline conditions in 1976-1995 to the conditions in 2005.

The activities associated with clearing may also disturb associated soil seed banks that sustain local plant populations. Clearing may also cause fragmentation and loss of sensitive habitats (Bauer et al. 2015) and create edge effects that permeate far beyond the solar array (Harris 1988, Murcia 1995). Removal of vegetation has also been shown to make communities vulnerable to colonization by invasive plant species and to spread pathogens (Mallery 2010). Permanent vegetation or wetland conversion may result in the loss of special-status plant or animal species and the loss of habitat that supports numerous wildlife species.

CDFW recommends avoiding mass grading activities to the maximum extent possible when developing site layout and ensuring solar panel supports are sited outside of streams, wetlands, and vernal pools.

ENVIRONMENTAL DATA

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

FILING FEES

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

CONCLUSION

Pursuant to Public Resources Code §21092 and §21092.2, the Department requests written notification of proposed actions and pending decisions regarding the proposed 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 provide early comments on the Project and to assist in identifying and mitigating Project impacts on biological resources. CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts. Questions regarding this letter or further coordination should be directed to Michael Shun, Senior Environmental Scientist (Specialist) at (916) 767-8444 or michael.shun@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Tanya Sheya
1ABC45303752499...

Tanya Sheya
Environmental Program Manager

ec: Dylan Wood, Senior Environmental Scientist (Supervisor)
Michael Shun, Senior Environmental Scientist (Specialist)
Department of Fish and Wildlife

Office of Planning and Research, State Clearinghouse, Sacramento

REFERENCES

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Mr. Greg Plucker

Community Development Director

County of Colusa

1213 Market Street

Colusa, CA 95932

Re: Draft EIR- Janus Solar Project

Dear Mr. Plucker,

Please address these areas of concern:

1. Specific plan for the location and the amount of Williams city water supply needed for the project.
2. What agreement has been made with the City of Williams for payment of water, including damage done to city streets by heavy water trucks?
3. What financial effect will the removal of the project site from the Williamson Act have on the adjacent property owners?
4. Will the project site be considered commercial development?

Additional oral comments were submitted at the scoping meeting, July 11, 2024.

Jean Terkildsen

Jean Terkildsen

P.O. Box 562

Williams, CA 95987

July 25, 2024

To: Greg Plucker, Community Development Director Colusa County

From: Jean Terkildsen, Matt Ferrini and Beth Ferrini Katsaris

Re: Proposed Janus Solar and Battery Storage Project

The following written comments are provided to reiterate the verbal comments made by the Ferrini Family at the Public EIR Scoping meeting held on July 11, 2024 at 3:00pm in the Colusa County Board of Supervisors Chambers.

Thank you for your consideration of our comments. We stand in agreement with the decision of the Colusa County Planning Commission and the Colusa County Supervisors in denying the Use Permit for the previous Janus Solar Project. We encourage the office of Colusa County Community Development to seek out and find an alternative site location that can safely and appropriately accommodate an industrial, commercial solar project such as the one proposed by Janus. A project site should never be located in a High Fire Danger Zone. Spring Valley Road lands are in the Williamson Act for a reason, and that is to preserve the agricultural lifestyle of the area.

1. In reading the "Notice of Completion & Environmental Document Transmittal" we reviewed the "Project Issues Discussed in Document" list and and agree that the topics of Air Quality, Flooding, Public Services, Soil Erosion, Toxic/Hazardous, Traffic/Circulation, Land Use, Water Quality, Land Use and the Cumulative Effects of the Project should be studied in the EIR.

   We request Colusa County, as the Lead Agency, add several important topics to the list of "Project Issues Discussed in Document" list:

   A. Drainage/Absorption
   B. Economic/Jobs
   C. Fiscal
   D. Other: Emergency Management Plan developed with CA Emergency Management Agency.

2. With regard to including the above areas in the EIR we specifically want to see the following issues studied due to the direct, negative impacts the proposed Solar and Battery Storage Project would have on our adjacent ranch and our existing agricultural orchard and livestock operations.

A. First and foremost, we want to see a complete risk analysis of the **Fire Danger** associated with the Janus Solar and Battery Storage Project plan to locate a BESS, with an on-site substation, in the CA State Fire Marshall designated High Fire Danger Zone located along Spring Valley Road. What would be the impact to insurance policies for neighboring agricultural operations? An alternate site needs to be studied and proposed that is not located in a designated High Fire Danger zone.

B. **Traffic Issues** - Traffic count studies are not sufficient or adequate.

The dangers and reality that Spring Valley Road is a one way, gravel road with no alternate route available for ingress and egress needs to be acknowledged. This fact should be reason to disqualify the proposed project. The narrowness of the gravel road makes it impossible for emergency vehicles to access locations and residents to evacuate at the same time. No alternate road is available.

The issue of winter flooding needs to be studied as the road has been completely flooded during past winter storms. Siting an 886 acre Commercial Solar Project along Spring Valley Road is not compatible with the existing farming and livestock operations in the area. We believe the project is detrimental to the health, safety and welfare of the residents in the area and to our economic endeavors.

C. **An alternative to the addition of above ground power poles needs t**o be analyzed. Power poles make aerial applications for farming operations more dangerous and sometimes impossible. The installation of underground power lines needs to be considered in the EIR.

D. **Drainage issues and run-off** need to be extensively studied as to the impact on neighboring orchards.

E. The serious issue of **Dust** creation and its impact on nearby orchards needs to be studied. We suggest UC Davis Farm Advisors be consulted as the application of dust off or watering roads is not sufficient in any way.

F. The EIR needs a much more detailed and comprehensive study of the **fiscal and economic impacts the project could have with regard to neighboring property values** being devalued due to the proximity to the project.

G. The EIR needs to look at the fact that the proposed site is within the Westside Water District boundaries and could receive water from the WSWD when computing the LESA score. The ground on the proposed site is virgin soil and could definitely be put into farming orchards and crops given the advances in irrigation and farming. Since a LESA score is subjective, **a second LESA score should be included in the EIR based on if water were to be contracted by WSWD or the Sites Reservoir Project,** for comparison purposes, rather than simply rule out such use as "speculative" thereby giving the ground a low LESA score.

H. **Fiscal analyses of the costs** to the County and increased costs to local taxpayers for the County to provide services such as road maintenance for the life of the project should be included in the EIR.

I. The EIR must study the **water needs** for the proposed project. Specific numbers for the amount of City of Williams water needed, the costs of the water, and the legality of using public water for a private project need to be analyzed.

J. The EIR must analyze the **Building and Decommissioning Processes and provide a detailed fiscal analysis of the Bonding required in each phase.** Decommissioning, the possibility of early decommissioning and the possibility of abandonment of the project, each need to be analyzed for costs and financial responsibility in order to protect the neighboring ranches and the County.

K. **The issue of building a commercial facility that handles hazardous materials needs to by analyzed in the EIR and a detailed, specific plan for safety must be provided *prior the issuing of a Use Permit,* not after the Use Permit is issued and before a Building Permit is issued.**

Thank you for the opportunity to request these topics be included in the EIR.

Sincerely,
Jean Terkildsen
Matt Ferrini
Beth Ferrini Katsaris

Janus Solar EIR Comment

July 25, 2024

Submitted to:
Greg Plucker, Community Development Director
County of Colusa Community Development Department
1213 Market Street
Colusa, CA 95932

Submitted by: Williams Landowners: Stephen Marsh, Karan Marsh, Annamarie Louie, Antoinette Marsh, Vernette Marsh, Leslie Marsh

This letter is to document our continued opposition of the proposed Industrial Janus Solar Facility at Spring Valley Rd (SVR) and Walnut Rd in Williams, CA, County of Colusa. Following are our general concerns:

Property Taxes:

Please explain how/how often each of the following items will be taxable, i.e., one-time or for the life of the operation? And if assets are considered Appreciable?

- Ownership - has the project site been leased or purchased? If neither, what is the plan?
- Battery Energy Storage (BES): Will the BES be a taxable AND appreciable structure?
- Panels should be taxed for life until they are removed
- Bad scenario-taxes for first 5 years then for whatever reason, panels are not generating what they thought, or design is obsolete. Income for county needs to continue until panels are gone On-site Sub Station
- Power Lines - To/from the road to the industrial complex? How will these lines be taxed?
- Will energy generated off site be stored locally in the BES on site? If so, how will the offsite generated electricity be taxed when sold or when it re-enters the electric grid.

Financing:

Who pays for the construction and maintenance? The last Solar facility proposal did not address who (or what fund) will be used during the development. Are you expecting the County to pay or will the Developer absorb all construction material and labor costs?

Income:

- guaranteed not dependent on profit or power generation.
- Could be an also but not a solely
- Explain scenario if company goes bankrupt and leaves panels and then county is getting no income. Bond will only cover so much and for so long.

Water:

- How many gallons of water estimated to be used for the construction and
- How many gallons are estimated to be used during operation?
- What type of water, i.e., potable, grey, drinking? Where will water be sourced?
- What is water transport conditions (how) and schedule (how often)? Explain
- If water is coming from the City of Williams, what purchase and transport agreement will be in place?

Fire:

- The local fire department should have a fire plan for dealing with solar facilities and the BES prior to permit approval. This plan should include a signed and enforceable mutual aid or automatic aid.
- What extinguishing systems will be available on day 1, on site?
- Should an emergency require evacuation from the proposed site, we anticipate increased bottlenecks at SVR exit and Walnut Rd with such a proposal which will impact our SPV neighbors negatively.
- SPV is in the High Fire Hazard Severity Zone based on the CALFIRE maps. Should a proposal be approved and if CalFire's risk changes, impacts would likely be felt with canceled fire insurance policies, and or increased premiums. How will you accommodate such changes?
- The Williams fire station is not equipped to adequately respond to a major fire incident in such proposed facilities. What fees from the applicant are to be provided for emergency services training to respond to the site once needed?
- How would a disaster at the facility impact its rural neighbors? There are no safeguards within the proposal to safeguard its residential rural and suburban neighbors from potential disasters.
- Why is the project selecting BES lithium rather than sodium batteries? Provide evidence to demonstrate which is the safer element.
- requires...as adequate roadways, utilities, and other public service infrastructure become available and wildfire hazards are mitigated as required by an approved Fire Safe Plan.

Power Lines:

- Will lines be on county property, or will they require an easement over private property?
- Provide evidence PGE has permitted, approved or confirmed their ability to absorb that generation of power. PGE acknowledging your project is not sufficient.

Construction:

- Define the percentage of union project construction workers compared to verified residents (who have resided in Colusa County for over 12 consecutive months).
- The project must adhere to the established July 32, 2012, Colusa General Plan. Any plan revision draft should not be the final decision maker on any elements of the proposed project.

Road maintenance SPV and Walnut roads:

1. Explain who pays for, who provides maintenance for, and how often, on primary roads. During construction and throughout operations.

   a. The impact to the roads will be way beyond regular traffic during construction.
   b. The impact will be much worse during bad weather
   c. Residents and locals know to keep off or cut back on transit on non-paved roads during bad weather. Construction will continue during rainy weather.

LAND USE Protection and conservation of existing communities and rural centers
Will the land use permit grazing under the panels or not?

NATURAL LANDSCAPE FEATURES Maintain the characteristic natural landscape features unique to each area of the County.

EXISTING COMMUNITY IDENTITY Maintain and enhance the character of existing rural and urban communities, emphasizing both the natural setting and built design elements which contribute to the quality of life, economic health, and community pride of County residents.

1. We see the Proposal going against keeping rural as rural as established by this General Plan goal.
2. Residents have moved to this rural suburb for its peace and quiet, as our family did back in the 1900s. Permitting such an industrial facility defeats the rural community identity.
3. We, and our neighbors will see an increase in light, dust and noise pollution and operation of night events.
4. How long is construction planned? How many days per week, hours? Dust suppression?

Many thanks for your consideration and review of our comments opposing this proposal.

Stephen Marsh
(530) 902-3827
sfmarsh@yahoo.com

July 31, 2024

TO: County of Colusa
Community Development Department
1213 Market Street
Colusa, CA 95932
Sent via email: gplucker@countyofcolusa.com

FROM: Antoinette Marsh, antemarsh@gmail.com

RE: Notice of Preparation, Draft Environmental Impact Report for the Proposed Janus Solar and Battery Storage Project

This correspondence and attached files are in addition to my contributions provided in a prior correspondence dated July 25, 2023. I would kindly request confirmation of receipt via email.

To be compliant with Title 14 of the California Code of Regulations (CCR) Section 15082, beside complying with the time, notice and method of notice requirement, the information provided should include properly stated information containing sufficient information for the agencies to apply the "best available science," to the project (Sierra Club v. Wagner, 2008).

As I read the Notice of Preparation, June 24, 2024, I noted several issues which could cause confusion or the inability of an agency to apply "best available science" to the project or understand the project due to conflicting information.

On page 2 & 3, it states, "…would generate and store up to 80 megawatts of alternative current (MWAC). Yet, the Notice of Completion & Environmental Document Transmittal (Appendix C) states, "Battery Storage 320 MW Hours." Within the County provided documentation there are internal inconsistency with this value of energy storage. This then relates to if energy is generated elsewhere, non-local, coming off the grid, and to be stored on site OR if all the storage capacity onsite is from locally on site produced energy. The storage whether 320 or 80 are significantly different numbers and will impact the scope and data analysis for an EIR. In order for an appropriate EIR, correct project descriptions are required.

On page 3, it indicates "standard shipping containers." This is vague and impossible for an agency to interpret what a "standard shipping container" criteria or description includes (thickness of the walls, sides, and top, ventilation, material, welded or bolted, etc).

On page 4, it states, "installed on existing, retrofitted, or new poles, either aboveground or underground depending on feasibility." Again, this is vague and indeterminate language likely causing confusion for the agency responsible for drafting and providing appropriate level of environmental impact. Here, we have essentially 4 different variables relating to the transmission line without any definition relating to the term, "feasibility." Feasibility could relate to costs, easements, time, geology, impact to traffic, soil structure, etc. The County needs to provide agencies sufficient information relating to the term, "feasibility" so the responding agency may apply the "best available science" to the project.

On page 6, "Greenhouse Gas Emissions," involves more than just the listed items. Attached to this letter are pictures from a solar installation which shows plastic/vinyl coated wires (petroleum products), imported gravels, and other supplies that involve greenhouse gas emissions associated with their production or movement to the site. These other site-specific infrastructure items need to be included into the "Greenhouse Gas Emissions" calculations.

Page 7, "Noise" needs to be considered and modeled for the geographic site location. Attached to this email is a digital audio file of a solar farm installation, open flat ground for miles, with the recording taken ¼ mile from where the poles were being installed into tillable farm ground on a Saturday morning.

On page 8, "EIR will describe a reasonable range of alternatives to the proposed Project…" However, if the project is not correctly defined in sufficient detail then significant effects cannot be properly identified.

On page 8, "Opportunity for Public Comment" indicates "comments should be provided no later than 5:00 p.m. on July 31, 2024. However, again internally the documents provided by the county have inconsistent information as "Notice of Completion and Environmental Document Transmittal" Appendix C, show under "Local Public Review Period" as an "Ending Date of July 24, 2024." What exactly is the timelines for the County announcements, and end of commend period? Did an agency see the July 24, 2024, deadline and will intentionally not comment due to assuming of a missed deadline. I understand through our telephone conversation last week that the state clearing house did have a date of July 31, 2024. Perhaps an addendum or printed page showing this should have been included in the posted to the county public notice materials.

With Form F, Summary Form for Electronic Document Submittal, it states, "Construction is planned for the first half of 2025." However, under the Notice of Preparation Draft Environmental Impact Report, Project Description on page 2 of 10, it states, "Construction is planned to begin in July 2025 and conclude in June 2026, lasting approximately 11 months." Again, this inconsistent project timeline within the provided documentation is confusing and provides inconsistent information to the agencies asked for their input.

The Summary Form for Electronic Document Submittal is missing information from the "areas of controversy known to the Lead Agency" section because it is missing statements concerning the importation of energy to the site (if that is still planned for this project). At this point the descriptions are not completely clear if only energy generated on site will be stored or if energy generated off site will be "imported" and "stored" on site (see above).

Several trustee agencies for the project should also be included such as the Regional Air Quality Control Board, US Bureau of Reclamation (due to their very important canal location to the present site), these are listed in the Reviewing Agencies Checklist but not included in the "responsible or trustee agencies for the project." Moreover, these two agencies are only denoted with an "X" and not a "S" to indicate they received documentation. Air and water are critical parts of Environmental Impact Statement and assessment; thus the County should take the extra steps to ensure documents have been specifically sent to these two agencies, not just merely put into the "State Clearinghouse Distribution" list serve.

On the Notice of Completion & Environmental Documentation Transmittal form it states, “commercial” and not “industrial.” The county needs to scrutinize this and determine if a >50 MW plant is merely commercial or is it industrial? Does the county or state have a definition for this size project and the proposed storage capacity?

On the Notice of Completion & Environmental Documentation Transmittal form under “other” it states, Battery Storage 320 MW Hours” and the footnote on the same page indicates, “The project would generate and store up to 80 megawatts alternating current.” There is inconsistency in the amount of storage energy on the documents provided to give notice of the project.

For the reasons above, listed as individual concerns and/or in total, I do not believe that the county has complied with the strict requirements of Title 14, CCR Section 15082.

Files included (2)

- FoxSquirrelSolarFarm.pdf (images)
- Johnston Rd.m4A (Audio)

July 31, 2024

Greg Plucker, Community Development Director
Colusa County Community Development Department
1213 Market Street
Colusa CA, 95932
Delivered via email to: gplucker@countyofcolusa.com

RE: Notice of Preparation of a Draft Environmental Impact Report – Janus Solar and Battery Storage Project (SCH 2024061043)

Dear Mr. Plucker:

Thank you for the opportunity to provide comments in response to the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the proposed Janus Solar and Battery Storage Project (Project). These comments are submitted on behalf of the California Native Plant Society (CNPS) and Defenders of Wildlife (Defenders).

CNPS is a non-profit environmental organization with more than 12,500 members in 36 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plant heritage and to preserve it for future generations through the application of science, research, education, and conservation. We work closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices. CNPS supports science-based, rational policies and actions, on the local, state, national, and international levels, that lead to the continued study and enjoyment of the state's botanical resources.

Defenders has 2.1 million members and supporters in the United States, 316,000 of which reside in California. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To that end, Defenders employs science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions to prevent the extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

The proposed Project is a solar photovoltaic facility that would generate and store up to 80 MW. The proposed project site is 886.2 acres of private land within Colusa County. It is located in the transitional area between the farmed valley floor and the eastern foothills of the California Coast Ranges. It is approximately 6.5 miles southwest of the City of Williams and 1.5 miles south and east of Highway 20. The site is under Williamson Act contract and has historically been used for domestic livestock grazing activities, which will continue on approximately 56 acres on the northwest portion of the Project site.

Comments

We offer the following comments on the scope of the DEIR for the proposed Project:

1. **Project Location**

   The proposed Project site contains sensitive, high-value biological resources and provides important habitat to numerous special-status wildlife species, including but not limited to the following:[1]

Table 1: Special-Status Species' Habitat Within the Project Site

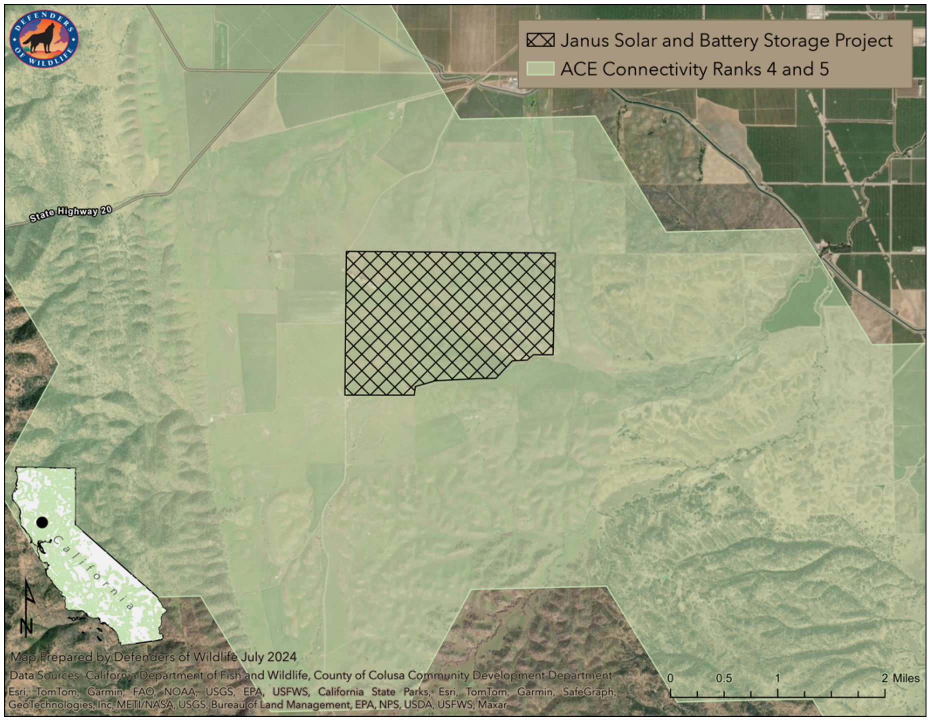
Common Name	**Scientific Name**	**Status**
American badger	*Taxidea taxus*	State Species of Special Concern
Burrowing owl	*Athene cunicularia*	State Species of Special Concern
Foothill yellow-legged frog - north coast DPS	*Rana boylii pop. 1*	State Species of Special Concern
Swainson's hawk	*Buteo swainsoni*	State Threatened
Bent-flowered fiddleneck	*Amsinckia lunaris*	CRPR 1B.2
Ferris' milk-vetch	*Astragalus tener var. farrisiae*	CRPR 1B.1
Keck's checkerbloom	*Sidalcea keckii*	Federally Endangered CRPR 1B.1

The Project site also provides habitat corridors and linkages for species, as designated by the California Department of Fish and Wildlife's (CDFW) Areas of Conservation Emphasis (ACE) project. Connectivity is one of the main outputs of ACE that examines how an area contributes to animal movement and general ecological flow. A 4 or 5 ACE Connectivity ranking is the highest level of score and is comprised of essential corridors and linkages. The California Energy Commission (CEC) utilizes the ACE Connectivity data as one of the biological planning priorities in the 2023 Land-Use Screens for Electric System Planning, a process to revise the land-use screens utilized in state electricity planning processes.[2] Specifically, Ranks 4 and 5 are used as an exclusion for statewide solar and onshore wind resource potential estimates to avoid lands with high conservation or connectivity value. The Project is located in an area with a 4 or 5 ACE Connectivity Ranking, as depicted below, and therefore should be avoided for solar development. The DEIR must analyze all connectivity and linkage impacts, and include appropriate avoidance, minimization and mitigation measures. Furthermore, we encourage any compensatory mitigation to prioritize any connectivity or linkages identified to ensure permanent protection.

[1] California Natural Diversity Database. Accessed 07/18/2024. https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

[2] See https://experience.arcgis.com/experience/de6ab11146bf47068ff294d87780ce00

Figure 1: Approximate Vicinity of the Project with ACE Connectivity Ranks 4 & 5



Development projects should avoid areas with high biological resource conservation values, areas of high biodiversity, or connectivity corridors. While mitigation is an essential tool for conservation, it is difficult and expensive to mitigate for connectivity when a project is located in a high ACE ranking area such as the Project site. We encourage the project proponent to avoid developing projects within areas identified for exclusion within the CEC's Land-Use Screens. We request the alternatives analysis within the DEIR examine an alternative location situated on suitable land as identified by the CEC.

2. Protocol Surveys

Considering the potential for sensitive species and habitats to be located on the Project site, the biological resources surveys must adhere to wildlife agency-approved species-specific protocols and must identify the appropriate avoidance, minimization and mitigation measures based on survey results. We recommend consultation with the responsible trustee wildlife agencies to determine the scope and appropriate protocols for the biological surveys. Species-specific surveys should cover 100 percent of the Project area and adjacent habitat within wildlife agency-recommended survey buffers. If special-status species are observed, we recommend consultation with CDFW and the US Fish and Wildlife Service (USFWS) to establish the recommended impact avoidance, minimization, and mitigation measures, including compensatory mitigation and the need to obtain an Incidental Take Permit (ITP).

If habitat management (HM) lands are deemed necessary due to survey results, they must contain suitable habitat for the species and be managed in perpetuity by a qualified conservation organization as defined by CA Civil Code Section 815.3. Alternatively, credits could be purchased in a CDFW-approved mitigation bank.

a. **Burrowing Owl (BUOW)**

BUOWs are listed as a Species of Special Concern by CDFW. It is estimated that there are fewer than 10,000 breeding pairs in the state, with most existing on privately owned land.[3] A review of the California Natural Diversity Database (CNDDB) indicated multiple occurrences of BUOW near the Project site. Thus, the Project may have significant impacts with the potential for take, necessitating the need to perform protocol-level surveys for BUOW. Protocol-level surveys for BUOW must be performed across the entirety of the site and must conform to the current survey standards established in *Burrowing Owl Survey Protocol and Mitigation Guidelines*[4] and the *Staff Report on Burrowing Owl Mitigation*.[5]

If occupied burrows are observed, we request artificial replacement burrows at a ratio of 1:1.[6] Furthermore, we recommend consultation with CDFW to establish an appropriate ratio for BUOW HM lands. If adhering to the recommended buffers and avoidance is impossible, we emphasize that burrow exclusion is not considered a take avoidance, minimization or mitigation method.[7] However, if burrow exclusion is necessary, we recommend consultation with CDFW for the creation of an exclusion plan.

b. **Crotch's Bumble Bee (CBB)**

CBB is a candidate species for listing under the California Endangered Species Act, and such must be accorded protection as if they were listed. The Project is located within the historical range[8] of the species and, therefore, has the potential to occur. We request CBB surveys be conducted in accordance with CDFW's methods as outlined in *Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species*.[9]

c. **Swainson's Hawk (SWHA)**

SWHA is listed as threatened under the California Endangered Species Act. The nearest CNDDB occurrence for SWHA is approximately 6.5 miles east of the Project site. SWHA may travel up

[3] California Department of Fish and Game. 2012. *Staff Report on Burrowing Owl Mitigation*.
[4] California Burrowing Owl Consortium. 1993. *Burrowing Owl Survey Protocol and Mitigation Guidelines*.
[5] California Department of Fish and Game. 2012. *Staff Report on Burrowing Owl Mitigation*.
[6] California Burrowing Owl Consortium. 1993. *Burrowing Owl Survey Protocol and Mitigation Guidelines*.
[7] California Department of Fish and Game. 2012. *Staff Report on Burrowing Owl Mitigation*
[8] California Department of Fish and Wildlife. 2023. *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species*.
[9] Ibid.

to 18 miles in search of suitable foraging habitat, which is well above the nearest documented SWHA occurrence. We recommend that a protocol-level survey be conducted that, at a minimum, conforms to CDFW and the CEC's survey guidelines.[10]

d. Special Status Plants

There are several special status plant species and sensitive habitats with the potential to occur on the project site. CNDDB show records of Valley Needlegrass Grassland habitat, bent-flowered fiddleneck (*Amsinckia lunaris*) California Rare Plant Rank (CRPR) 1B.2, and Ferris' milk-vetch (*Astragalus tener var. ferrisiae*) CRPR 1B.1 within close proximity of the Project site. A nine-quad query of the CNPS Rare Plant Inventory shows 67 rare species with the potential to occur given the suitable habitat. Botanical surveys should follow the 2018 CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities[11] (Protocols). These Protocols make several recommendations regarding the use of reference sites to ensure that target species would be identifiable during surveys, timing and number of surveys needed, and the potential need for surveys over multiple years in grasslands or other plant communities "that have annual and short-lived perennial plants as major floristic components." The Protocols also describe the information that should be included in the survey report, including the names and qualifications of surveyors, dates of surveys and hours of survey efforts at each date, a discussion of how climatic conditions may have affected survey results, and a discussion of the potential for false negative survey results.

3. Migratory Birds

The Project is located within the Pacific Flyway, which spans from Alaska to South America and supports millions of migratory birds annually.[12] We are concerned about the potential impacts on protected avian species and what is left of their dwindling wetland habitat. Studies indicate various species of birds may be attracted to the vast arrays of photovoltaic solar panels due to the "lake effect" caused by reflective polarized light.[13] Given that the Project falls within this critical flyway, there is a possibility for migratory birds to be injured or killed due to collisions with Project facilities. We recommend the DEIR include consideration of lake effect impacts to migratory birds. Furthermore, we recommend coordination with CDFW and USFWS on ITP requirements for migratory birds.

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[10] Swainson's Hawk Technical Advisory Committee. 2000. *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley.*

[11] California Department of Fish and Wildlife. 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.*

[12] See https://pacificbirds.org/birds-flyways/the-flyways/

[13] Upton, J. 2014. *Solar Farms Threaten Birds*. Scientific American. https://www.scientificamerican.com/article/solar-farms-threaten-birds/#:~:text=It%20was%20one%20of%20233,fatally%20crippled%20by%20the%20facilities

4. **Cumulative Impacts**
   This proposed Project, along with other regional developments, significantly contributes to the considerable adverse cumulative impacts on biological resources, including but not limited to BUOW and SWHA. We request that this analysis closely examine the population status and direct and indirect cumulative impact of past, present and reasonably foreseeable activities at the individual resource level. We recommend consultation with CDFW to identify an acceptable methodology to evaluate cumulative impacts.

Thank you once again for the opportunity to provide scoping comments on the proposed Janus Solar and Battery Storage Project and for considering our comments. We look forward to reviewing the DEIR for the Project and request to be notified when it is available. Please feel free to contact us with any questions.

Respectfully submitted,

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Law Firm

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<u>VIA E-MAIL</u>

July 31, 2024

Greg Plucker, Community Development Director
Colusa County Community Development Department
1213 Market Street, Colusa CA, 95932
(530) 458-0480
Em: gplucker@countyofcolusa.com

RE: <u>County of Colusa's Janus Solar and Battery Storage Project (SCH# 2024061043).</u>

Dear Mr. Plucker,

On behalf of Carpenters Local Union 46 ("**Local 46**"), my Office is submitting these comments for the Colusa County's ("**County**") Notice of Preparation ("**NOP**") for the Janus Solar and Battery Storage ("**Project**").

The Project would generate and store up to 80 MWAC across the 666 acres of the 886-acre site.

Carpenters Local Union 46 is a labor union that represents 2,200 union carpenters, including members in Colusa County, and has a strong interest in well-ordered land use planning and in addressing the environmental impacts of development projects.

Individual members of Carpenters Local 46 live, work, and recreate in the County and surrounding communities and would be directly affected by the Project's environmental impacts.

Local 46 expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearing and proceeding related to this Project. Gov. Code, § 65009, subd. (b); Pub. Res. Code, § 21177, subd. (a); see *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal.App.4th 1184, 1199-1203; see also *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal.App.4th 1109, 1121.

Local 46 incorporates by reference all comments raising issues regarding the environmental documents submitted prior to approval of the Project. See *Citizens for*

Clean Energy v City of Woodland (2014) 225 Cal.App.4th 173, 191 (finding that any party who has objected to the project's environmental documentation may assert any issue timely raised by other parties).

Moreover, Local 46 requests that the County provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act (**CEQA**) (Pub. Res. Code, § 21000 *et seq.*), and the California Planning and Zoning Law ("**Planning and Zoning Law**") (Gov. Code, §§ 65000–65010). California Public Resources Code Sections 21092.2, and 21167(f) and California Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

I. THE COUNTY SHOULD REQUIRE THE USE OF A LOCAL WORKFORCE TO BENEFIT THE COMMUNITY'S ECONOMIC DEVELOPMENT AND ENVIRONMENT.

The County should require the Project to be built by contractors who participate in a Joint Labor-Management Apprenticeship Program approved by the State of California and make a commitment to hiring a local workforce.

Community benefits such as local hire can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project site can reduce the length of vendor trips, reduce greenhouse gas emissions, and provide localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the University of California, Berkeley Center for Labor Research and Education concluded:

> [L]abor should be considered an investment rather than a cost—and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well-trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

Furthermore, workforce policies have significant environmental benefits given that they improve an area's jobs-housing balance, decreasing the amount and length of job commutes and the associated greenhouse gas emissions. In fact, on May 7, 2021, the South Coast Air Quality Management District found that that the "[u]se of a local state-certified apprenticeship program" can result in air pollutant reductions.[2]

Locating jobs closer to residential areas can have significant environmental benefits. As the California Planning Roundtable noted in 2008:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[3]

Moreover, local hire mandates and skill-training are critical facets of a strategy to reduce vehicle miles traveled ("**VMT**"). As planning experts Robert Cervero and Michael Duncan have noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions given that the skill requirements of available local jobs must

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[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf.

[2] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10.

[3] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

match those held by local residents.[4] Some municipalities have even tied local hire and other workforce policies to local development permits to address transportation issues. Cervero and Duncan note that:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing. The city's First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

Recently, the State of California verified its commitment towards workforce development through the Affordable Housing and High Road Jobs Act of 2022, otherwise known as Assembly Bill No. 2011 ("**AB2011**"). AB2011 amended the Planning and Zoning Law to allow ministerial, by-right approval for projects being built alongside commercial corridors that meet affordability and labor requirements.

The County should consider utilizing local workforce policies and requirements to benefit the local area economically and to mitigate greenhouse gas, improve air quality, and reduce transportation impacts.

Sincerely,

Grace Holbrook
Attorneys for Carpenters Local 46

Attached:

[4] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B); and

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C).

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$
>
> Where:
>
> $\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

M Hagemann

Matt Hagemann, P.G., C.Hg.

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

Attachment A

Location Type	Location Name	Rural H-W (miles)	Urban H-W (miles)
Air Basin	Great Basin	16.8	10.8
Air Basin	Lake County	16.8	10.8
Air Basin	Lake Tahoe	16.8	10.8
Air Basin	Mojave Desert	16.8	10.8
Air Basin	Mountain	16.8	10.8
Air Basin	North Central	17.1	12.3
Air Basin	North Coast	16.8	10.8
Air Basin	Northeast	16.8	10.8
Air Basin	Sacramento	16.8	10.8
Air Basin	Salton Sea	14.6	11
Air Basin	San Diego	16.8	10.8
Air Basin	San Francisco	10.8	10.8
Air Basin	San Joaquin	16.8	10.8
Air Basin	South Central	16.8	10.8
Air Basin	South Coast	19.8	14.7
Air District	Amador County	16.8	10.8
Air District	Antelope Valley	16.8	10.8
Air District	Bay Area AQMD	10.8	10.8
Air District	Butte County	12.54	12.54
Air District	Calaveras	16.8	10.8
Air District	Colusa County	16.8	10.8
Air District	El Dorado	16.8	10.8
Air District	Feather River	16.8	10.8
Air District	Glenn County	16.8	10.8
Air District	Great Basin	16.8	10.8
Air District	Imperial County	10.2	7.3
Air District	Kern County	16.8	10.8
Air District	Lake County	16.8	10.8
Air District	Lassen County	16.8	10.8
Air District	Mariposa	16.8	10.8
Air District	Mendocino	16.8	10.8
Air District	Modoc County	16.8	10.8
Air District	Mojave Desert	16.8	10.8
Air District	Monterey Bay	16.8	10.8
Air District	North Coast	16.8	10.8
Air District	Northern Sierra	16.8	10.8
Air District	Northern	16.8	10.8
Air District	Placer County	16.8	10.8
Air District	Sacramento	15	10

Air District	San Diego	16.8	10.8
Air District	San Joaquin	16.8	10.8
Air District	San Luis Obispo	13	13
Air District	Santa Barbara	8.3	8.3
Air District	Shasta County	16.8	10.8
Air District	Siskiyou County	16.8	10.8
Air District	South Coast	19.8	14.7
Air District	Tehama County	16.8	10.8
Air District	Tuolumne	16.8	10.8
Air District	Ventura County	16.8	10.8
Air District	Yolo/Solano	15	10
County	Alameda	10.8	10.8
County	Alpine	16.8	10.8
County	Amador	16.8	10.8
County	Butte	12.54	12.54
County	Calaveras	16.8	10.8
County	Colusa	16.8	10.8
County	Contra Costa	10.8	10.8
County	Del Norte	16.8	10.8
County	El Dorado-Lake	16.8	10.8
County	El Dorado-	16.8	10.8
County	Fresno	16.8	10.8
County	Glenn	16.8	10.8
County	Humboldt	16.8	10.8
County	Imperial	10.2	7.3
County	Inyo	16.8	10.8
County	Kern-Mojave	16.8	10.8
County	Kern-San	16.8	10.8
County	Kings	16.8	10.8
County	Lake	16.8	10.8
County	Lassen	16.8	10.8
County	Los Angeles-	16.8	10.8
County	Los Angeles-	19.8	14.7
County	Madera	16.8	10.8
County	Marin	10.8	10.8
County	Mariposa	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Merced	16.8	10.8
County	Modoc	16.8	10.8
County	Mono	16.8	10.8
County	Monterey	16.8	10.8
County	Napa	10.8	10.8

County	Nevada	16.8	10.8
County	Orange	19.8	14.7
County	Placer-Lake	16.8	10.8
County	Placer-Mountain	16.8	10.8
County	Placer-	16.8	10.8
County	Plumas	16.8	10.8
County	Riverside-	16.8	10.8
County	Riverside-	19.8	14.7
County	Riverside-Salton	14.6	11
County	Riverside-South	19.8	14.7
County	Sacramento	15	10
County	San Benito	16.8	10.8
County	San Bernardino-	16.8	10.8
County	San Bernardino-	19.8	14.7
County	San Diego	16.8	10.8
County	San Francisco	10.8	10.8
County	San Joaquin	16.8	10.8
County	San Luis Obispo	13	13
County	San Mateo	10.8	10.8
County	Santa Barbara-	8.3	8.3
County	Santa Barbara-	8.3	8.3
County	Santa Clara	10.8	10.8
County	Santa Cruz	16.8	10.8
County	Shasta	16.8	10.8
County	Sierra	16.8	10.8
County	Siskiyou	16.8	10.8
County	Solano-	15	10
County	Solano-San	16.8	10.8
County	Sonoma-North	16.8	10.8
County	Sonoma-San	10.8	10.8
County	Stanislaus	16.8	10.8
County	Sutter	16.8	10.8
County	Tehama	16.8	10.8
County	Trinity	16.8	10.8
County	Tulare	16.8	10.8
County	Tuolumne	16.8	10.8
County	Ventura	16.8	10.8
County	Yolo	15	10
County	Yuba	16.8	10.8
Statewide	Statewide	16.8	10.8

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Mininum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 33

Climate Zone 9 **Operational Year** 2028

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1969	213.1969	0.0601	0.0000	214.6993
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6826	1,721.6826	0.1294	0.0000	1,724.9187
2023	0.6148	3.3649	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5295	1,627.5295	0.1185	0.0000	1,630.4925
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9078	52.9078	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6826**	**1,721.6826**	**0.1294**	**0.0000**	**1,724.9187**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1967	213.1967	0.0601	0.0000	214.6991
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6823	1,721.6823	0.1294	0.0000	1,724.9183
2023	0.6148	3.3648	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5291	1,627.5291	0.1185	0.0000	1,630.4921
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9077	52.9077	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6823**	**1,721.6823**	**0.1294**	**0.0000**	**1,724.9183**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4103	1.4103
2	**12-1-2021**	**2-28-2022**	1.3613	1.3613
3	**3-1-2022**	**5-31-2022**	1.1985	1.1985
4	**6-1-2022**	**8-31-2022**	1.1921	1.1921
5	**9-1-2022**	**11-30-2022**	1.1918	1.1918
6	**12-1-2022**	**2-28-2023**	1.0774	1.0774
7	**3-1-2023**	**5-31-2023**	1.0320	1.0320
8	**6-1-2023**	**8-31-2023**	1.0260	1.0260

9	**9-1-2023**	**11-30-2023**	1.0265	1.0265
10	**12-1-2023**	**2-29-2024**	2.8857	2.8857
11	**3-1-2024**	**5-31-2024**	1.6207	1.6207
		Highest	2.8857	2.8857

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

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					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

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					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

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					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

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	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

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	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

3.6 Paving - 2024

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

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	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.646 5	2,512.646 5	0.1037	0.0215	2,521.635 6
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.646 5	2,512.646 5	0.1037	0.0215	2,521.635 6
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.426 7	1,383.426 7	0.0265	0.0254	1,391.647 8
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.426 7	1,383.426 7	0.0265	0.0254	1,391.647 8

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1521
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1520
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.056 8**	**1,463.056 8**	**0.0927**		**1,465.375 0**

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.056 8**	**1,463.056 8**	**0.0927**		**1,465.375 0**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.685 7	8,800.685 7	0.2429		8,806.758 2
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.23 39**	**12,697.23 39**	**0.4665**		**12,708.89 66**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.685 7	8,800.685 7	0.2429		8,806.758 2
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.23 39**	**12,697.23 39**	**0.4665**		**12,708.89 66**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.440 8	8,478.440 8	0.2190		8,483.916 0
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.31 70**	**12,252.31 70**	**0.4172**		**12,262.74 60**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.440 8	8,478.440 8	0.2190		8,483.916 0
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.31 70**	**12,252.31 70**	**0.4172**		**12,262.74 60**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.085 2	1,641.085 2	0.0401		1,642.088 6
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.085 2**	**1,641.085 2**	**0.0401**		**1,642.088 6**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.693 2**	**1,430.693 2**	**0.0955**		**1,433.081 2**

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.693 2**	**1,430.693 2**	**0.0955**		**1,433.081 2**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.043 4**	**6,007.043 4**	**1.9428**		**6,055.613 4**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.075 0	3,789.075 0	0.2381		3,795.028 3
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.901 3	8,286.901 3	0.2282		8,292.605 8
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.97 63**	**12,075.97 63**	**0.4663**		**12,087.63 41**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.731 8	7,983.731 8	0.2055		7,988.868 3
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.13 25**	**11,655.13 25**	**0.4151**		**11,665.50 99**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.286 0	1,545.286 0	0.0376		1,546.226 2
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.286 0**	**1,545.286 0**	**0.0376**		**1,546.226 2**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.59 50	18,148.59 50	0.4874	0.3300	18,259.11 92
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.59 50	18,148.59 50	0.4874	0.3300	18,259.11 92

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.00 00	18,000.00 00	0.3450	0.3300	18,106.96 50
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.59 50**	**18,148.59 50**	**0.4874**	**0.3300**	**18,259.11 92**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7654	210.7654	0.0600	0.0000	212.2661
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6554	1,418.6554	0.1215	0.0000	1,421.6925
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4412	1,342.4412	0.1115	0.0000	1,345.2291
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6355	44.6355	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6554**	**1,418.6554**	**0.1215**	**0.0000**	**1,421.6925**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7651	210.7651	0.0600	0.0000	212.2658
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6550	1,418.6550	0.1215	0.0000	1,421.6921
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4409	1,342.4409	0.1115	0.0000	1,345.2287
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6354	44.6354	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6550**	**1,418.6550**	**0.1215**	**0.0000**	**1,421.6921**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4091	1.4091
2	**12-1-2021**	**2-28-2022**	1.3329	1.3329
3	**3-1-2022**	**5-31-2022**	1.1499	1.1499
4	**6-1-2022**	**8-31-2022**	1.1457	1.1457
5	**9-1-2022**	**11-30-2022**	1.1415	1.1415
6	**12-1-2022**	**2-28-2023**	1.0278	1.0278
7	**3-1-2023**	**5-31-2023**	0.9868	0.9868
8	**6-1-2023**	**8-31-2023**	0.9831	0.9831

9	**9-1-2023**	**11-30-2023**	0.9798	0.9798
10	**12-1-2023**	**2-29-2024**	2.8757	2.8757
11	**3-1-2024**	**5-31-2024**	1.6188	1.6188
		Highest	2.8757	2.8757

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

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					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

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					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

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					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

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	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

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	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

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	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0956
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0955
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

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	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.521 2**	**1,409.521 2**	**0.0912**		**1,411.801 5**

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.521 2**	**1,409.521 2**	**0.0912**		**1,411.801 5**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.558 5	6,042.558 5	0.1697		6,046.800 0
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.106 7**	**9,939.106 7**	**0.3933**		**9,948.938 4**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.558 5	6,042.558 5	0.1697		6,046.800 0
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.106 7**	**9,939.106 7**	**0.3933**		**9,948.938 4**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.402 8	5,821.402 8	0.1529		5,825.225 4
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.279 0**	**9,595.279 0**	**0.3511**		**9,604.055 4**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.4028	5,821.4028	0.1529		5,825.2254
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.2790**	**9,595.2790**	**0.3511**		**9,604.0554**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.758 3	1,126.758 3	0.0280		1,127.458 3
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.758 3**	**1,126.758 3**	**0.0280**		**1,127.458 3**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.59 50	18,148.59 50	0.4874	0.3300	18,259.11 92
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.59 50	18,148.59 50	0.4874	0.3300	18,259.11 92

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.00 00	18,000.00 00	0.3450	0.3300	18,106.96 50
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.59 50**	**18,148.59 50**	**0.4874**	**0.3300**	**18,259.11 92**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.326 2**	**1,380.326 2**	**0.0941**		**1,382.679 1**

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					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.326 2**	**1,380.326 2**	**0.0941**		**1,382.679 1**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.075 0	3,789.075 0	0.2381		3,795.028 3
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.935 4	5,691.935 4	0.1602		5,695.940 8
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.010 4**	**9,481.010 4**	**0.3984**		**9,490.969 1**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.797 4	5,483.797 4	0.1442		5,487.402 0
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.198 1**	**9,155.198 1**	**0.3538**		**9,164.043 7**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.797 4	5,483.797 4	0.1442		5,487.402 0
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.198 1**	**9,155.198 1**	**0.3538**		**9,164.043 7**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment C

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,623
Amortized (MT CO2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized (MT CO2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

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Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

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Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

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Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas

Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division

Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland

Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Santa Monica, California 90401
Tel: (949) 887-9013
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

<u>Other Experience:</u>

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

Central Valley Regional Water Quality Control Board

31 July 2024

Greg Plucker
County of Colusa
1213 Market Street
Colusa, CA 95932
gplucker@countyofcolusa.com

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, JANUS SOLAR PROJECT, SCH#2024061043, COLUSA COUNTY

Pursuant to the State Clearinghouse's 25 June 2024 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 Janus Solar Project, located in Colusa 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

<u>Basin Plan</u>

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_201805.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

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 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/wqo/wqo2003-0003.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) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter G Minkel

Peter G, Minkel
Engineering Geologist

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

APPENDIX B
VISUAL IMPACT ASSESSMENT

VISUAL IMPACT ASSESSMENT

JANUS SOLAR AND BATTERY STORAGE PROJECT

Colusa County, California

August 2024

RWE Solar Development, LLC

TABLE OF CONTENTS

FIGURES

ACRONYMS AND ABBREVIATIONS

AC	alternating current
Applicant	Janus Solar PV, LLC
BESS	battery energy storage system
BLM	U.S. Bureau of Land Management
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
DC	direct current
gen-tie	generation tie
I-5	Interstate 5
KOP	key observation point
kV	kilovolt
O&M	operation and maintenance
PCS	power conditioning stations
PG&E	Pacific Gas and Electric Company
Project	Janus Solar Project
PV	photovoltaic
SR	State Route

1.0 OVERVIEW

Janus Solar PV, LLC (Applicant), a subsidiary of RWE Solar Development, LLC has applied to the Colusa County Department of Planning and Building for a Use Permit[1] to construct, operate, maintain, and decommission a solar photovoltaic (PV) electricity generating facility, with a battery energy storage system (BESS), and associated facilities and infrastructure, to be known as the Janus Solar and Battery Storage Project (Project).

The Project would generate and store up to 80 megawatts alternating current (MW_{AC})[2] on an approximately 886-acre site, owned by a private landowner in unincorporated western Colusa County. An estimated 666 acres of the site would be used for the Project. The proposed BESS would extend the period of time each day that the Project could contribute PV-generated energy to the electrical grid. The Project would connect to the electrical grid at the existing Pacific Gas & Electric (PG&E) Cortina Substation.

Tetra Tech, Inc. was retained by the Applicant to perform a Visual Impact Assessment for the Project. This Visual Impact Assessment was prepared to identify and evaluate the potential visual and aesthetic impacts associated with construction and operation of the Project.

2.0 PROJECT LOCATION AND SETTING

2.1 LOCATION

The proposed Project would be located on two parcels totaling 886 acres of private property currently used for cattle grazing in Colusa County, California (Figure 1). The Project is approximately 6.5 miles southwest of the City of Williams. State Route 20 runs about 1.5 miles from the Project site, north and west. . The Project would connect to the electrical grid at the existing PG&E Cortina Substation, located on Walnut Drive, approximately 3 miles northeast of the Project site (measured linearly). To enable interconnection, the Applicant would construct a new, approximately 4-mile-long 60 kilovolt (kV) generation intertie (gen-tie) line, located within the existing County right-of-way (ROW) along Walnut Drive and Spring Valley Road, that would extend from the Project site to the point of interconnection (POI) at the PG&E Cortina Substation.

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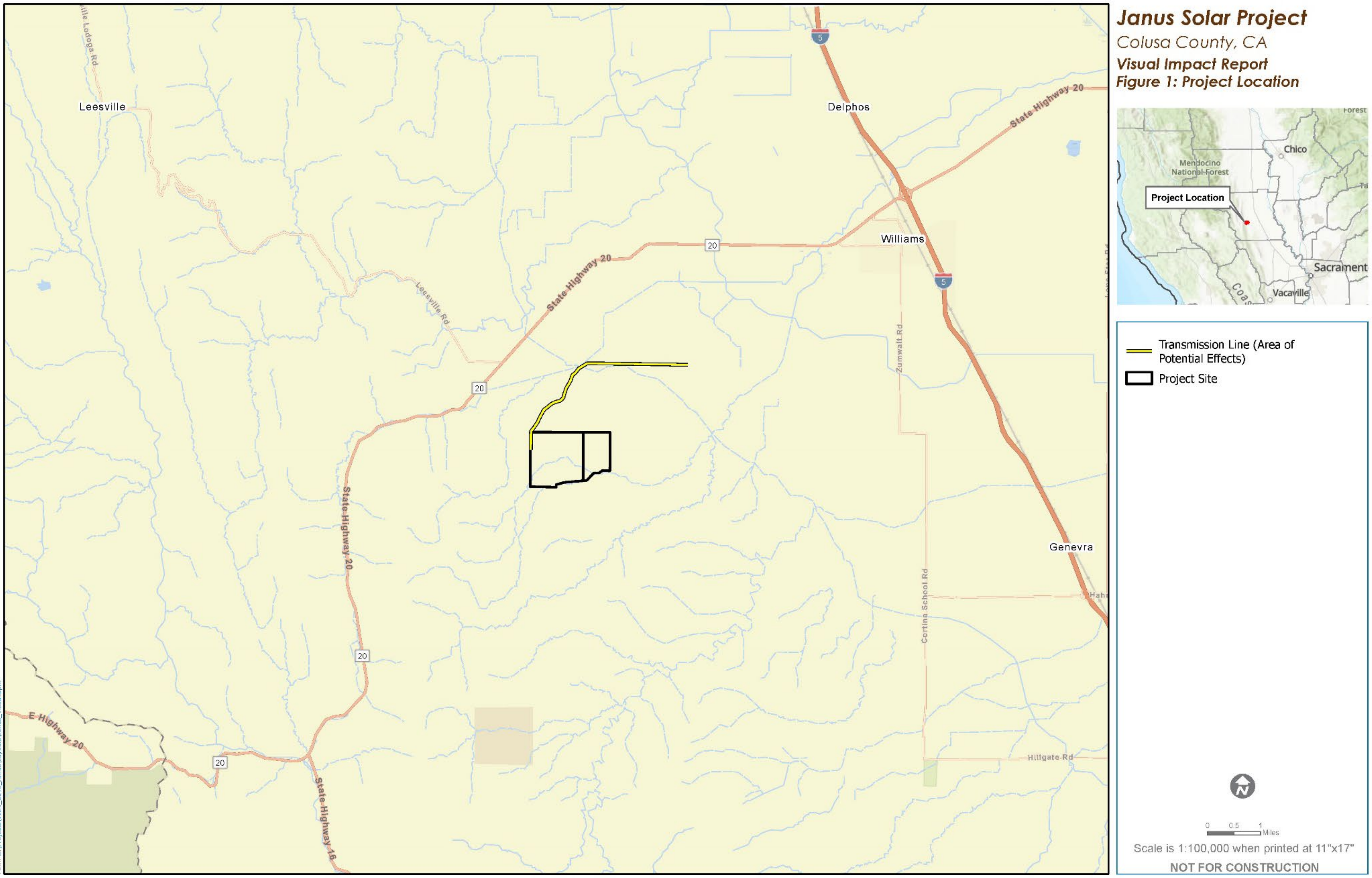
1 The Use Permit process allows the County to consider, at its discretion, uses that would be essential or desirable, but that are not allowed as a matter of right within a zoning district. Energy generation for off-site use is permitted within the Foothill Agriculture Zone with approval of a Use Permit.

2 PV panel capacity is generally measured in direct current (DC) watts; however, because the DC output from panels must be converted to alternating current (AC) before being distributed on the electric grid, this EIR reports expected capacity in terms of AC watts. Although preliminary estimates indicate that 80 MWAC would be the expected nominal generating capacity of the Project, the actual generating capacity would depend on the efficiency of the PV panels available at the time of construction, among other factors, such as panel orientation and tracking technology.


Leesville
Delphos
Williams
Genevra
State Highway 20
State Highway 16
E Highway 20
Leesville Rd
Zumwalt Rd
Cortina School Rd
Hillgate Rd
5
20
Janus Solar Project
Colusa County, CA
Visual Impact Report
Figure 1: Project Location
Chico
Mendocino National Forest
Project Location
Sacrament
Vacaville
Transmission Line (Area of Potential Effects)
Project Site
Scale is 1:100,000 when printed at 11"x17"
NOT FOR CONSTRUCTION

2.2 EXISTING SETTING

2.2.1 On-site Land Uses

The Project site consists of rangeland designated as Agriculture Upland (AU) in the Colusa County General Plan and zoned Foothill Agriculture (F-A) by Colusa County. The gen-tie line intersects land designated as AU and Agriculture General (AG) and zoned as F-A and Exclusive Agriculture (E-A). The Project site is designated Farmland of Local Importance by the California Department of Conservation. However, the Project site is not designated Prime or Unique Farmland, is not irrigated, and has historically been used for cattle grazing.

2.2.2 Surrounding Land Uses

The land use designation for adjacent parcels is AU. Nearby properties are currently being used for cattle grazing, agriculture, and open space. There is one residence approximately 100 feet south of the Project site, and agricultural buildings exist to the west on the opposite side of Spring Valley Road. There are three additional residences in proximity to the Project, two located to the northwest and one to the west of the Project site. These residences belong to the landowner of the Project site. These residences belong to the landowner of the Project site and are excluded from the Project.

3.0 PROJECT DESCRIPTION

3.1 DESCRIPTION OF THE PROJECT

The Project consists of three major components: a solar PV power generation facility (Solar Facility), the BESS, and the gen-tie line (Figure 2*, Site Plan*). The Solar Facility would include arrays of solar PV modules (or panels) and support structures, direct current (DC) electricity to alternating current (AC) electricity power inverters and transformers or power conditioning stations, and an on-site substation. Approximately 4 acres of the Project site would be dedicated to the BESS. The BESS would be located adjacent to the on-site substation and contained within steel cabinets or housings. The on-site substation would connect to the existing PG&E Cortina Substation via an approximately 4-mile-long, 60 kV gen-tie line. Other supporting infrastructure would include access roads, perimeter fences, telecommunications infrastructure, a meteorological data collection system, signage, lighting, stormwater facilities, and an operations and maintenance (O&M) building.

3.1.1 Solar Facility

3.1.1.1 Solar PV Generating Components

The Solar Facility would consist of solar PV modules (also known as panels) situated in arrays supported by a racking system with tracker units that track the sun. The PV modules on the trackers convert sunlight into electricity. When modules are mounted on tracking devices, they are referred to as trackers or tracker blocks. The trackers are organized in rows in a uniform grid pattern or solar array. The Project would include approximately 196,000 solar PV modules in multiple solar arrays interconnected to form a utility-scale PV system.

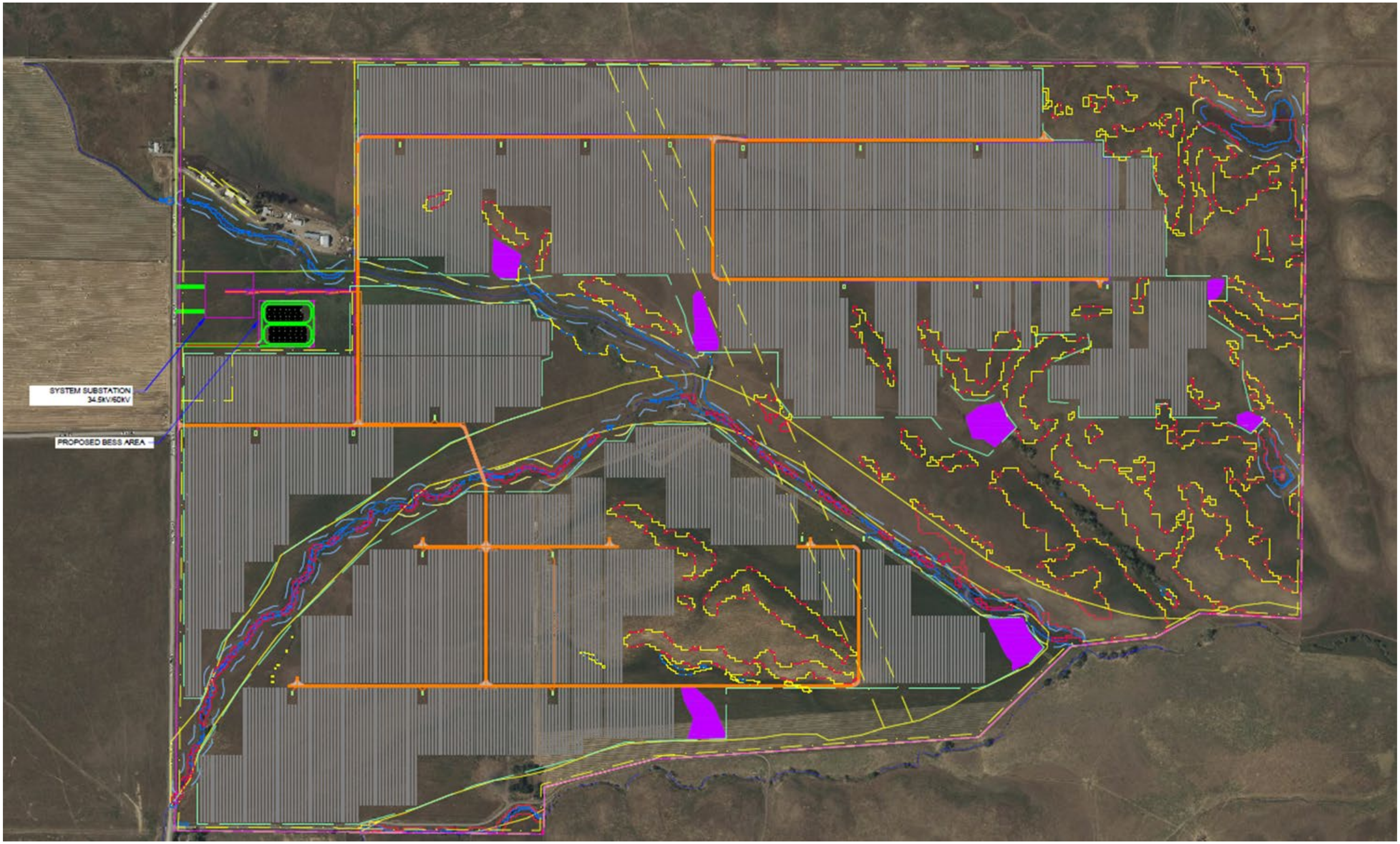


Figure 2. Site Plan

The modules may be constructed of glass encasing P- and N-type mono crystalline silicon, poly crystalline silicon, thin film or bifacial technology. Final panel selection would be determined at the detailed Project-engineering phase. The PV modules would be dark blue or black in color, with anti-reflection coating for minimal light reflection. A plastic binding material and metal frame would provide structural rigidity. The solar modules would be self-contained, durably constructed units designed to withstand exposure to the elements for a period of 35 years or longer. The solar modules would be electrically connected and grounded. The solar facility would be designed in accordance with local and state codes and regulations.

The Project would utilize a single-axis tracking system designed to optimize power production of the modules by ensuring proper orientation to the sun both daily and seasonally. This system captures more solar radiation and is more restricted in the terrain slope or site constraints than a fixed tilt system. Metal piers driven into the ground by a pile-driving machine would support the single-axis tracking systems. Pier placement would begin with a precise surveyed layout, ensuring proper positioning of the remaining tracker assembly parts. The top of each pier would have a pier cap and bearing assembly to support and allow proper movement of the torque tube assembly.[3] Single-axis tracking systems require a drive system that provides directional force to the torque tube. This can be accomplished with either a mechanical or hydraulic drive arm and tube assembly that “pushes and pulls” the torque arm through its range of motion, or by a geared assembly that redirects rotational force to the tubes. Both approaches require a small, geared motor or hydraulic system mounted on a pile support or pad strong enough to move the system through its daily range of motions.

Each tracking assembly would consist of steel posts on which the frames for the PV modules rest. Each tracker would hold PV modules mounted on this metal framework structure and would range between 6 and 13 feet above grade, depending on the topography. The trackers would be separated by sufficient distance to accommodate maintenance personnel and pursuant to design parameters that meet applicable Colusa County fire safety requirements.

Individual PV tracker panels would be connected in series to create a “string” of trackers carrying DC electricity using a combiner box. Inverters in the power conditioning stations (PCS) would convert the DC electricity produced by the trackers to AC electricity. Each PCS would consist of inverter stations and a transformer approximately 10 feet in height above grade set on concrete or steel foundations. An inverter skid elevation section (including the inverter, transformer and switchgear) is shown in Figure 3. The PCS transformers then step up the AC electricity to the appropriate collection level voltage (34.5 kV) for movement to the Project substation and eventual delivery to the electrical grid. The number of trackers connected to each PCS would vary with module output relative to inverter size and desired output from the PCS.

The Project would require multiple PCSs, depending on final design details. The number of trackers connected to each PCS varies with tracker output relative to inverter size and desired output from the PCS. The PCSs would be placed strategically throughout the Project site.

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3 In a PV solar array, torque tube assemblies rotate incrementally, causing the solar panels to tilt and remain oriented for better exposure to the sun.

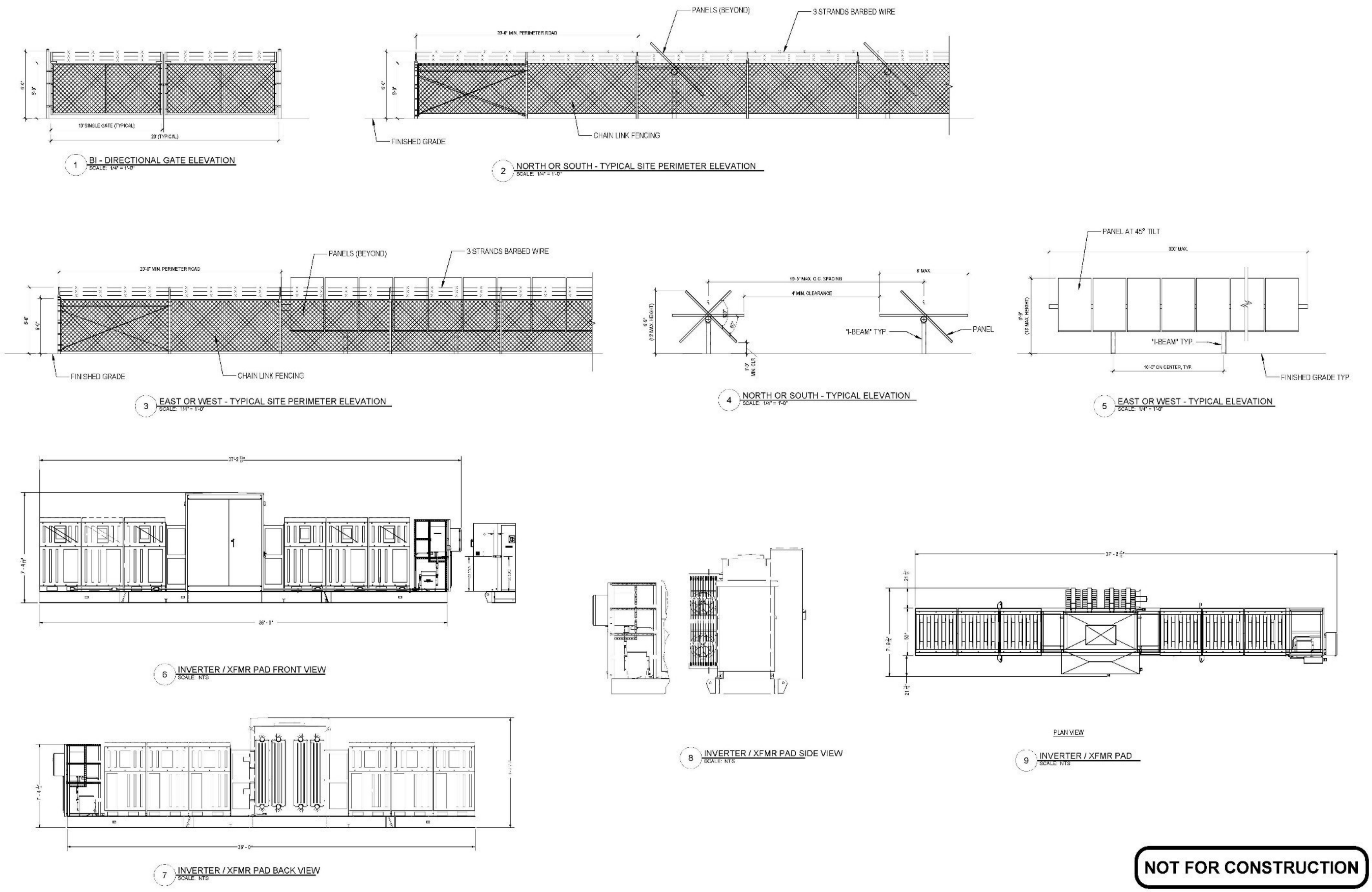


Figure 3. Typical Elevations and Details

3.1.1.2 Project Substation

A Project substation would be constructed in the northwest portion of the Project site. It would include a generator step-up transformer to increase the output voltage from the module blocks (34.5 kV) to the voltage of the 60 kV gen-tie line, protective relay and metering equipment, utility and customer revenue metering, lightening arrestor, disconnect, circuit breaker and a station service transformer that would provide power to the substation and its weatherproof control house. The overall footprint of the Project substation is anticipated to be approximately 3 acres, with gen-tie structures up to 80 feet in height. An emergency generator for use in the event that the regional transmission system fails would also be located at the substation; this emergency generator would provide emergency power until the regional transmission system restores operations. The generator would be powered by propane or diesel. A fuel tank would be immediately adjacent to the generator. The substation would have access to communication systems in the area to comply with Federal Energy Regulatory Commission/California Independent System Operator utility monitoring and control requirements. Compliance may be accomplished by underground lines, aboveground lines, or wirelessly.

3.1.1.3 Other Solar Facility Infrastructure

Operation and Maintenance Building

Operation and maintenance (O&M) activities would take place in an O&M facility located in the northwest portion of the Project site, co-located with the on-site substation and BESS. The O&M facility would include office space and storage. There would also be portable toilets. Water would be trucked to the site. An equipment storage area and a gravel parking lot for employees, visitors, and emergency response vehicles would be located adjacent to the building, such that the entire O&M building footprint would occupy an area of approximately 1 acre.

Meteorological Data Collection System

The Project would require several meteorological data collection systems. The systems would include a variety of instruments to collect meteorological data, which would be mounted at various locations throughout the facility. The meteorological data would be collected at the level of the solar panels.

Telecommunications Facilities

The Project would require connection with the existing local telecommunication service. A telecommunication line would be comprised of fiber optic cable and/or a telephone line, which would be installed above and/or below ground, either attached to existing distribution lines or installed immediately adjacent to the Project substation. The telecommunication routes would use new poles and/or below ground installations. Below ground installations are usually installed 24–48 inches below grade. Aboveground lines are typically placed 6 feet below existing distribution lines or on new, adjacent wooden poles. Telecommunications may also be transmitted by a small wireless microwave antenna mounted on a pole up to 90 feet tall, which would be placed at the Project substation.

Fencing, Lighting, and Signage

Existing barbed wire fencing would be replaced with metal fencing 6–8 feet in height along the site perimeter, as needed. The substation would be surrounded by a metal fence topped with barbed wire to comply with electrical codes.

Infrared security cameras, motion detectors, or other similar technology may be installed to allow for monitoring of the Project site through review of live, 24/7 footage. A security company also may be contracted by the Applicant. Should the security system detect the presence of unauthorized personnel, a security representative would be dispatched to the site, and appropriate local authorities would be notified.

Project lighting would be installed at the substation to allow for maintenance and security. All lighting would be directed downward to minimize the potential for glare or spillover. All lighting would conform to applicable Colusa County outdoor lighting codes.

Project signage is proposed for the identification of the Project owner and for safety and security purposes. Signage is proposed to be installed on the fence or ground-mounted in the vicinity of the main entry gates. Signage would identify the Project operator and owner and would provide emergency contact information. Small-scale signage also would be posted at the main entry gates and intermittently along the perimeter fencing on all exterior parcel boundaries to indicate “No Trespassing” and “Private Property” for security purposes. All signage would conform to Colusa County signage requirements. No landscaping is proposed.

Access and Circulation

Access to the Project would be via a main entrance on Spring Valley Road. An access gate would be provided at the site entry. Internal service roads would be built for ingress and egress to the Project site, to individual Project components, and between the solar array rows to facilitate installation, maintenance, and cleaning of the solar panels. Roads throughout the arrays would provide access to the inverter equipment pads and substation. The perimeter roads would be a minimum of 18 feet wide, and interior roads would be a minimum of 9 feet wide, sufficient for Colusa County and California Department of Forestry and Fire Protection (CAL FIRE) access.

3.1.2 Battery Energy Storage System

The BESS is expected to be located adjacent to the substation. Batteries would be contained within metal enclosures. The color of the metal enclosure typically varies by manufacturer and has not yet been determined. The maximum combined footprint for the BESS would be 4 acres. Key components of the BESS include batteries and battery storage system enclosures, and controllers, converters, inverters, and transformers.

3.1.3 Generation Tie Line

Energy from the proposed solar arrays would be collected at the on-site substation and transmitted to the existing PG&E Cortina Substation. To interconnect the Project with the PG&E Cortina Substation, the Applicant would construct a new 60 kV gen-tie line that would originate from the northwest corner of the Project site at the on-site substation and extend approximately 2 miles within the County ROW along Spring Valley Road to reach Walnut Drive. At Walnut Drive, the transmission line will continue within the County ROW for approximately 2 miles along Walnut

Drive to the POI at the PG&E Cortina Substation. Along this route, the gen-tie line would cross the Colusa-Tehama Canal, administered by the United States Bureau of Reclamation (USBR). The Applicant's gen-tie construction would terminate at the PG&E Cortina Substation property line.

3.1.4 Construction

Project construction would consist of two major stages. The first stage would include site preparation, grading, and preparing staging areas and on-site access routes. The second stage would involve assembling the trackers and constructing electrical interconnection facilities.

3.1.4.1 Grading and Site Preparation

Grubbing and grading would occur on the site to achieve the required surface conditions. Site preparation may include application of pre-emergent herbicides formulated to minimize impacts to wildlife. Application would be in accordance with federal, state, and County regulations and would be applied by a state-licensed pesticide applicator.

Temporary Construction Facilities and Staging Areas

During construction, materials would be placed within the Project site boundaries adjacent to the then-current phase of construction. To prevent theft and vandalism, materials would be secured within fenced areas at all times. A storage container may be used to house tools and other construction equipment. Portable toilet facilities would be installed for use by construction workers. Waste disposal would occur in a permitted off-site facility.

3.1.4.2 Solar Facility Construction and Installation

On-site roads would be constructed per the recommendations of a site-specific geotechnical report, with a durable surface or surfaced with compacted gravel. At the footing for the PCS pads, existing soil would be scarified and recompacted following recommendations of a site-specific geotechnical report.

Installing solar panels would require driving steel piles about 6 to 13 feet into the ground. In areas where geotechnical analysis has determined that piles might not be feasible or cost-effective, conventional foundations (such as isolated spread foundations or continuous footings) might be used.

During construction, a variety of equipment and vehicles would operate on the Project site. All equipment and vehicles would comply with County noise standards.

Substation Construction

The on-site substation would be separately fenced to provide increased security for the medium- and high-voltage electrical equipment. The on-site substation area would be excavated, a copper grounding grid would be installed, and then the foundations for transformers and metal structures would be installed. The area first would be backfilled, compacted and leveled, and then aggregate rock base would be applied. Equipment would be installed and connected, including transformers, breakers, bus-work, and metal dead-end structures. The transformers contain an insulating oil: the oil tank would either be filled at the manufacturing facility and shipped to the Project site, or the transformers could be shipped with the oil tank empty and filled on site. A control enclosure would be located in or next to the on-site substation, and would house substation and plant control equipment, meters, battery or generator backup, and other electrical equipment.

Operation and Maintenance Area

The O&M activities would take place in a new O&M facility located in the northwestern portion of the Project site. The driveway and parking area for the building would be compacted native soil and/or road base aggregate.

3.1.4.3 Battery Energy Storage System

Upon delivery of the BESS equipment to the site, a crane or forklift would be used to place the factory-assembled enclosures on steel pile, grade-beam, or concrete foundations at the BESS facility location. Each energy storage system would include power conditioning systems, electrical wiring, switching, and transformers, and would connect to the 34.5 kV bus in the on-site substation.

3.1.4.4 Generation Tie Line Construction and Stringing

Interconnecting the Project with the existing PG&E Cortina Substation would require the construction of a new 60 kV gen-tie line, which may include new tubular steel poles up to 80 feet in height. The precise locations of the new poles would be finalized during the Project's final design process. During construction, the location of each new pole would be surveyed and staked. Foundations for each pole would be constructed, the transmission poles erected, and transmission pole arms and insulators installed. Additionally,conductor stringing, and terminations would be performed to ensure that the new 60 kV gen-tie line is operating correctly. A fiber optic communication line may be strung overhead on the poles between the Project's on-site substation and the PG&E Cortina Substation.

Construction of the new gen-tie line would require temporary construction areas at each new structure and at locations required for conductor stringing and pulling operations. For each stringing and pulling operation, a puller set-up is positioned at one end and a tensioner set-up with wire reel stand truck is positioned at the other end.

The dimensions of the area needed for the wire stringing set-ups associated with wire installation are variable and depend upon terrain. For this Project, these activities are expected to require an area approximately 100-feet in length within the road ROW.

3.1.5 Decommissioning and Site Reclamation

The Project has an expected useful life of 35 years. It is expected to become operational in the summer of 2026 and to remain in operation through 2061. It is possible that the useful life of the Project could be extended through maintenance of existing equipment or equipment replacement and could remain in operation beyond 2061, subject to further County review and approval. When operations at the site are terminated, the facility would be decommissioned. The Project site would be returned to a stable condition comparable to pre-Project conditions in accordance with applicable land use regulations in effect at that time.

Many components of the Solar Facility and BESS are recyclable. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems typically consist of steel and concrete, in addition to motors and control systems. All of these materials can be recycled. Numerous recyclers for the various materials to be used on the Project site operate in Colusa County and other nearby counties. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil would be managed as waste and would require evaluation. Oil and lubricants removed from equipment would be managed as used oil, which is a hazardous waste in California.

3.1.6 Applicant Proposed Measures and Design Features

The Applicant proposes to take certain actions for the purpose of reducing the potential significance of anticipated environmental impacts from the Project. These measures are elements of the Project, either as a specific design feature or as a plan developed by the Applicant. Where the analysis of individual resources relies on these plans or design features to reduce anticipated effects, the relevant section so notes. By contrast, mitigation measures are not elements of the Project and are structured in accordance with the criteria in California Environmental Quality Act (CEQA) Guidelines Section 15370.

3.1.6.1 Solar Technology – Glare and Lighting

The Project would use solar panels that have a low profile (typically 6 feet high, but generally no more than 13 feet high at the highest point during the day) to minimize visual impacts. Solar panels are designed to be anti-reflective. Nighttime lighting impacts would be minimized by including only small lighting features that are equipped with on/off switches or motion detectors so that the amount of light emitted would be comparable to that emitted from domestic fixtures on local homes.

3.1.6.2 Wildlife-friendly Design Features

Fence posts would be capped to prevent potential entrapment of birds or other small species. Further, the design of any new overhead transmission and communications lines and structures would follow the most recent Avian Power Line Interaction Committee guidance to reduce the potential for avian injury and mortality from collisions and electrocution. The proposed use of motion-activated security lighting (rather than lighting that would remain on from dusk to dawn) would reduce adverse impacts to nocturnal species, potentially including foraging, sheltering, mating and reproducing, communicating, and migrating behaviors.

3.1.6.3 Emergency Response Plan

An Emergency Response Plan would be prepared to train local emergency response personnel during development and operation of the Project. The plan will be completed in accordance with existing state regulations (Health and Safety Code [HSC] § 25504(b); 19 California Code of Regulations [CCR] § 2731; 22 CCR § 66262.34(a)(4)). The contents of the Emergency Response Plan would comply with existing state regulations and would include training for local fire responders. The Emergency Response Plan would be developed in consultation with the Fire Department and the BESS supplier and would include the following components:

- Defined roles and responsibilities
- Potential emergency scenarios, including fire
- On-site training of fire personnel and on-site Project staff

- Training for local first responders, including monitoring fire from a safe distance using infrared cameras until the temperature of the affected enclosure cools to ambient temperature.

3.1.6.4 Compliance with Applicable Laws and Standards

The Applicant would comply with all applicable laws and standards, including, but not limited to, those governing the use, storage, and disposal of hazardous materials; worker training and safe work practices; air quality, water quality, and energy storage systems generally. Similarly, site preparation and construction activities would be performed in accordance with a SWPPP, or similar plan that incorporates stormwater BMPs to reduce the adverse effects of erosion and sedimentation, and herbicide would be applied by qualified personnel following product label instructions and applicable regulations. Compliance with these requirements would avoid or reduce potential adverse environmental impacts to soil, air quality, surface water and groundwater quality, human health, fire-related risk, and other environmental considerations.

3.2 METHODOLOGY

3.2.1 Visual Impact Criteria

For this analysis, the significance criteria outlined in Appendix G of the CEQA Guidelines, as amended, are applied to determine the Project's impact to existing visual resources. The CEQA-defined aesthetic issues of concern are:

- Would the proposed Project cause substantial, adverse effects on a scenic vista?
- Would the proposed Project cause substantial damage to scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within a state scenic highway?
- In non-urbanized areas, would the proposed Project 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 a publicly accessible vantage point.)
- Would the proposed Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

3.2.2 Visual Change Criteria

Visual impacts are generally defined in terms of a project's physical characteristics and potential visibility, as well as the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located. Tetra Tech, Inc. followed the contrast rating system used by the U.S. Bureau of Land Management (BLM) to objectively measure potential changes to the visual environment (BLM 1986). The BLM's contrast rating system is commonly used by federal agencies to assess potential visual resource impacts from proposed projects.

Potential visual impacts were characterized by determining the level of visual contrast introduced by the Project based on comparing existing conditions and photo simulations. Visual contrast is a means to evaluate the level of modification to existing landscape features. Existing landscapes are defined by the visual characteristics (form, line, color, and texture) associated with the landform (including water), vegetation, and existing development.

BLM's Visual Resource Inventory (VRI) classification system is a baseline description of the existing scenic values in the environment. The VRI developed by BLM identifies the visual resources of a given area, and based upon specific standards, assigns an inventory class to each area. This process, further described in detail in BLM Manual H-8410-1 (BLM 2010), involves rating the resource's visual qualities, measuring public concern, and determining the extent to which an area is visible from travel routes and other observation points. Those three factors then determine which of four VRI classes are assigned to each area of BLM-administered lands based on visual sensitivity level (high, medium, and low), scenic quality, and distance. These four VRI classes represent the relative values of the existing visual resources. VRI Classes I and II represent the highest visual value, Class III represents moderate value, and Class IV represents relatively low visual value.

Specific terminology used in describing the existing visual environment is provided below.

- **Contrast**. Opposition or unlikeness of different forms, lines, colors, or textures in a landscape. Contrast rating: a method of analyzing the potential visual impacts of proposed management activities.
- **Form**. The mass or shape of an object or objects that appears unified, such as a vegetative opening in a forest, a cliff or mountain formation, a water tank, or a highway overpass.
- **Key Observation Point (KOP)**. One or a series of points on a travel route or at a use area or potential use area, where the view of a management activity would be most revealing.
- **Landscape Visibility**. Perception of details (e.g., form, line, color, and texture) diminishes with increasing distance. The distance zone is dependent on the location of the observer relative to the Project. These distance zones are:
- **Foreground**: 0 to 0.5 miles from point of interest
- **Middle ground:** 0.5 to 5 miles from point of interest
- **Background:** over 5 miles away from the point of interest
- **Scenic quality**. A measure of the visual appeal of a tract of land. In the visual resource inventory process, the apparent scenic quality is determined using seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications.
- **Sensitivity level**. Sensitivity levels are a measure of public concern for scenic quality. Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern.
- **Simulation.** A realistic visual portrayal that demonstrates the perceivable changes in landscape features caused by a proposed management activity. This is done using photography, artwork, computer graphics, and other such techniques.
- **Texture.** The visual manifestations of the interplay of light and shadow created by the variations in the surface of an object or landscape.
- **Viewshed.** A landscape unit seen from a KOP.
- **Visual quality.** The relative worth of a landscape from a visual perception point of view.

- **Visual resource.** The visible physical features on a landscape (for example, land, water, vegetation, animals, structures, and other features).

During the rating process, each of these factors is ranked on a comparative basis with similar features within the project area. The BLM Visual Resource Management approach allows the various landscape elements that comprise visual quality to be quantified and rated with a minimum of ambiguity or subjectivity, which can be easily understood and compared by the reader.

According to this method, visual quality is rated according to the presence and characteristics of seven key components of the landscape, landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications, defined as follows:

1. The ***landform*** component of the visual quality rating criteria takes into account the fact that topography becomes more interesting visually as it gets steeper or more massive, or more severely or universally sculptured. Outstanding landforms may be monumental (as found in Yosemite Valley), or they may be exceedingly artistic and subtle (such as certain ridgelines, pinnacles, peaks, and other extraordinary formations).

2. The ***vegetation*** component of the rating criteria gives primary consideration to the variety of patterns, forms, and textures created by plant life. Short-lived displays are given consideration when they are known to be recurring or spectacular. Consideration also is given to smaller scale vegetational features that add striking and intriguing detail elements to the landscape (e.g., hedgerows or trees, native grasses, etc.).

3. The ***water*** component of the rating criteria recognizes that visual quality is largely tied to the presence of water in scenery, as it is that ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score for the water component.

4. The ***color*** component of the visual quality rating criteria considers the overall color(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.). Key factors that are used when rating the color of scenery are variety, contrast, and harmony.

5. The ***adjacent scenery*** component of the rating criteria takes into account the degree to which scenery outside of the view being rated enhances the overall impression of the scenery under evaluation. The distance of influence for adjacent scenery normally ranges from 0 to 5 miles, depending upon the characteristics of the topography, the vegetation cover, and other such factors. This factor generally is applied to views that normally would rate very low in score, but the influence of the adjacent high visual quality would enhance the visual quality and raise the score.

6. The ***scarcity*** component of the visual quality rating criteria provides an opportunity to give added importance to one or all the scenic features that appear to be relatively unique or rare within a region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often, it is a few not so spectacular elements in the proper combination that produces the most pleasing and memorable scenery – the scarcity factor can be used to recognize this type of area and give it the added emphasis it should have.

7. The ***cultural modifications*** component of the visual quality rating criteria considers any man-made modifications to the landform, water, vegetation, and/or the addition of man-made structures. Depending on their character, these cultural modifications may detract from the scenery in the form of a negative intrusion, or they may complement and improve the scenic quality of a view.

The Project will also be evaluated on the level of contrast Project elements exhibit to the existing visual character of the Project site and area, as shown in Table 1.

Table 1. Degree of Contrast Rating System

Degree of Contrast	Rating Criteria
None	The element contrast is not visible or perceived.
Weak	The element contrast can be seen but does not attract attention.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

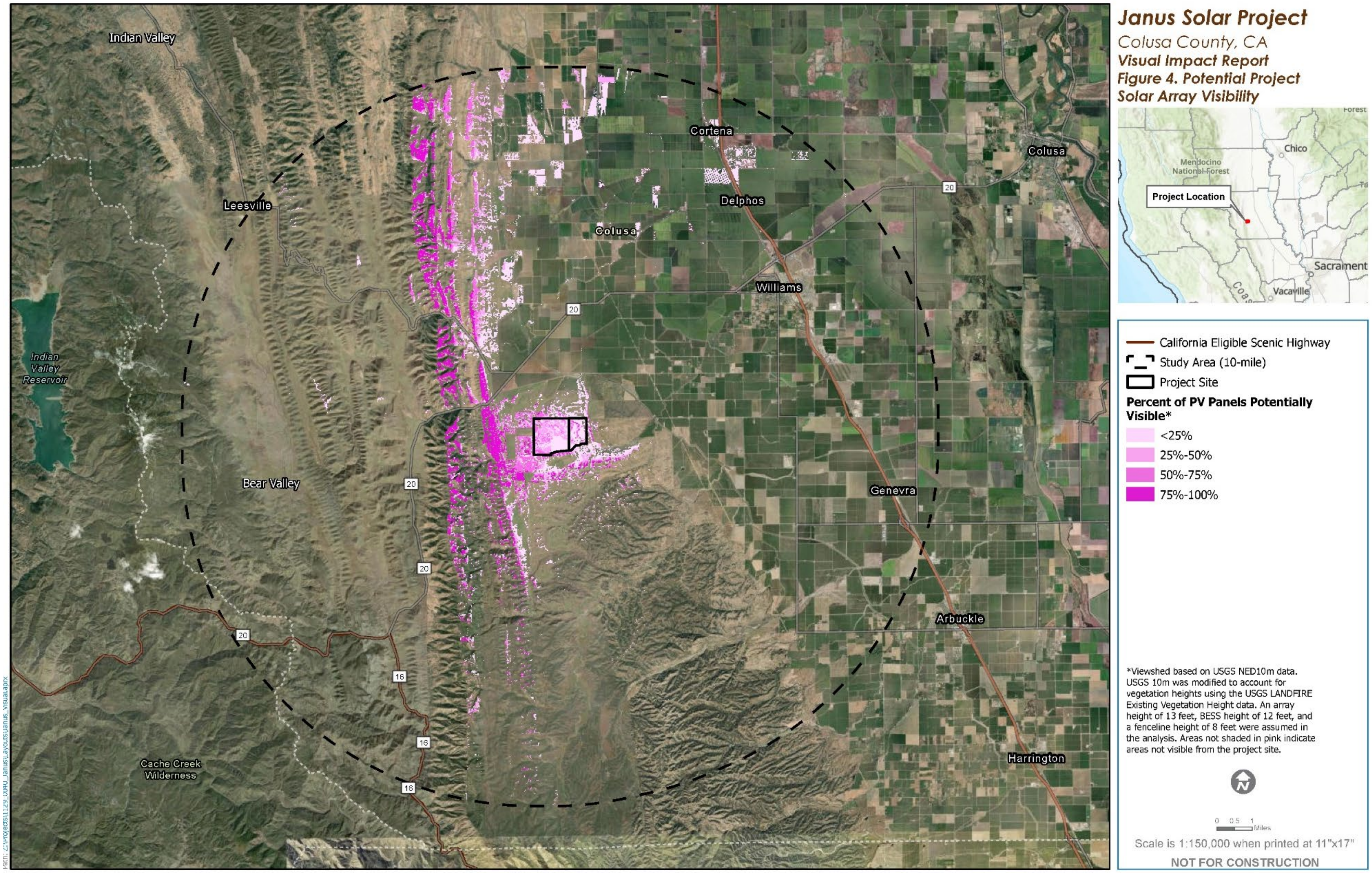
Source: BLM Manual Visual Resources Inventory, 2010

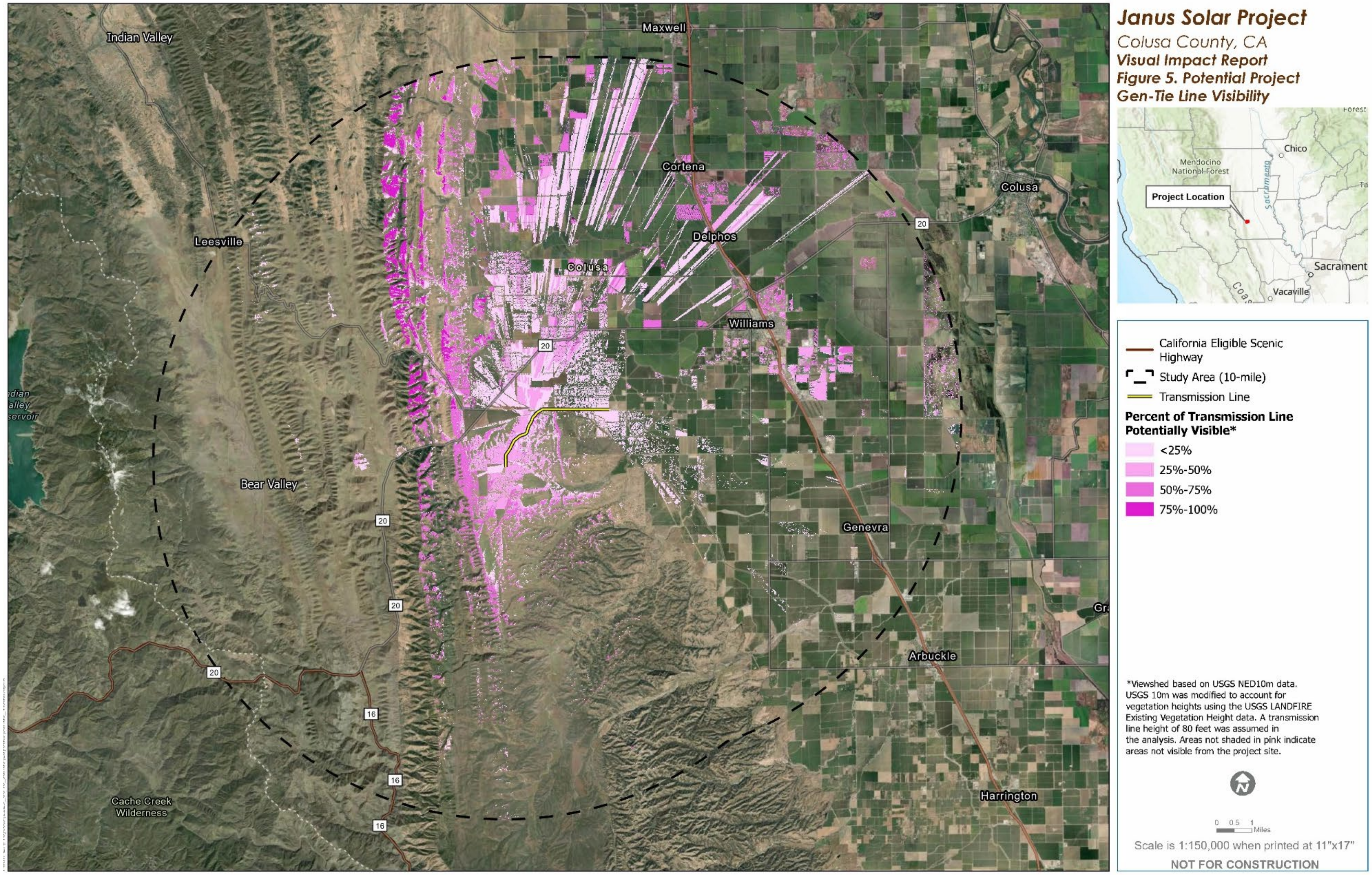
In general, adverse visual impacts are likely to occur when: a project takes place on a site with high existing visual quality; a project introduces a high level of contrast to the existing visual character of the project site and area; the sensitivity of the viewers is high; and the visibility of the site is high.

3.2.3 Viewshed

The viewshed is generally the area that is visible from an observer's viewpoint and includes the screening effects of intervening vegetation and/or physical structures. Although some portions of the Project site may be visible from a relatively large area, the degree of visibility would depend on distance and view angle. Generally, the Project site would be most visible from viewpoints within 1 mile, while site visibility would diminish as distance increases and view angle decreases. Distance is only one of the factors that determines visibility of a site from a viewpoint. Terrain, vegetation, and structural features can obscure views that might otherwise be available at a certain distance. A viewshed analysis is a graphic representation of locations that may have views of all, or portions of, the Project based on topography within the Project Zone of Visual Influence (ZVI).

A viewshed analysis is a graphic representation of the seen and unseen areas adjacent to the Project based on topography within the Project ZVI. The viewshed analysis was conducted using Esri ArcGIS software with the Spatial Analyst extension to process 10-meter digital elevation models and the height of the battery storage enclosures and gen-tie line above ground surface (Figures 4 and 5). The viewshed assumed "bare earth" conditions and was run from the Project area looking out to determine areas with potential visibility. The assumed "bare earth" conditions mean identification of areas with potential views of the Project were based on topography only. The analysis is also conservative because it does not account for screening by intervening structures, vegetation, curvature of the earth, small terrain changes, atmospheric conditions and attenuation, or other features. The ZVI was used to assist with the identification of potential KOPs.


Janus Solar Project
Colusa County, CA
Visual Impact Report
Figure 4. Potential Project Solar Array Visibility
Project Location
Chico
Mendocino National Forest
Sacrament
Vacaville
Indian Valley
Leesville
Cortena
Colusa
Delphos
Colusa
Williams
Indian Valley Reservoir
Bear Valley
Genevra
Arbuckle
Cache Creek Wilderness
Harrington
20
16
California Eligible Scenic Highway
Study Area (10-mile)
Project Site
Percent of PV Panels Potentially Visible*
<25%
25%-50%
50%-75%
75%-100%
*Viewshed based on USGS NED10m data. USGS 10m was modified to account for vegetation heights using the USGS LANDFIRE Existing Vegetation Height data. An array height of 13 feet, BESS height of 12 feet, and a fenceline height of 8 feet were assumed in the analysis. Areas not shaded in pink indicate areas not visible from the project site.
N
0 0.5 1 Miles
Scale is 1:150,000 when printed at 11"x17"
NOT FOR CONSTRUCTION


Janus Solar Project
Colusa County, CA
Visual Impact Report
Figure 5. Potential Project Gen-Tie Line Visibility
Project Location
Chico
Mendocino National Forest
Sacrament
Vacaville
California Eligible Scenic Highway
Study Area (10-mile)
Transmission Line
Percent of Transmission Line Potentially Visible*
<25%
25%-50%
50%-75%
75%-100%
*Viewshed based on USGS NED10m data. USGS 10m was modified to account for vegetation heights using the USGS LANDFIRE Existing Vegetation Height data. A transmission line height of 80 feet was assumed in the analysis. Areas not shaded in pink indicate areas not visible from the project site.
0 0.5 1 Miles
Scale is 1:150,000 when printed at 11"x17"
NOT FOR CONSTRUCTION
Indian Valley
Maxwell
Cortena
Colusa
Leesville
Delphos
Colusa
Williams
Bear Valley
Genevra
Arbuckle
Cache Creek Wilderness
Harrington
20
16

3.2.4 Key Observation Points

Key Observation Points (KOPs) were identified based on locations from which the Project infrastructure would potentially be visible and noticeable to the casual observer. The "casual observer" is considered an observer who is not actively looking or searching for the Project, but who is engaged in activities at locations with potential views of the Project, such as hiking or driving along a scenic road. If the Project infrastructure is not noticeable to the casual observer, visual impacts can be considered minor to negligible.

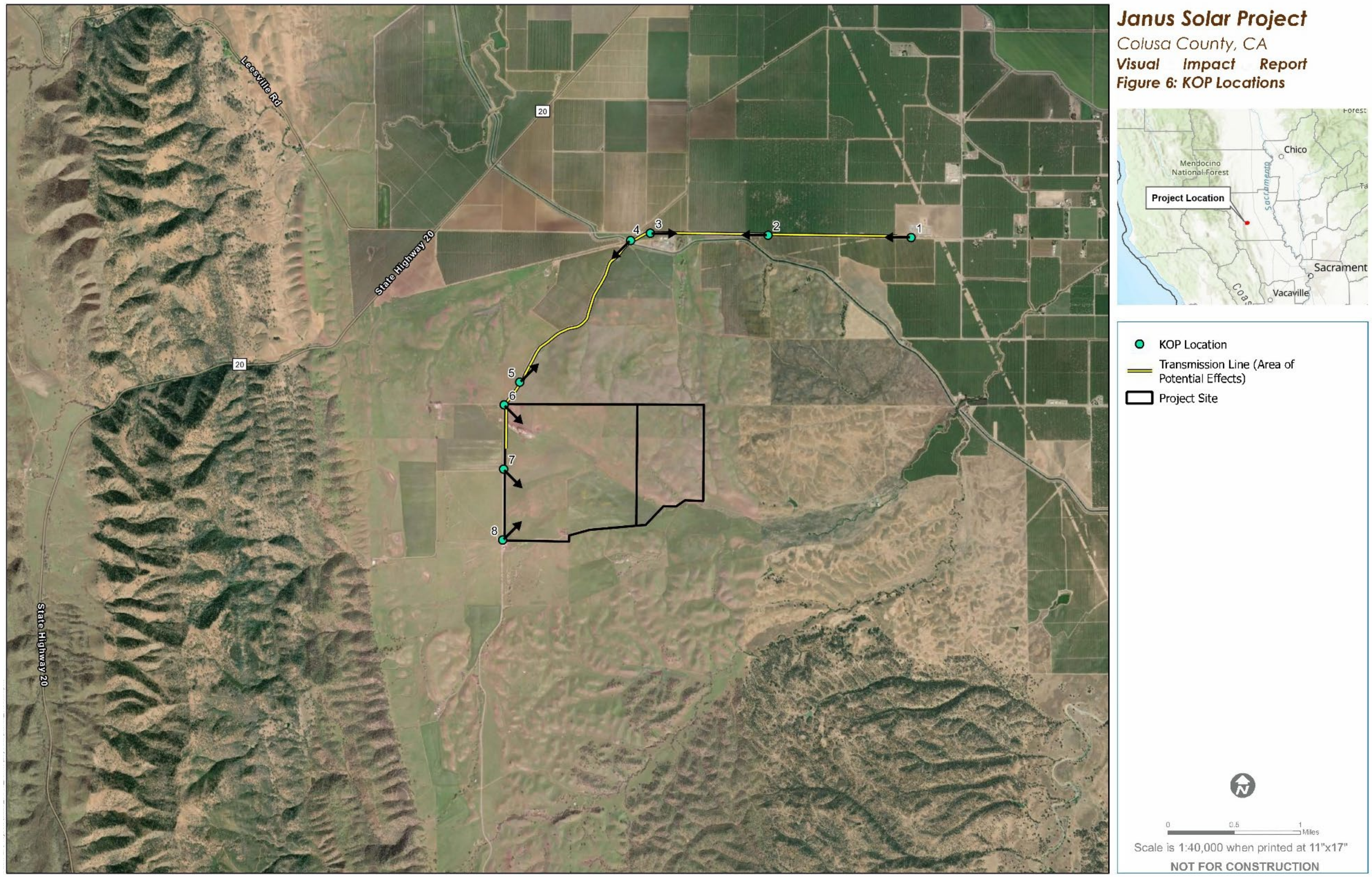
Eight KOPs were selected as representative vantage points in the landscape that offer motorists traveling on area roadways and local residents' views of the proposed Project site from publicly accessible areas (Figure 6).

Factors considered in the selection of KOPs included locations with sensitive viewers (e.g., local residences, motorists on nearby roadways) and potential for the Project site to be visible (e.g., distance and view angle). The KOPs were selected to capture representative vantages from local roadways and residences.

Digital photographs were taken from the selected KOP locations to support the discussion on existing visual settings and the analysis of potential visual impacts associated with the proposed Project site (Figures 7 through 16). Photographs of existing conditions were taken on July 3, 2024, using a digital single-lens reflex Canon 5D Mark III camera.

3.2.5 Visual Simulations

Three-dimensional visual simulations from representative KOP photos were rendered to approximate the visual conditions resulting from Project implementation. Using the photographs acquired at each KOP, a three-dimensional physical massing model was created that incorporated the PV scale model, placed in array configurations as shown in Figure 2. The model was then georeferenced and placed on global positioning system–controlled site-specific photographs to create simulations that demonstrate visual changes from the Project. Figures 7 through 16 present simulated views of Project features.


Janus Solar Project
Colusa County, CA
Visual Impact Report
Figure 6: KOP Locations
Chico
Mendocino National Forest
Project Location
Sacramento
Vacaville
KOP Location
Transmission Line (Area of Potential Effects)
Project Site
Scale is 1:40,000 when printed at 11"x17"
NOT FOR CONSTRUCTION
Leesville Rd
State Highway 20
20
1
2
3
4
5
6
7
8

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 7
Key Observation Point 1:
Beauchamp Dr facing West

Photograph Information

Time of photograph:	1:27pm
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	West
Latitude:	39.119807°
Longitude:	-122.224417°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE


EXISTING CONDITIONS
SIMULATED CONDITIONS
JANUS SOLAR PROJECT
Colusa County, CA
PHOTO SIMULATION
FIGURE 8
Key Observation Point 2:
Beauchamp Dr facing West
Photograph Information
Time of photograph: 1:09pm
Date of photograph: 7/2/2024
Weather condition: Sunny
Viewing direction: West
Latitude: 39.120024°
Longitude: -122.244541°
Disclaimer: visualizations and plans are for reference only; Not for construction
TETRA TECH
RWE

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 9

Key Observation Point 3: Walnut Dr facing East

EXISTING CONDITIONS

SIMULATED CONDITIONS

Photograph Information

Time of photograph:	11:07am
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	East
Latitude:	39.120214°
Longitude:	-122.261108°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 10
Key Observation Point 4: Spring Valley Rd facing Southwest

Photograph Information

Time of photograph:	11:27am
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	Southwest
Latitude:	39.119406°
Longitude:	-122.263874°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 11
Key Observation Point 5: Spring Valley Rd facing Northeast

Photograph Information

Time of photograph:	12:03pm
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	Northeast
Latitude:	39.103848°
Longitude:	-122.279421°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 12
Key Observation Point 6:
Spring Valley Rd facing Southeast

Photograph Information

Time of photograph:	12:56pm
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	Southeast
Latitude:	39.101355°
Longitude:	-122.281597°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 13 - Full Tilt
Key Observation Point 7: Spring Valley Rd facing Southeast

Photograph Information

Time of photograph:	12:35pm
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	Southeast
Latitude:	39.094312°
Longitude:	-122.281640°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 14 - Flat Tilt
Key Observation Point 7: Spring Valley Rd facing Southeast

Photograph Information

Time of photograph:	12:35pm
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	Southeast
Latitude:	39.094312°
Longitude:	-122.281640°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 15 - Full Tilt
Key Observation Point 8: Spring Valley Rd facing Northeast

Photograph Information

Time of photograph:	12:24pm
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	Northeast
Latitude:	39.086546°
Longitude:	-122.281745°

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH RWE

EXISTING CONDITIONS

SIMULATED CONDITIONS

JANUS SOLAR PROJECT

Colusa County, CA

PHOTO SIMULATION

FIGURE 16 - Flat Tilt
Key Observation Point 8:
Spring Valley Rd facing Northeast

Photograph Information

Time of photograph:	12:24pm
Date of photograph:	7/2/2024
Weather condition:	Sunny
Viewing direction:	Northeast
Latitude:	39.096546°
Longitude:	-122.281745"

Disclaimer: visualizations and plans are for reference only; Not for construction

TETRA TECH

RWE

4.0 ENVIRONMENTAL SETTING

4.1 REGIONAL CHARACTER

The Project is within the northwestern Sacramento Valley, which is part of the Great Central Valley Geomorphic Province (Beck and Haase 1974). The province is comprised of a large northwest trending alluvial plain situated between the Coast Ranges to the west and the Sierra Nevada Range to the east. Specifically, the Project is within the low eastern foothills of the Coast Ranges, situated in Spring Valley and near the foot of the Cortina Ridge east facing slope. The topography of the Project is slightly flat with undulating low foothills. A geographic feature, Bunker Hill, is located within the central portion of the Project. Salt Creek is located near the southern Project boundary, and an east to west trending ephemeral drainage (possibly a tributary of Spring Creek) crosses the southwest portion of the area of potential significant impact. The Project is roughly 19 miles west of the Sacramento River and is within the Colusa Basin Watershed which is part of the Sacramento National Wildlife Refuges Complex.

4.2 LOCAL SETTING

The Project site currently supports dry land cattle grazing and one pasture, depending on the time of year, is used for both grazing and grain cultivation for purposes of feeding cattle. Vegetation on the Project site includes non-native grassland, cultivated grain fields, low growing herbaceous plants, and disturbed riparian areas and drainages with sparse native and non-native trees, as well as non-native cultivated tree rows along the proposed gen-tie.

4.3 SCENIC ROUTES / VISTA POINTS

According to the California Department of Transportation (Caltrans) Scenic Highway System Lists, there are no officially designated state scenic highways in the Project area. There are two sections of State Route (SR)-16 and SR-20 in Colusa County that are designated as eligible state scenic highways located approximately 6.5 miles from the Project site (Caltrans 2024a). There are no Department of Transportation designated vista points on I-5 near the Project site (Caltrans 2024b).

4.4 EXISTING VISUAL CHARACTER

Eight KOPs were selected to assess the level of visual change resulting from implementation of the Project, as described in Section 3, Project Description, on the existing environment. The locations of the eight KOPs is presented in Figure 6. The KOPs were selected to capture representative vantages from Walnut Drive/Beauchamp Drive, Spring Valley Road, and residences north and south of the Project site. Photographs from each KOP under existing conditions are presented in Figures 7 through 16.

4.4.1 Key Observation Point 1

KOP 1 is located on Walnut Drive/Beauchamp Drive, adjacent to the PG&E Cortina Substation. This KOP depicts views facing west toward the Walnut Drive/Beauchamp Drive portion of the Project gen-tie line route. As shown in Figure 7, the existing landscape setting is characterized by relatively flat agricultural land in the foreground and steeper terrain associated with the foothills of the Coast Ranges in the background. Existing structural features include transmission towers and lines, utility poles and lines, and roadway in the foreground. Vegetation includes grasses and orchards. Dominant colors for the landscape are tans and greens, while the structures are gray and brown. The vegetation consists of irregular, organic forms. The linear and horizontal lines associated with the structures are visible and prominent from this viewpoint. This KOP provides a typical view for drivers traveling along Walnut Drive/Beauchamp Drive. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area.

4.4.2 Key Observation Point 2

KOP 2 is located on Walnut Drive/Beauchamp Drive, between the PG&E Cortina Substation and Spring Valley Road. This KOP depicts views facing west toward the Walnut Drive/Beauchamp Drive portion of the Project gen-tie line route. As shown in Figure 8, the existing landscape setting is characterized by relatively flat agricultural land in the foreground and steeper terrain associated with the foothills of the Coast Ranges in the background. Existing structural features include Spring Valley Road, fencing, utility poles and lines, and agricultural structures. Vegetation includes grasses and orchards. Dominant colors for the landscape are tans and greens, while the structures are gray and brown. The vegetation consists of irregular, organic forms. The linear and horizontal lines associated with the structures are visible and prominent from this viewpoint. This KOP provides a typical view for drivers traveling along Walnut Drive/Beauchamp Drive. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area.

4.4.3 Key Observation Point 3

KOP 3 is located on Walnut Drive/Beauchamp Drive, near the intersection with Spring Valley Road. This KOP depicts views facing east toward the Walnut Drive/Beauchamp Drive portion of the Project gen-tie line route. As shown in Figure 9, the existing landscape setting is characterized by relatively flat agricultural land. Existing structural features include Spring Valley Road, fencing, utility poles and lines, and agricultural and residential structures. Vegetation includes grasses, ruderal vegetation, and trees. Dominant colors for the landscape are tans and greens, while the structures are gray and brown. The vegetation consists of irregular, organic forms. The linear and horizontal lines associated with the structures are visible and prominent from this viewpoint. This KOP provides a typical view for drivers traveling along Walnut Drive/Beauchamp Drive. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area. This KOP also provides a typical view for the occupants of the residence on Walnut Drive/Beauchamp Drive. Considering the frequent viewing by the local residents, viewers would have a moderate sensitivity to the visual changes in the area.

4.4.4 Key Observation Point 4

KOP 4 is located on Spring Valley Road, adjacent to the Colusa-Tehama Canal. This KOP depicts views facing southwest. As shown in Figure 10, the existing landscape setting is characterized by agricultural land with gently rolling terrain in the foreground and steeper terrain associated with the foothills of the Coast Ranges in the background. Existing structural features include Spring Valley Road, fencing, and utility poles and lines. Vegetation includes grasses, a stand of trees, and orchards. Dominant colors for the landscape are tan and green, while the structures are gray and brown. The vegetation consists of irregular, organic forms, and grasses are continuous with the irregular shaped trees. The linear and horizontal lines associated with the structures are visible and prominent from this viewpoint. This KOP provides a typical view for drivers traveling along Spring Valley Road. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area.

4.4.5 Key Observation Point 5

KOP 5 is located near Spring Valley Road, approximately 0.15 miles north of the Project site. This KOP depicts views facing northeast toward Spring Valley Road. As shown in Figure 11, the existing landscape setting is characterized by agricultural land with relatively flat terrain in the foreground/middle ground and rolling terrain in the background. Existing structural features include Spring Valley Road, fencing, utility poles and lines, and transmission towers. Vegetation includes grasses and trees. Dominant colors for the landscape are tan and green, while the structures are gray and brown. The vegetation consists of irregular, organic forms of contiguous grasses with the irregular shaped trees. The linear and horizontal lines associated with the structures are visible and prominent from this viewpoint. This KOP provides a typical view for drivers traveling along Spring Valley Road. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area.

4.4.6 Key Observation Point 6

KOP 6 is located on Spring Valley Road, immediately adjacent to the northwest corner of the Project site. This KOP depicts views facing southeast toward the Project site. As shown in Figure 12, the existing landscape setting is characterized by agricultural land with relatively flat terrain in the foreground and rolling terrain in the middle ground. Existing structural features include fencing, transmission lines, and residential and agricultural buildings. Vegetation includes grasses and stands of trees. Dominant colors for the landscape are green and tan, while the structures are gray, brown, and white. The vegetation consists of irregular, organic forms; grasses are continuous with the irregular shaped trees. The linear and horizontal lines associated with the structures are visible from this viewpoint. This KOP provides a typical view for drivers traveling along Spring Valley Road. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area.

4.4.7 Key Observation Point 7

KOP 7 is located near Spring Valley Road, approximately 0.5 mile south of the northwest corner of the Project site. This KOP depicts views facing southeast toward the Project site. As shown in Figures 13 and 14, the existing landscape setting is characterized by agricultural land with relatively flat terrain in the foreground and rolling terrain in the middle ground. Existing structural features include Spring Valley Road, fencing, and utility poles and lines. Vegetation includes grasses, and occasional trees. The dominant colors of the landscape are tan and green while the structures are gray and brown. The vegetation consists of irregular, organic forms of contiguous grasses with the occasional, irregular shaped trees. The linear and horizontal lines associated with the structures are visible and prominent from this viewpoint. This KOP provides a typical view for drivers traveling along Spring Valley Road. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area.

4.4.8 Key Observation Point 8

KOP 8 is located on Spring Valley Road, immediately adjacent to the southwest corner of the Project site. This KOP depicts views facing southeast toward the Project site. As shown in Figures 15 and 16, the existing landscape setting is characterized by agricultural land with relatively flat terrain in the foreground and rolling terrain in the middle ground. Existing structural features include fencing, utility poles and lines, and residential and agricultural buildings. Vegetation includes grasses and stands of trees. Dominant colors for the landscape are green and tan, while the structures are gray, brown, and white. The vegetation consists of irregular, organic forms; grasses are continuous with the irregular shaped trees. The linear and horizontal lines associated with the structures are visible from this viewpoint. This KOP provides a typical view for drivers traveling along Spring Valley Road. Considering the short duration of viewing, viewers would have a low viewer sensitivity to the visual changes in the area. Considering the frequent viewing by residents, viewers would have a moderate sensitivity to the visual changes in the area, however, views from residences south of the Project site are partially screened by mature trees and/or terrain.

5.0 REGULATORY SETTING

5.1 FEDERAL

5.1.1 National Scenic Byways Program

The National Scenic Byways Program, a part of the Federal Highway Administration, recognizes, preserves, and enhances selected roads throughout the United States as All-American Roads or National Scenic Byways based on one or more archaeological, cultural, historic, natural, recreational, and scenic qualities. According to the Federal Highway Administration's America's Byways website, there are no officially designated National Scenic Byways in the vicinity of the Project site (FHWA 2021).

5.2 STATE

5.2.1 Caltrans Scenic Highway Program

State scenic highways are those that are either officially designated as state scenic highways by Caltrans or are eligible for such designation. The scenic designation is based on the amount of natural landscape visible by motorists, the scenic quality of the landscape, and the extent to which development intrudes on the motorist's enjoyment of the view. There are two sections of SR-16 and SR-20 in Colusa County that are designated as eligible state scenic highways located approximately 6.5 miles from the Project site (Caltrans 2024a). There are no Department of Transportation designated vista points on I-5 near the Project site (Caltrans 2024b).

5.3 LOCAL

5.3.1 Colusa County

Community Character Element (Colusa County 2012a)

Goal CC-1: Protect the Rural Qualities that make the County and its Communities Distinct from other Counties in California, and Conserve and Enhance the Elements that Contribute to a Favorable Quality of Life

Objective CC-1B: To Maintain and Enhance the Aesthetic Beauty of the County

Policy CC 1-14: Encourage private landowners to maintain their property in a way that contributes to the attractive appearance of the County, while recognizing that many of the land uses in the County, including agriculture and light industry, require a variety of on-site structures, equipment, machinery and vehicles in order to operate effectively.

Policy CC 1-15: Preserve and enhance the rural landscape as an important scenic feature of the County.

Policy CC 1-16: Require all new development to protect the scenic beauty of the County, incorporate high quality site design, architecture, and planning so as to enhance the overall quality of the built environment in the County's communities and create a visually interesting and aesthetically pleasing built environment that respects the rural nature of the County.

Goal OSR-1: Preserve and Protect the Natural Resources and Scenic Beauty of the County

Objective OSR 1-C: Maintain and Enhance the Quality of the County's Scenic and Visual Resources

Policy OSR 1-10: To the maximum extent feasible, maintain and protect views of the County's scenic resources, including water bodies, the Sutter Buttes, Snow Mountain, St. John Mountain, Goat Mountain, unique geologic features, and wildlife habitat areas.

Policy OSR 1-11: To the maximum extent feasible, the significant open space resources in the County, such as the western foothills, Indian Valley, and Bear Valley should remain visually undisturbed.

Policy OSR 1-12: Limit visually intrusive development near scenic resources in order to minimize visual impacts to the greatest extent feasible.

Policy OSR 1-13: Visual impacts to scenic resources, such as regional focal points, from new development or resource extraction activities shall be addressed and mitigated through the CEQA review process.

Policy OSR 1-14: Reduce light and glare from artificial lighting within open space and agricultural areas to the extent that it does not adversely impact the County's rural character.

Objective OSR 1-D: Encourage the Preservation of Scenic Vistas and Limit the Proliferation of Unsightly Signage along County Roadways and in Scenic Areas Policy

OSR 1-15: Protect roadway viewsheds with high scenic value and "rural flavor" and encourage the establishment of public viewing areas in areas with rural character and scenic beauty.

Policy OSR-1-16: Protect and preserve the following features along rural character corridors and in scenic areas to the extent appropriate and feasible:

- Trees, wildflowers, and other natural or unique vegetation
- Landforms and natural or unique features
- Views and vistas, including expansive views of open space and agricultural lands
- Historic structures (where feasible), including buildings, bridges, and signs

6.0 IMPACT ANALYSIS

6.1 SCENIC VISTAS

Would the proposed Project cause substantial, adverse effects on a scenic vista?

No designated scenic vistas are located within visible distance of the Project site (Colusa County 2011, Caltrans 2024b). The Project site and surrounding area includes existing agricultural land and buildings, residences, and utility infrastructure. The Project area is not a scenic vista nor is it visible from any designated scenic vista. No impact on scenic vistas would occur.

Level of Significance: **No impact.**

6.2 SCENIC HIGHWAYS

Would the proposed Project cause substantial damage to scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway?

There are no officially designated state scenic highways in the vicinity of the Project site (Caltrans 2024a). The sections of SR-16 and SR-20 that are designated as eligible state scenic highways are located approximately 6.5 miles from the Project site. Due to terrain and distance, the Project site is not visible from these sections of these highways; therefore, no impact to a scenic highway will occur.

Level of Significance: **No impact.**

6.3 VISUAL CHARACTER

In non-urbanized areas, would the proposed Project 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 a publiclyaccessible vantage point.)

The Project site is rural in character with a wide variety of visual encroachments, including scattered ranch structures, agricultural buildings and infrastructure, fencing, local electrical distribution lines and high-voltage transmission lines, and roadways.

6.3.1 Construction

The proposed Project would involve both temporary and permanent changes to the visual character of the site. Temporary changes are associated with construction activities, including construction equipment, staging, and Site construction. These visual impacts would be short term in nature and are not considered to be significant.

6.3.2 Operation

6.3.2.1 KOP 1

Most of the Project solar facility components, such as the solar PV generating components, substation, and BESS, would not be visible from this location because of the screening of the Project site by terrain and vegetation. The Project gen-tie line would introduce brown and gray colors and vertical and horizontal lines into the landscape setting and would be visible from this location by a casual observer (see Figure 7). The lines associated with the gen-tie line would result in a visual contrast with the irregular, organic forms. However, the gen-tie will appear very similar to the structures visible from this location that also possess brown and gray colors and horizontal and vertical lines (roadway, utility poles and lines, and transmission towers and lines). This viewpoint reflects the views of drivers traveling west along Walnut Drive/Beauchamp Drive. These impacts would be short term for travelers because they would only be paralleling the Project gen-tie line for a limited time. While appearing as a new and visible feature to the casual observer, the Project gen-tie would be consistent with other horizontal and vertical lines and visible throughout the landscape and would be a subordinate feature in the landscape setting. The Project gen-tie would not block views of the surrounding agricultural fields or the foothills of the Coast Ranges. As the contrast is anticipated to be weak from this KOP, the visual impacts are considered minor and less than significant.

6.3.2.2 KOP 2

Most of the Project solar facility components, such as the solar PV generating components, substation, and BESS, would not be visible from this location because of the screening of the Project site by terrain and vegetation. The Project gen-tie line would introduce brown and gray colors and vertical and horizontal lines into the landscape setting and would be visible from this location by a casual observer (see Figure 8). The lines associated with the gen-tie line would result in a visual contrast with the irregular, organic forms. However, the gen-tie will appear very similar to the structures visible from this location that also possess brown and gray colors and horizontal and vertical lines (roadway, utility poles and lines, and fences). This viewpoint reflects the views of drivers traveling west along Walnut Drive/Beauchamp Drive. These impacts would be short term for travelers because they would only be paralleling the Project gen-tie line for a limited time. While appearing as a new and visible feature to the casual observer, the Project gen-tie would be consistent with other horizontal and vertical lines visible throughout the landscape and would be a subordinate feature in the landscape setting. The Project gen-tie would not block views of the surrounding agricultural fields or the foothills of the Coast Ranges. As the contrast is anticipated to be weak from this KOP, the visual impacts are considered minor and less than significant.

6.3.2.3 KOP 3

Most of the Project solar facility components, such as the solar PV generating components, substation, and BESS, would not be visible from this location because of the screening of the Project site by terrain and vegetation. The Project gen-tie line would introduce brown and gray colors and vertical and horizontal lines into the landscape setting and would be visible from this location by a casual observer (see Figure 9). The lines associated with the gen-tie line would result in a visual contrast with the irregular, organic forms. However, the gen-tie will appear very similar to the structures visible from this location that also possess brown and gray colors and horizontal and vertical lines (roadway, utility poles and lines, and fences). This viewpoint reflects the views of drivers traveling east along Walnut Drive/Beauchamp Drive. These impacts would be short term for travelers because they would only be paralleling the Project gen-tie line for a limited time. While appearing as a new and visible feature to the casual observer, the Project gen-tie would be consistent with other horizontal and vertical lines and visible throughout the landscape and would be a subordinate feature in the landscape setting. The Project gen-tie would not block views of the surrounding agricultural fields. As the contrast is anticipated to be weak from this KOP, the visual impacts are considered minor and less than significant.

6.3.2.4 KOP 4

Most of the Project solar facility components, such as the solar PV generating components, substation, and BESS, would not be visible from this location because of the screening of the Project site by terrain and vegetation. The Project gen-tie line would introduce brown and gray colors and vertical and horizontal lines into the landscape setting and would be visible from this location by a casual observer (Figure 10). The colors and lines associated with the gen-tie line would result in a visual contrast with the irregular, organic forms. However, the gen-tie will appear very similar to the structures visible from this location that also possess brown and gray colors and horizontal and vertical lines (roadway, fences, and utility poles and lines). This viewpoint reflects the views of drivers traveling southwest along Spring Valley Road. These impacts would be short term for travelers because they would only be paralleling the Project gen-tie line for a limited time. While appearing as a new and visible feature to the casual observer, the Project gen-tie would be consistent with other horizontal and vertical lines and visible throughout the landscape and would be a subordinate feature in the landscape setting. The Project gen-tie would not block views of the surrounding agricultural fields or the foothills of the Coast Ranges. As the contrast is anticipated to be weak from this KOP, the visual impacts are considered minor and less than significant.

6.3.2.5 KOP 5

Most of the Project solar facility components, such as the solar PV generating components, substation, and BESS, would not be visible from this location in this direction. The Project gen-tie line would introduce brown and gray colors and vertical and horizontal lines into the landscape setting and would be visible from this location by a casual observer (Figure 11). The colors and lines associated with the gen-tie line would result in a visual contrast with the irregular, organic forms and colors of the existing landform and vegetation. However, the gen-tie will appear very similar to the structures visible from this location that also possess brown and gray colors and horizontal and vertical lines (roadway, fences, and utility poles and lines). This viewpoint reflects the views of drivers traveling northeast along Spring Valley Road. These impacts would be short term for travelers because they would only be paralleling the Project gen-tie line for a limited time. While appearing as a new and visible feature to the casual observer, the Project gen-tie would be consistent with other horizontal and vertical lines and visible throughout the landscape and would be a subordinate feature in the landscape setting. The Project gen-tie would not block views of the surrounding agricultural fields. As the contrast is anticipated to be weak from this KOP, the visual impacts are considered minor and less than significant.

6.3.2.6 KOP 6

Components, such as the solar PV generating components, substation, and BESS, would be visible from this location in this direction. The Project would introduce dark gray color, geometric shapes, and horizontal lines into the landscape setting and would be barely visible from this location by a casual observer (Figure 12). The gray colors, regular geometric forms and horizontal lines associated with the solar arrays and associated infrastructure would result in a visual contrast with the irregular, organic forms and colors of the existing landform and vegetation. However, the structures in the vicinity also possess horizontal and vertical lines and gray color (fencing, residential and agricultural buildings) and some are colored gray. This viewpoint reflects the views of drivers traveling south along Spring Valley Road. The Project would begin to attract attention to the casual observer, but the portion of the Project that would be visible would be subordinate to the existing structures and the landscape, so the contrast would be considered weak. These impacts would be short term for travelers because they would only be approaching the Project site for a limited time and their focus would be on the road ahead. As the contrast is anticipated to be weak from this KOP, the visual impacts are considered minor and less than significant.

6.3.2.7 KOP 7

Components, such as the solar PV generating components, substation, and BESS, would be visible from this location in this direction. The Project would introduce dark gray color, geometric shapes, and horizontal lines into the landscape setting and would be visible from this location by a casual observer, see Figures 13 and 14. The colors, regular geometric forms and horizontal lines associated with the solar arrays and associated infrastructure would result in a visual contrast with the irregular, organic forms and colors of the existing landform and vegetation. However, the structures in the vicinity also possess horizontal and vertical lines and gray color (fencing, residential and agricultural buildings) and some are colored gray. The Applicant proposes using ground-mounted single axis trackers for the panel design, the panels will follow the sun's position throughout the day. The simulation shown in Figure 13 shows panels at the maximum tilt orientation when the sun is at its lowest point on the horizon. Maximum tilt was simulated to show the anticipated view of the panels at their maximum height above ground surface (highest point would be a maximum of 13 feet above grade); however, the number of minutes the panels would be at maximum tilt would be a small portion of the total daylight hours per day. The panel orientation will change throughout the day, and when the sun is at its highest point in the sky, the panels will be in a flat orientation, see Figure 14. During the majority of the day, the panels will be oriented closer to a horizontal alignment that allows views through the Project site, reducing attention to and contrast from the Project. Therefore, during the majority of the day, the panels would introduce a weak contrast.

This viewpoint reflects the views of drivers traveling south along Spring Valley Road. As shown in the viewshed analysis (Figure 4), the Project solar panels are visible from publicly accessible locations when very near the Project site and visibility varies with the terrain and the viewer's location. From KOP 7, approximately 50 percent of the Project is potentially visible; however, the viewer would likely only notice the nearest rows. As discussed in Section 2, Project Description, three-rail fencing similar to the existing fencing along the perimeter of other properties in the area, may be utilized in addition to the metal fencing along the perimeter of the Project to help maintain the visual character of the site. As a condition of approval, prior to installation of any security fencing, the design of this fencing shall be submitted to the Community Development Director for review and approval. In general, the design of the fencing shall incorporate rural fencing characteristics to the greatest extent possible and avoid industrial or institutional designs. In addition, as shown in Figures 13 and 14, the Project does not block views of the surrounding hills. The view duration would be short and limited to the time driving near the Project site. As the Project would attract attention to the casual observer and would co-dominate with the hills in the middle ground, the contrast would be considered strong. These impacts would be short term for travelers because they would only be approaching the Project site for a limited time and their focus would be on the road ahead.

The Project would significantly change the characteristics of the site from agricultural to man-made structures; however, the Project site does not contain significant scenic features. On site there are no interesting landforms; the vegetation has little variety of patterns, forms, textures, or colors; and the scenic features are not unique or rare within the region. The adjacent off-site rolling hills and occasional trees provide more interesting scenic features, and the Project would not block views of the hills and trees. As the Project would for most of the day have a weak contrast, not change the visual quality of a site of high visual quality, and would not block views of the adjacent scenery, impacts would be less than significant.

6.3.2.8 KOP 8

Components, such as the solar PV generating components, substation, and BESS, would be visible from this location in this direction. The Project would introduce dark gray color, geometric shapes, and horizontal lines into the landscape setting and would be visible from this location by a casual observer (Figures 15 and 16). The colors, regular geometric forms and horizontal lines associated with the solar arrays and associated infrastructure would result in a visual contrast with the irregular, organic forms and colors of the existing landform and vegetation. However, the structures in the vicinity also possess horizontal and vertical lines and gray color (fencing, residential and agricultural buildings) and some are colored gray. The Applicant proposes using ground-mounted single axis trackers for the panel design; the panels will follow the sun's position throughout the day. The simulation in Figure 15 shows panels at the maximum tilt orientation when the sun is at its lowest point on the horizon. Maximum tilt was simulated to show the anticipated view of the panels at their maximum height above ground surface (highest point of panels is a maximum of 13 feet above grade); however, the number of minutes the panels would be at maximum tilt would be a small portion of the total daylight hours per day. The panel orientation will change throughout the day, and when the sun is at its highest point in the sky during the day, the panels will be in a flat orientation, see Figure 16. During the majority of the day, the panels will be oriented closer to a horizontal alignment that allows views through the Project site, reducing attention to and contrast from the Project. Therefore, during the majority of the day, the panels would introduce a weak contrast.

This viewpoint reflects the views of drivers traveling north along Spring Valley Road. As shown in the viewshed analysis (Figure 4), the Project solar panels only visible from publicly accessible locations when very near the Project site, and visibility varies with the terrain and the viewer's location. From KOP 8, approximately 50 percent of the Project is potentially visible; however, the viewer would likely only notice the nearest rows. As discussed above, and in Section 2, Project Description, three-rail fencing similar to the existing fencing along the perimeter of other properties in the area, may be utilized in addition to the metal fencing along the perimeter of the Project to help maintain the visual character of the site. As a condition of approval, prior to installation of any security fencing, the design of this fencing shall be submitted to the Community Development Director for review and approval. In general, the design of the fencing shall incorporate rural fencing characteristics to the greatest extent possible and avoid industrial or institutional designs. In addition, as shown in Figures 15 and 16, the Project does not block views of the surrounding hills. The view duration would be short and limited to the time driving near the Project site. As the Project would attract attention from the casual observer and would co-dominate with the landscape in the foreground and the hills in the middle ground, the contrast would be considered strong. These impacts would be short term for travelers because they would only be approaching the Project site for a limited time and their focus would be on the road ahead. This viewpoint also reflects the views of the occupants of the residence south of the Project site. For views from the residence, while appearing as new and highly visible features, the Project infrastructure would be consistent with other horizontal and vertical lines and geometric shapes visible throughout the landscape. In addition, views from the residences south of the Project site are partially screened by mature trees and/or terrain.

The Project would substantially change the characteristics of the site from agricultural to man-made structures; however, the Project site does not contain significant scenic features. There are no interesting landforms on site; the vegetation has little variety of patterns, forms, textures, or colors; and the scenic features are not unique or rare within a region. The adjacent off-site rolling hills and occasional trees provide interesting scenic features, and the Project would not block views of the hills and trees. As the Project would for most of the day have a weak contrast, it would not significantly change the quality of the site’s existing level of visual quality, and would not block views of the adjacent scenery, impacts would be less than significant.

Level of Significance: **Less Than Significant.**

6.4 LIGHT & GLARE

Would the proposed Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

The Project is not expected to create a substantial new source of nighttime lighting or daytime glare. The proposed Project will provide external safety lighting for both normal and emergency conditions at the primary access points. Lighting will be designed to provide the minimum illumination needed to achieve safety and security and will be downward facing and shielded to focus illumination in the immediate area. All lighting associated with the proposed Project will be subject to County approval and compliance with Colusa County requirements. Therefore, the Project will have a less than significant impact associated with nighttime lighting.

Unlike solar thermal facilities, which rely on large fields of mirrors to reflect light, the potential reflection from solar PV modules is inherently low, since they are designed to capture and not to reflect sunlight. PV panels have a lower index of refraction/reflectivity than common sources of glare in residential environments. The glare and reflectance levels from a given PV system are lower than the glare and reflectance levels of steel, snow, standard glass, plexiglass, and smooth water (Shields 2010). The glare and reflectance levels of modules are further reduced with the application of anti-reflective coatings. The PV suppliers typically use stippled glass for panels as the “texturing” allows more light energy to be channeled/transmitted through the glass while weakening the reflected light. With the application of anti-reflective coatings and use of modern glass technology, Project PV panels would display overall low reflectivity. In addition, because tracker systems follow the sun, the underside of the PV panels and most of the structure supporting them are shadowed throughout the day.

Moreover, light reflected from the PV panels would travel above the line of sight of most, if not all, viewers. The PV tracking systems position the array so that the sun's rays are always perpendicular to the face of the panel. What light is reflected from the panels is reflected back toward the sun. During midday conditions, when the sun is high in the sky, the rays of the sun are reflected directly upward. For example, when the sun is low on the horizon (near dawn or dusk), the sun's angle in the sky is low; however, reflected rays would still be directed away from ground-level receptors because the maximum downward angle of the arrays would not be below 30 degrees. Similarly, and also due to their low reflectivity, the panels are not expected to cause visual impairment for motorists on area roadways or pilots arriving and departing at the Williams Airport or Colusa County Airport.

Level of Significance: **Less than significant impact.**

7.0 REFERENCES

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APPENDIX C
LAND EVALUATION AND SITE ASSESSMENT

TETRA TECH

Technical Memorandum

Date: February 2, 2021

To: Scott Schwartz, Solar Development Manager, RWE Solar Development, LLC

From: Jessica Taylor, Soil Conservationist/Ecologist, Tetra Tech, Inc.

Subject: Land Evaluation and Site Assessment for the Janus Solar Project, Colusa County, California

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1.0 Introduction

Janus Solar PV, LLC, a subsidiary of RWE Solar Development, LLC, seeks to develop the Janus Solar Project (Janus Solar or Project), a photovoltaic solar electrical generating facility, in Colusa County, California. Janus Solar will generate 80 megawatts of renewable energy and will include up to 80 megawatts of battery energy storage. The Janus Solar Site is located on private property currently used for grazing. The Project Site includes three parcels with Assessor Parcel Numbers 018-050-005-000, 018-050-006-000, and 018-050-013-000, which are 630.5, 255.7, and 137.7 acres in size, respectively, for a total area of approximately 1,024 acres, as shown on Figure 1.

This technical memorandum provides the results of the Land Evaluation and Site Assessment (LESA) Model for the Janus Solar Project. The analysis concludes that the conversion of 1,024 acres of agricultural land for solar energy generation by the Project **<u>will not result in a significant loss of farmland and will not have a significant impact on agricultural land use</u>**.

2.0 Land Evaluation and Site Assessment Model

The LESA Model is an approach for rating the relative quality of land resources based upon specific measurable features. The LESA Model was first developed by the federal Natural Resource Conservation Service (NRCS) in 1981. It was subsequently adapted in 1990 by the California Department of Conservation to evaluate land use decisions that affect the conversion of agricultural lands in California (Public Resources Code Section 21095). The formulation of the LESA Model is intended to provide lead agencies under the California Environmental Quality Act with a methodology to ensure that agricultural land conversions are quantitatively and consistently considered in the environmental review process. CEQA Guidelines Appendix G indicates that lead agencies may refer to the LESA model "in determining whether impacts to agricultural resources are significant environmental effects."

The following sections align with the LESA Model worksheets published by the NRCS. Each section is built on the information in the previous section and results in a final score that is the basis for the final determination. The scores for each section are derived from the tables within the LESA manual.

Tetra Tech, Inc.
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Land Capability Classification and Storie Index Scores

The Land Capability Classification (LCC) indicates the suitability of soils for most kinds of crops. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating. Subclasses designated with a lower-case letter (identified as e, w, s, or c) are typically used in conjunction with the roman numerals to further describe soil limitations. The letter “e” indicates that the main limitation of the soil is erosion; “w” indicates that the presence of water either within or on the soil causes limitation in plant growth; “s” indicates that the soil is shallow, droughty, or stony; and “c” indicates that the limitation is a climate that is generally too cold or hot for many plants. The LCC has separate scales used independently for irrigated and non-irrigated lands.

The NRCS supplied Storie Index provides a numeric rating (based upon a 100-point scale) of the relative degree of suitability or value of a given soil for intensive agriculture use. The rating is based only on soil characteristics, such as depth, texture of the surface soil, density of the subsoil, drainage, salts and alkalinity, and relief. Other factors, such as availability of water for irrigation and climate are not considered in the Storie Index.

Table 1. Land Capability Classification and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit[1]	Project Acres	Proportion of Project Area	LCC[1] (irrigated)	LCC Rating[2] (irrigated)	LCC Score (C x E)	Storie Index[1]	Storie Index Score (C x G)
102	410.5	0.40	IIs	80	32.1	2	0.8
200	6.5	0.01	IIIw	60	0.4	4	0.0
210	30.6	0.03	I	100	3.0	1	0.0
212	47.3	0.05	IIIe	70	3.2	3	0.1
213	277.3	0.27	IVe	50	13.5	4	1.1
230	251.9	0.25	IIIe	70	17.2	1	0.2
Totals	1024.1	1		LCC Total Score	69.4	Storie Index Total Score	2.3

[1] The Soil Map Unit information and acreage, LCC and Storie Index information were determined from the current soil survey information available at the U.S. Department of Agriculture Natural Resources Conservation Service website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

[2] The LCC Rating for irrigated land was determined from the LCC Point Rating Table 2 from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).

Project Size Scores

The Project Size rating recognizes the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Larger operations tend to have greater impacts upon the local economy through direct employment. In terms of agricultural productivity, the size of the farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater diversity in crop selection and the potential for greater economic return per acre unit. The Project Size rating is determined by summing the acres in a project that fall within one of three consolidated LCC categories.

Under the Project Size Score rating (Table 2), relatively fewer acres of high-quality soils are required to achieve a maximum Project Size Score.

Table 2. Project Size Scores

	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Total Acres	441.1	305.7	277.3
Project Size Scores[1]	100	100	80
Highest Project Size Score	100		

[1] Project Size Score was determined from the Project Size Scoring Table from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).

Water Resources Availability

The Water Resources Availability rating for the Project is based upon identifying the various sources that may supply the Project area, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. Table 3 summarizes the limited water availability in the Project area.

The Water Resources Availability Score is scored on a scale of 1–100.

Table 3. Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score[1]	Weighted Availability Score (C x D)
All	None	1	20	20
		Total Water Resource Score		20

[1] Water Resources Availability Score was determined from the scoring table from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).

Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands within the Zone of Influence of the Project area. The LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production.

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land including: publicly owned lands maintained as park, forest, or watershed resources; Williamson Act contracted lands; and lands with natural resource easements that restrict the conversion of such land to urban or industrial uses.

The Zone of Influence is the amount of surrounding lands up to a minimum of one-quarter mile from the project boundary. Table 4 summarizes the findings for the Project.

Table 4. Surrounding Agricultural Land Rating

A	B	C	D	E	F	G
Zone of Influence					Surrounding Agricultural Land Score[2]	Surrounding Protected Resource Land Score[2]
Total Acres	Acres in Agriculture[1]	Acres of Protected Resource Land[1]	Percent in Agriculture (B/A)	Percent Protected Resource Land (C/A)		
1479.90	1479.9	1479.9	100%	100%	100	100

[1] Acres and Protected Resource designation were determined based on data from Colusa County Parcels Map (County of Colusa 2021).
[2] Score was determined from the scoring table from the California Agricultural Land Evaluation and Site Assessment Instruction Manual (CDC 1997).

Final LESA Score Sheet

The LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Table 5 summarizes the Final LESA Score.

Table 5. Final LESA Score Sheet

	Factor Scores	Factor Weight	Weighted Factor Scores
Land Evaluation Factors			
Land Capability Classification	69.43	0.25	17.36
Storie Index	2.32	0.25	0.58
Land Evaluation Subtotal		0.5	17.94
Site Assessment Factors			
Project Size	100	0.15	15.00
Water Resource Availability	20	0.15	3.00
Surrounding Agricultural Land	100	0.15	15.00
Protected Resource Land	100	0.05	5.00
Site Assessment Total		0.5	38.00
		Final LESA Score	**55.94**

3.0 Final Result

According to the California Agricultural LESA Model Instruction Manual, a final LESA score ranging from 40–59 points is considered significant only if both the land evaluation and site assessment weighted factor subscores are each greater than 20 points (CDC 1997). The final LESA score for the Project is 55.94, and the land evaluation score is below 20 points; such that the Project will not have a significant impact on agricultural land use on the Project site or Zone of Influence (Tables 5 and 6).

Table 6. LESA Model Significance Determination

Total LESA Score	Scoring Decision
0–39 Points	Not considered significant
40–59 Points	Considered significant *only* if both the Land Evaluation and Site Assessment (found in Table E from the California Agricultural Land Evaluation and Site Assessment Instruction Manual [CDC 1997]) weighted factor subscores are each *greater* than or equal to 20 points.
60–70 Points	Considered significant *unless* either of the Land Evaluation and Site Assessment weighted factor subscores is *less* than 20 points.
80–100 Points	Considered significant

4.0 References

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FIGURE

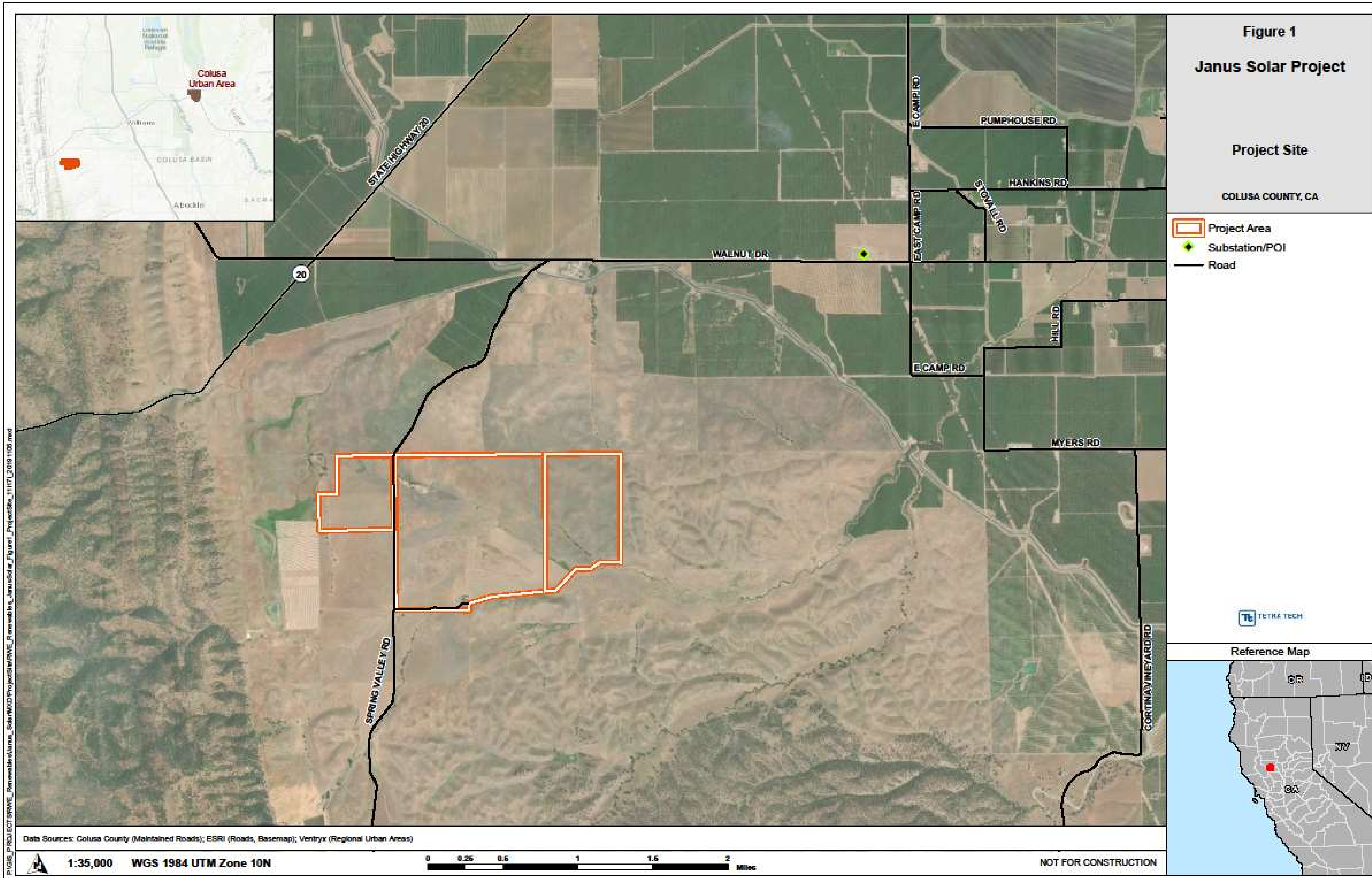

Figure 1
Janus Solar Project
Project Site
COLUSA COUNTY, CA
Project Area
Substation/POI
Road
Colusa Urban Area
COLUSA BASIN
STATE HIGHWAY 20
20
WALNUT DR
E CAMP RD
PUMPHOUSE RD
HANKINS RD
STOVALL RD
EAST CAMP RD
HILL RD
E CAMP RD
MYERS RD
SPRING VALLEY RD
CORTINA VINEYARD RD
TETRA TECH
Reference Map
OR
ID
NV
CA
Data Sources: Colusa County (Maintained Roads); ESRI (Roads, Basemap); Ventryx (Regional Urban Areas)
1:35,000
WGS 1984 UTM Zone 10N
0 0.25 0.5 1 1.5 2
Miles
NOT FOR CONSTRUCTION

TETRA TECH

Memo

To: Greg Plucker, Community Development Director, Colusa County

From: Jennifer Merrick, Senior Technical Advisor, Tetra Tech, Inc.

Cc: Anna Shamey, Project Manager, Tetra Tech, Inc.

Date: September 14, 2024

Subject: Addendum to the Land Evaluation and Site Assessment for the Janus Solar Project, Colusa County, California

1.0 INTRODUCTION

In February 2021, Tetra Tech prepared a Land Evaluation and Site Assessment (LESA) Model for the Janus Solar Project (Project). In 2021, the Project was sited on three parcels with Assessor Parcel Numbers 018-050-005-000, 018-050-006-000, and 018-050-013-000, which are 630.5, 255.7, and 137.7 acres in size, respectively, for a total area of approximately 1,024 acres. The Project also included a 4-mile-long generation interconnect (gen-tie) line to connect to the electrical grid at the existing Cortina Substation. In 2024, the Project was re-designed to include two parcels (018-050-005-000 and 018-050-006-000) totaling approximately 886 acres and the 4-mile-long gen-tie line.

2.0 LAND EVALUATION AND SITE ASSESSMENT

The LESA Model is an approach for rating the relative quality of land resources based upon specific measurable features. The LESA Model was first developed by the federal Natural Resource Conservation Service (NRCS) in 1981. It was subsequently adapted in 1990 by the California Department of Conservation to evaluate land use decisions that affect the conversion of agricultural lands in California (Public Resources Code Section 21095). The formulation of the LESA Model is intended to provide lead agencies under the California Environmental Quality Act with a methodology to ensure that agricultural land conversions are quantitatively and consistently considered in the environmental review process. CEQA Guidelines Appendix G indicates that lead agencies may refer to the LESA model "in determining whether impacts to agricultural resources are significant environmental effects."

In 2021, the LESA analysis concluded that the conversion of 1,024 acres of agricultural land for solar energy generation by the Project would not result in a significant loss of farmland and would not have a significant impact on agricultural land use, based on land capability classification and Storie Index scores, project size, water availability, and surrounding agricultural land ratings. The current Project layout, occupying a smaller area of 886 acres on two parcels, would further lessen the potential for the Project to result in a significant loss of farmland.

The final LESA score for the Project was 55.94, and the land evaluation score was below 20 points. According to the California Agricultural LESA Model Instruction Manual, a final LESA score ranging from 40–59 points is considered significant only if both the land evaluation and site assessment weighted factor subscores are each greater than 20 points[1]. Therefore, the LESA concluded that the Project would not have a significant impact on agricultural land use on the Project site or Zone of Influence.

There are three soil types found on the Project site that may be considered Prime Farmland, but only if irrigated: Capay clay (approximately 33 percent of the Project site), Clear Lake Clay (approximately 0.7 percent of the Project site), and Corval loam (approximately 3.5 percent of the Project site). The property does not have irrigation infrastructure or an existing agreement or connection with the Westside Water District that would supply irrigation water. The availability of irrigation water in the future is speculative, given the substantial cost associated with installing such infrastructure (including, but not limited to pumps, irrigation lines, or sprayers); uncertainty concerning annexation into the Westside Water District; and the availability of water supply.

An alternative scenario evaluating what the impacts to the Project site would be if it were irrigated was considered but eliminated for the reason that irrigation infrastructure does not exist on the Project site nor does a connection with the local water district, Westside Water District. Further evaluation would be highly speculative and would not inform the impact analysis discussed here.

3.0 CONCLUSION

The Project, including the conversion of 886 acres of agricultural land for solar energy generation, would not result in a significant loss of farmland and would not have a significant impact on agricultural land use on the Project site or Zone of Influence.

[1] California Department of Conservation (CDC). 1997. *California Agricultural Land Evaluation and Site Assessment Instruction Manual*. Available online at: https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx. Accessed August 2024.

APPENDIX D
AIR QUALITY AND GREENHOUSE GAS REPORT

AIR QUALITY AND GREENHOUSE GAS TECHNICAL REPORT

Janus Solar and Battery Storage Project

Colusa County, California

August 21, 2024

RWE Solar Development, LLC

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TABLES

FIGURES

APPENDICES

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
Applicant	Janus Solar PV, LLC
AQMP	Air Quality Management Plan
ATCM	air toxics control measures
BCAQMD	Butte County Air Quality Management District
BESS	battery energy storage system
BSA	Broader Sacramento Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAPCD	Colusa County Air Pollution Control District
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
$CO2_e$	CO_2 equivalent
EA	Exclusive Agriculture
EPA	U.S. Environmental Protection Agency
FA	Foothill Agriculture
gen-tie	generation tie
GHG	Greenhouse Gas
GWP	global warming potential
HAP	hazardous air pollutants
HFC	hydrofluorocarbon
Janus Solar	Janus Solar Project
kV	kilovolt

lbs/day	pounds per day
$\mu g/m^3$	microgram per cubic meter
MT	metric tons
NAAQS	National Ambient Air Quality Standards
N_2O	nitrous oxide
NO_2	nitrogen dioxide
NO_x	Nitrogen oxides
NOA	naturally occurring asbestos
NSVAB	Northern Sacramento Valley Air Basin
NSVPA	Northern Sacramento Valley Planning Area
O_3	ozone
O&M	operations and maintenance
PFC	perfluorocarbonsf
PG&E	Pacific Gas and Electric Company
PM	particulate matter
$PM_{2.5}$	fine particulate matter equal to or less than 2.5 microns
PM_{10}	fine particulate matter equal to or less than 10 microns
Project	Janus Solar Project
PV	photovoltaic
ROG	reactive organic gases
ROW	right of way
RPW	Renewable Portfolio Standard
SVAB	Sacramento Valley Air Basin
SB	Senate Bill
SF_6	sulfur hexafluoride
SO_2	sulfur dioxide
TAC	toxic air contaminants
USBR	United States Bureau of Reclamation

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Tetra Tech has prepared an air quality analysis report to evaluate potential air quality and greenhouse gas (GHG) impacts associated with the proposed solar project. Janus Solar PV, LLC (Applicant), seeks to develop the Janus Solar and Battery Storage Project (Janus Solar or Project), a solar photovoltaic (PV) electrical generating facility, in Colusa County, California. Janus Solar would generate 80 megawatts of renewable energy and would include a battery energy storage system (BESS) up to 80 megawatts.

Air quality impacts from grading and construction sources were analyzed based on the equipment used, length of time for a specific construction task, equipment power type (gasoline or diesel engine), equipment emission factors established by the U.S. Environmental Protection Agency (EPA; AP-42 handbooks), horsepower, load factor, and percentage of time in use. Exhaust and dust emissions from worker commutes and travel were calculated based on available information regarding these activities. Fugitive dust (fine particulate matter equal to or less than 10 microns [PM_{10}] and fine particulate matter equal to or less than 2.5 microns [$PM_{2.5}$]) emissions would result from grading operations and vehicles traveling on paved and unpaved roads. These emissions were calculated based on construction information available and provided to Tetra Tech. Motor vehicle pollutant emissions associated with the Project were estimated for future conditions, using information on facility operations. The California Emissions Estimator Model (CalEEMod Version 2022.1.1.26) was used to calculate the emissions associated with construction activities, vehicle trips to and from the Project site, and operations and maintenance (O&M) activities. Emissions associated with the emergency engine were also quantified using CalEEMod. The total Project construction and operational emissions were compared to the Butte County Air Quality Management District (BCAQMD) threshold criteria, and a determination of significance was made.

A discussion of GHGs and their potential effects on global climate change is included in this analysis. Emissions of carbon dioxide (CO_2), a key GHG identified in Assembly Bill (AB) 32, and other major GHGs, such as methane (CH_4) and nitrous oxide (N_2O), from both direct and indirect project-related sources were calculated. Tetra Tech calculated the construction related GHG emissions commensurate with available project-specific information. Standard measures for construction activities recommended by the BCAQMD were identified and incorporated as part of the Project's standard conditions. Potential GHG impacts and benefits associated with the proposed Project were assessed.

1.2 PROJECT DESCRIPTION

The Project consists of constructing and operating a solar PV electricity generating facility, a BESS, substation, the generation tie (gen-tie) line, and associated infrastructure that would produce up to 80 megawatts of alternating current (AC) energy at the point of electrical grid interconnection on approximately 886 acres of land, owned by a private landowner in unincorporated western Colusa County. To avoid environmental constraints, only approximately 666 acres of the 886-acre site would be used for the Project. The proposed BESS would extend the amount of time each day that the Project could contribute PV-generated energy to the electrical grid. Up to 4 acres of the solar facility site would be dedicated to the BESS, which would be located adjacent to the on-site substation and contained within steel cabinets or housings. The Project would connect to the electrical grid at the existing Cortina Substation, which is owned and operated by Pacific Gas and Electric Company (PG&E), approximately 4 miles northeast of the Project site.

The solar facility would include arrays of solar PV modules (or panels) and support structures, direct current (DC) electricity to AC electricity power inverters and transformers or power conditioning stations, and an on-site substation. The O&M facility would include office space, storage, and sanitary facilities.

The sanitary facilities include portable toilets on site during construction, operations, and decommissioning. Water would be trucked to the site. Other solar facility components would include access roads, perimeter fences, telecommunications infrastructure, a meteorological data collection system, signage, lighting, and stormwater facilities. The entire O&M footprint would occupy an area up to 1 acre in size adjacent to the substation and BESS. Construction is scheduled to begin approximately in July 2025.

Internal service roads would be built to access the Project, for ingress and egress to the Project Site, to individual Project components, and between the solar array rows to facilitate installation, maintenance, and cleaning of the solar panels. Roads throughout the arrays would be graveled and provide access to the inverter equipment pads and substations.

To interconnect the Project with the electrical grid, the Applicant would construct a new, 4-mile-long \ 60 kilovolt (kV) gen-tie line, located on Colusa County's right-of-way (ROW) on Walnut Drive and Spring Valley Road from the Project Site to the point of interconnection (POI) at the PG&E Cortina Substation. Figure 1 shows the Project site.

1.3 REGIONAL AND LOCAL SETTING

The Project is approximately 6.5 miles southwest of the City of Williams. State Highway 20 runs about 1.5 miles from the Project site, north and west. The proposed Project would be located on two parcels totaling 886 acres of private property currently used for cattle grazing in Colusa County, California. The Project would connect to the PG&E Cortina Substation, located on Walnut Drive, approximately 3 miles northeast (measured linearly) of the Project site.

The Project site consists of rangeland designated as Agriculture Upland (AU) in the Colusa County General Plan and zoned Foothill Agriculture (F-A) by Colusa County. The gen-tie line intersects land designated as AU and Agriculture General and zoned as F-A and Exclusive Agriculture (E-A). The Project site is designated Farmland of Local Importance by the California Department of Conservation. However, the Project site is not designated Prime or Unique Farmland, is not irrigated, and has historically been used for cattle grazing.

The land use designation for adjacent parcels is AU. Nearby properties are currently being used for cattle grazing, agriculture, and open space. There is one residence approximately 100 feet south of the Project site, and agricultural buildings exist to the west on the opposite side of Spring Valley Road. There are three additional residences in proximity to the Project, two located to the northwest and one to the west of the Project site. These residences belong to the landowner of the Project site and are excluded from the Project.

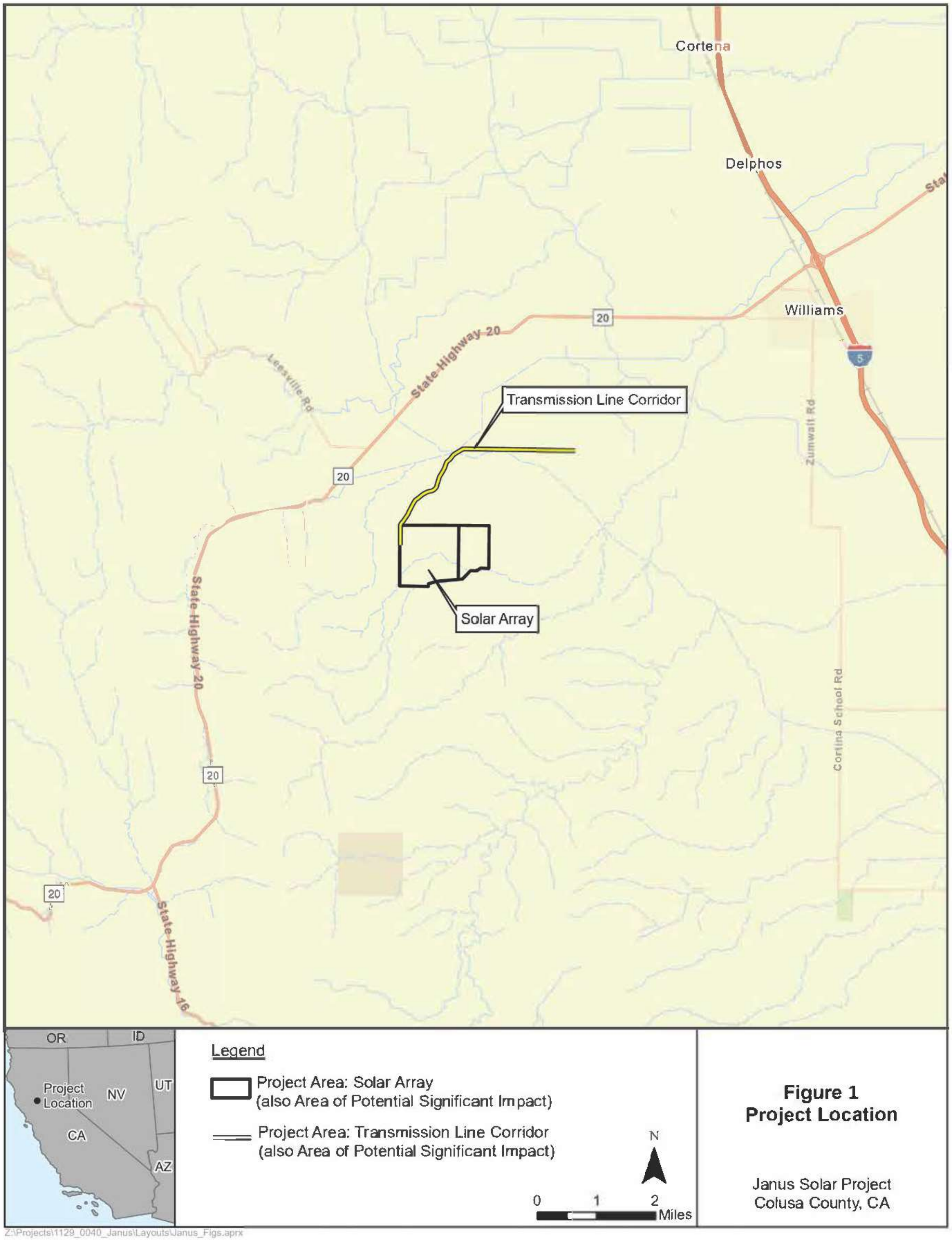

Figure 1. Project Site

2.0 AIR QUALITY

2.1 ENVIRONMENTAL SETTING

2.1.1 Climate and Topography

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Colusa County is in the Sacramento Valley Air Basin (SVAB) which includes Sutter, Yuba, Colusa, Butte, Glenn, Tehama, Shasta, Placer, Solano, Yolo, and Sacramento counties. The northern portion of the SVAB (NSVAB) includes Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba counties and is bounded on the north and west by the Coastal Mountain Range and on the east by the southern end of the Cascade Mountain Range and the northern end of the Sierra Nevada. These mountain ranges reach heights of 6,000 feet above mean sea level, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as to pollution transported northward on prevailing winds from the Sacramento metropolitan area (SVAQEEP 2015). Colusa County's topography and meteorology have the potential to cause potentially adverse air quality conditions.

Colusa's climate is classified as warm and temperate. The rain in Colusa falls mostly in the winter, with relatively little rain in the summer. The Köppen-Geiger climate classification is Csa (C= warm, temperate; s=steppe; a=hot summer). Prevailing winds in the area are generally from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas. Colusa County has on average 17.84 inches of precipitation annually, with the most rainfall occurring during the winter months (NOAA NCDC normals 1981–2010).

2.1.2 Pollutants and Effects

The Clean Air Act (CAA) requires EPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants. EPA calls these "criteria" air pollutants because it regulates them by developing health-based (primary) or environmentally based (secondary) standards. These pollutants are summarized below.

Ozone (O_3) is a secondary pollutant that is formed from the reaction of nitrogen oxides and volatile organic compounds in the presence of sunlight. Ozone exists naturally in the stratosphere, shielding Earth from harmful ultraviolet radiation. However, at ground-level, ozone causes adverse health effects and is a major component of smog. High concentrations have been tied to respiratory ailments and cardiovascular disease, as well as damage to natural ecosystems, agricultural crops, and materials such as rubber, paint, and plastics. In the Northern Sacramento Planning Area (NSVPA), ozone can be caused by stationary source emissions, such as from internal combustion engines or boilers, mobile sources such as cars, trucks, and trains, or area sources such as consumer products or wildfires. The NSVPA districts also experience transport ozone from the Broader Sacramento Area (BSA).

> **Reactive organic gases (ROG)** are composed of hydrocarbon compounds that contribute to the formation of smog through atmospheric chemical reactions. ROG are emitted from fuel combustion and industrial and agricultural processes. Compounds that make up ROG are often evaluated as part of a toxic risk assessment under AB 2588 provisions. CARB defines both Volatile Organic Compounds (VOC) and ROG as "any compound of carbon excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions (CARB 2009). For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions. ROG is henceforth used in this report.

Nitrogen Oxides (NO_x) are a family of gaseous nitrogen compounds that result primarily from the combustion of fossil fuels. It is a precursor to the formation of ozone and particulate matter, and nitrogen dioxide (NO_2) is regulated directly under the NAAQS and California Ambient Air Quality Standards (CAAQS).

Particulate Matter (PM) is comprised of solid particles and liquid droplets, made up of acids, organic chemicals, metals, and soil or dust particles. Particles that are 10 micrometers in diameter or smaller are a potential human health concern because they can enter the lungs, which can affect the heart and cause adverse health effects. They can be emitted directly to the atmosphere as well as formed in the atmosphere by chemical reactions among precursors. Particulate matter can be categorized based on size.

> **Inhalable coarse particles ($PM_{2.5}$–PM_{10})** are between 2.5 and 10 micrometers in diameter. Sources include roads, farming activities, windblown dust, as well as combustion sources.
>
> **Fine particles ($PM_{2.5}$)** are 2.5 micrometers in diameter or smaller, generally emitted by combustion sources like vehicles, power generation, industrial processes and wood burning.

Carbon Monoxide (CO) is an odorless, colorless gas formed by the incomplete combustion of fuels emitted directly into the air. The main source of CO in the Valley is on-road motor vehicles. Therefore, CO problems tend to be localized within nonattainment areas designated in urban areas rather than the entire basin. With the introduction of new automotive emission controls and fleet turnover, emissions from motor vehicles have been declining.

Sulfur Dioxide (SO_2) is a colorless gas formed by the combustion of fossil fuels that contain sulfur. The Valley is in attainment of both the Federal and California standards for SO_2. The use of low-sulfur fuel has minimized problems with this pollutant.

2.1.3 Sensitive Receptors

Sensitive receptors are segments of the population most susceptible to poor air quality (i.e. children, the elderly, and those with pre-existing serious health problems related to respiratory distress). Land uses often identified as sensitive receptors include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities.

Land use in the area is mostly agricultural interspersed with sparse rural residential. The nearest residence not owned by landowner is 100 feet south of the Project. A second residence is located about 430 feet from the gen-tie line on Walnut Road.

The residences near the north side of the Project area are owned by the landowner leasing the parcels for the solar farm. To the east, the nearest residence is just under 2 miles from the nearest Project boundary. Agricultural buildings are also located to the west of the Project. The remaining residences and other sensitive receptors are located more than 1,000 feet from the site. The City of Williams is located approximately 6.5 miles from the site. Sensitive receptors in Williams and their distances to the site are as follows:

- Liz Kidz daycare, located 5.8 miles northeast of the Project boundary;
- Williams Elementary School, located 6.4 miles from the Project boundary; and
- Mid Valley High School, located 6.4 miles from the Project boundary.

The greatest potential for exposure to air pollutants would occur during construction, when the ground would be disturbed from grading and delivery of materials. The construction emissions presented in this analysis are based on worst-case conditions, assuming maximum construction activity would occur. In reality, exposure to emissions would vary substantially throughout construction, and would depend on the staging of the work being conducted, location of work relative to receptors, and weather conditions. The exposure is below significance thresholds and will be temporary.

An aerial map showing the 1,000-foot buffer and nearby sensitive receptors is provided in Figure 2.

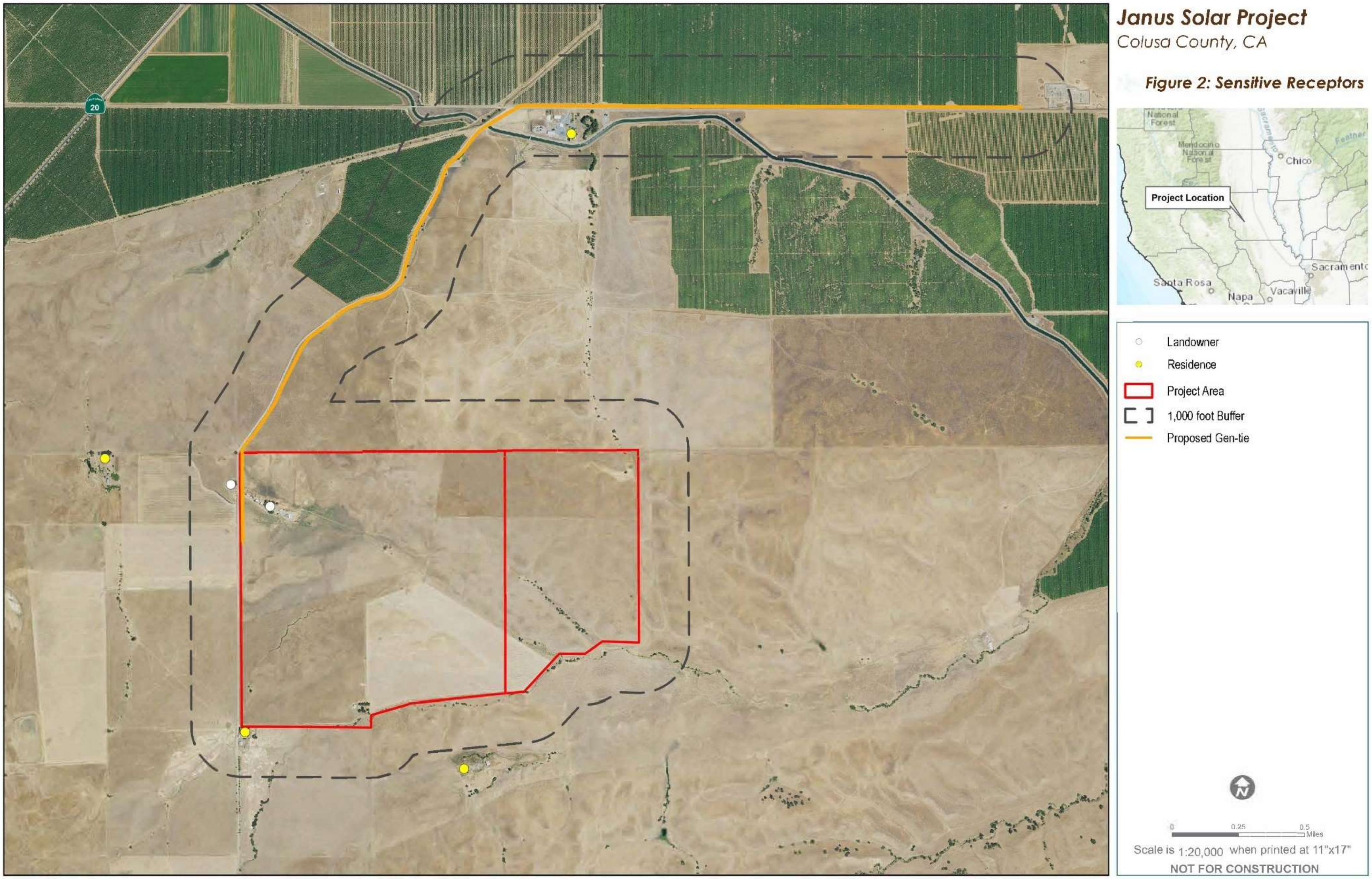

Figure 2. Sensitive Receptors

2.2 REGULATORY SETTING

Ambient air quality standards are the levels of air pollutants considered safe, with an adequate margin of safety, to protect the public health and safety. They are designed to protect those people most susceptible to respiratory distress (i.e., sensitive receptors), such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research suggests, however, that long-term exposure to air pollution at levels that meet air quality standards may nevertheless have adverse health effects. For example, ozone exposure even at levels close to the ambient air quality standard may lead to adverse respiratory health.

The following discussion describes the regulatory authority of the federal, state and local jurisdictions. The federal CAA, the California Clean Air Act (CCAA), and the Air Quality Management Plan (AQMP), prepared and adopted by the Colusa County Air Pollution Control District (CCAPCD), regulate air quality in the air basin. Federal and state standards are shown in Table 1, State and Federal Ambient Air Quality Standards.

2.2.1 Federal Regulations

2.2.1.1 Criteria Air Pollutants

The federal CAA (42 United States Code Section 7401-7671q) is a comprehensive Federal law that regulates air emissions from area, stationary, and mobile sources, and requires the adoption of the NAAQS to protect public health and welfare from the effects of air pollution. The Federal CAA Amendments of 1990 required that the EPA review all NAAQS with respect to health impacts and propose modifications or new rules as appropriate. In addition, the amendments of the 1990 federal CAA are associated with the attainment and maintenance of air quality standards, permits and enforcement, toxic air pollutants, acid deposition, stratospheric ozone protection and motor vehicles and fuels.

Current NAAQS are assigned to SO_2, CO, NO_2, O_3, PM_{10}, $PM_{2.5}$, and lead. These pollutants are designated criteria pollutants.

2.2.1.2 Hazardous Air Pollutants

The 1977 federal CAA amendments required the EPA to identify National Emission Standards for hazardous air pollutants (HAPs) to protect public health and welfare. These include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. The 1990 federal CAA Amendments, which expanded the control program for HAPs, identified 189 substances and chemical families as HAPs. Over the years, the list has been modified. Currently, there are 187 federally regulated HAPs.

2.2.2 State Regulations

2.2.2.1 Criteria Air Pollutants

The CCAA, passed by the California Legislature and signed into law by the Governor in 1988, assigns state-specific ambient air quality standards. The California standards are, in most cases, more stringent than federal standards. The goal of the CCAA is to attain state air quality standards by the earliest practical date. Because California established Ambient Air Quality Standards several years before the federal action, and because of unique air quality problems introduced by the restrictive dispersion meteorology in much of California, there can be a considerable difference between state and national clean air standards. Those standards currently in effect in California are shown on Table 1, State and Federal Ambient Air Quality Standards.

The CCAA requires each air pollution control district of an air basin designated in nonattainment of state ambient air quality standards to prepare and submit a plan for attaining and maintaining state standards.

2.2.2.2 Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California Toxic Air Contaminants (TAC) list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (Federal) HAPs. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources. The TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, facilities are required to communicate the results to the public in the form of notices and public meetings.

Diesel Particulate Matter (DPM), a mixture of solid particles in diesel engine exhaust, is classified as a carcinogen and TAC in California. Long-term exposure to DPM poses the highest cancer risk of any toxic air contaminant evaluated by OEHHA. CARB estimates that about 70 percent of the cancer risk that the average Californian faces from breathing toxic air pollutants stems from DPM. Exposure to DPM is highest near roads and freeways, truck loading and unloading operations, and diesel-powered machinery operations. Exposure to diesel exhaust in general can have immediate health effects such as irritation to the eyes, nose, throat, and lungs. It can also cause coughs, headaches, light-headedness, and nausea (OEHHA 2024).

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. In 2020, CARB adopted the Advanced Clean Truck Regulations that requires truck manufacturers to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, every new truck sold in California will be zero-emission.

Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, On-Road Heavy Duty (New) Vehicle Program, In-Use Off-Road Diesel Vehicle Regulation, and New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. Several Airborne Toxic Control Measures reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 California Code of Regulations [CCR] 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

State Implementation Plans

The federal CAA requires all states to submit a State Implementation Plan (SIP) to USEPA. State Implementation Plan s are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. Many of California's SIPs and attainment plans rely on the same core set of control strategies described above, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law designates CARB as the lead agency for all purposes related to SIPs and attainment plans. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards those revisions to USEPA for approval and publication in the Federal Register.

The law also requires submission of attainment plans for areas that are designated nonattainment with respect to the NAAQS. These attainment plans are comprehensive plans that describe how a Federal nonattainment area will attain and maintain the particular NAAQS standard(s) it does not conform to. Once the area is redesignated as in attainment for the NAAQS in question, a maintenance area classification is required for a period of twenty years to provide assurance the area will continue to be in attainment, and SIPs must be submitted under this maintenance area classification.

Table 1. State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 $\mu g/m^3$)		0.075 ppm (147 $\mu g/m^3$)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		—		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	—	—	35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	9.0 $\mu g/m^3$	15 $\mu g/m^3$	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[8]	1 Hour	0.18 ppm (339 $\mu g/m^3$)	Gas Phase Chemilumine-scence	100 ppb (188 $\mu g/m^3$)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 $\mu g/m^3$)		0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[9]	1 Hour	0.25 ppm (655 $\mu g/m^3$)	Ultraviolet Fluorescence	75 ppb (196 $\mu g/m^3$)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 $\mu g/m^3$)	
	24 Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)[9]	—	
	Annual Arithmetic Mean	—		0.30 ppm (for certain areas)[9]	—	
Lead (Pb)[10, 11]	30 Day Average	1.5 $\mu g/m^3$	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 $\mu g/m^3$ (for certain areas)[9]	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles[12]	8 Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates (SO_4)	24 Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	24 Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary [3, 6]	Method[7]
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 μg/m^3)	Gas Chromatography			

Source: California Air Resources Board (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, updated 05/04/16), and U.S. Environmental Protection Agency (https://www.epa.gov/criteria-air-pollutants/naaqs-table, accessed August, 2024)

1 *California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter (PM_{10}, and $PM_{2.5}$) and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.*

2 *National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.*

3 *Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. The torr (symbol: Torr) is a non-SI unit of pressure with the ratio of 760 to 1 standard atmosphere, chosen to be roughly equal to the fluid pressure exerted by a millimeter of mercury, i.e., a pressure of 1 Torr is approximately equal to one millimeter of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.*

4 *Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.*

5 *National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect public health.*

6 *National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

7 *Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.*

8 *To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.*

9 *On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.*

10 *CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects that are determined. These actions allow implementing control measures at levels below the ambient concentrations specified for these pollutants.*

11 *The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.*

12 *In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.*

2.2.3 Local Regulations

2.2.3.1 Colusa County Air Pollution Control District

The CCAPCD manages air quality within the Colusa County portion of the SVAB for attainment and permitting purposes. In Colusa County, the CCAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs. The CCAPCD develops regulations to improve air quality and protect the health and welfare of Colusa County residents and their environment. The district also monitors air quality, prepares clean air plans, responds to citizen complaints concerning air quality and regulates agricultural burning.

The CCAPCD regulations include permit requirements, emissions limits for specific source categories, requirements for open burning, and air toxics control measures (ATCM) for several source categories, including stationary compression ignition engines. An emergency generator is the only stationary source proposed for the Project, and it will be registered as portable equipment. The CCAPCD regulates nuisance conditions in Rule 200, which states that "no person shall discharge from any non-vehicular source such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property." No other CCAPCD rules are applicable to the Project.

2.2.3.2 Colusa County General Plan

The Colusa County General Plan (General Plan) details the County's guiding principles for a variety of planning topics and is the roadmap for future development in the county. Colusa County adopted a comprehensive update to their General Plan on July 31, 2012 (Colusa County, 2012). The Conservation Element addresses the conservation, development and utilization of natural resources, which includes forests, soils, rivers and other waters, wildlife, and minerals. Energy conservation, air quality, and the preservation of cultural and historical resources are also addressed in the conservation element

The General Plan contains several goals, policies, and actions relative to air quality. Following is a summary of goals policies and actions potentially applicable to the Project.

Goal CON-2: Conserve, protect, and enhance energy, air, and mineral resources.

<u>Objective CON-2A: Use Energy Efficiently and Encourage the Use of Renewable and Sustainable Sources of Energy</u>

- Policy CON 2-2: Encourage the development of large-scale commercial energy projects that utilize renewable sources such as solar, wind, biomass, and agricultural byproducts.
- Policy CON 2-3: Allow commercial alternative energy facilities, including solar, wind and biomass in the Agriculture General, Agriculture Upland, Industrial, Forest, and Resource Conservation land use designations with a Conditional Use Permit.

<u>Objective CON-2B: Minimize Air Pollutant Emissions and Improve Air Quality to Protect Public Health</u>

- Policy CON 2-15: Improve air quality through continuing to require a compact development pattern that focuses growth in and around existing communities, locating new housing near places of employment, encouraging alternative modes of transportation, and requiring projects to mitigate significant air quality impacts to the extent feasible.
- Action CON 2-E: Refer development, infrastructure, and planning projects to the Colusa County Air Pollution Control District (APCD) for review. Require project applicants to prepare air quality analyses to address APCD and General Plan requirements, which include analysis and identification of:
    - Air pollutant emissions associated with the project during construction, project operation, and cumulative conditions.
    - Significant air quality impacts associated with the project for construction, project operation, and cumulative conditions.
    - Mitigation measures to reduce significant impacts to less than significant or the maximum extent feasible where impacts cannot be mitigated to less than significant.
- Action CON 2-F: Coordinate with the APCD to develop:
    - Thresholds for criteria pollutants associated with construction activities, and
    - A list of standard best management practices (BMPs) to be implemented during construction activities.

- Action CON 2-G: Continue to implement measures and strategies contained in the Northern Sacramento Valley Air Quality Attainment Plan.

The renewable energy project meets Goal CON-2, Policies CON 2-2 and 2-3, Actions CON 2-E, CON-2F, and CON-2G. The Project's emissions analysis for construction and operation will comply with the Colusa County General Plan, as demonstrated in Section 2.5.

2.3 REGIONAL AND LOCAL AIR QUALITY CONDITIONS

2.3.1 Colusa County Attainment Status

In an effort to protect human health and welfare, CARB and EPA have established Ambient Air Quality Standards, described in Table 2. Areas are considered in "attainment" if standards are met and "nonattainment" if they are not met. For ozone, nonattainment status is further classified as marginal, moderate, serious, severe, or extreme.

Table 2. Colusa County Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone (1-Hour)	No federal standard	Attainment
Ozone (8-Hour)	Attainment/Unclassified	Attainment
NO_2	Attainment/Unclassified	Attainment
CO	Attainment/Unclassified	Attainment/Unclassified
PM_{10}	Attainment/Unclassified	Nonattainment
$PM_{2.5}$	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Lead	Attainment/Unclassified	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

Source: CARB 2021a

2.3.2 Local Ambient Air Quality

Table 3 summarizes the most recent air quality data from 2021 through 2023, with the number of days exceeding the ambient air quality standards.

Table 3. Local Ambient Air Quality Monitoring Data for the Years 2021-2023

Averaging Period	2021	2022	2023
Ozone (O_3) – *Sunrise Blvd, Colusa, California Monitoring Station (AQS Site ID: 06-011-1002)*			
1-hour Maximum Concentration (ppm)	0.074	0.068	0.072
Number of days exceeding CAAQS = **0.09 ppm**	0	0	0
8-hour Maximum Concentration	0.064	0.062	0.064
Number of days exceeding CAAQS = **0.070 ppm**	0	0	0
Number of days exceeding NAAQS = **0.070 ppm**	0	0	0
Nitrogen Dioxide (NO_2) – *Yuba City, California Monitoring Station (AQS Site ID: 06-101-0003)*			
1-hour Maximum Concentration (ppb)	47	50	38

Averaging Period	2021	2022	2023
Number of days exceeding CAAQS = **180 ppb**	0	0	0
Number of days exceeding NAAQS = **100 ppb**	0	0	0
Annual Average Concentration (ppm) (**53 ppb**)	5.39	6.6	5.76
Carbon Monoxide (CO) – *Chico, California Monitoring Station (AQS Site ID: 06-007-0008)*			
1-hour Maximum Concentration (ppm)	1.8	1.6	1.7
Number of days exceeding CAAQS = **20 ppm**	0	0	0
Number of days exceeding NAAQS = **35 ppm**	0	0	0
8-hour Maximum Concentration	1.5	1.2	1.3
Number of days exceeding CAAQS = **9.0 ppm**	0	0	0
Number of days exceeding NAAQS = **9.0 ppm**	0	0	0
Coarse Particulate Matter (PM_{10}) – *Sunrise Blvd, Colusa, California Monitoring Station (AQS Site ID: 06-011-1002)*			
24-hour Maximum Concentration (µg/m^3)	183.7	76.0	79.5
Number of days exceeding CAAQS = **50 µg/m^3**	47	17	14
Number of days exceeding NAAQS = **150 µg/m^3**	1	0	0
Annual Average Concentration (state method) (µg/m^3) (**20 µg/m^3**)	29.2	21.0	21.1
Fine Particulate Matter ($PM_{2.5}$) – *Sunrise Blvd, Colusa, California Monitoring Station (AQS Site ID: 06-011-1002)*			
24-hour Maximum Concentration (µg/m^3)	86.6	37.0	32.5
Number of days exceeding NAAQS = **35 µg/m^3**	11	1	0
Annual Average Concentration (µg/m^3) (**12 µg/m^3**)[1]	-	7.2	-
Sulfur Dioxide (SO_2) – *Sacramento Del Paso Manor, California Monitoring Station (AQS Site ID: 06-067-0006)*			
1-hour Maximum Concentration (ppm)	0.0022	0.0028	0.0023
Number of days exceeding NAAQS = **0.075 ppm**	0	0	0
24-hour Maximum Concentration (ppm)	0.001	0.0006	0.0011
Number of days exceeding NAAQS = **0.14 ppm**	0	0	0
Annual Average Concentration (ppm) (**0.03 ppm**)	0.00013	0.00012[2]	0.00012

[1]Revised to 9 µg/m3 effective May 6, 2024 (89 FR 16202, Reconsideration of the National Ambient Air Quality Standards for Particulate Matter)

[2]Does not satisfy minimum completeness

µg/m^3 – microgram per cubic meter; CAAQS – California ambient air quality standards; NAAQS – National ambient air quality standards; ppb – parts per billion; ppm – parts per million

Sources: CARB 2024a; EPA 2024

2.4 SIGNIFICANCE CRITERIA AND METHODOLOGY

2.4.1 Thresholds of Significance

2.4.1.1 California Environmental Quality Act Guidelines

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (Title 14, Division 6, Chapter 3 of the CCR), which indicates that a project would result in a significant air quality impact if the following occurs:

1. Conflict with or obstruct implementation of the applicable air quality plan;

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;

3. Expose sensitive receptors to substantial pollutant concentrations; and
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

2.4.1.2 Colusa County Air Pollution Control District

The CCAPCD has not developed air quality thresholds of significance. Action CON-2F states the County should coordinate with CCAPCD to develop thresholds associated with construction activities and to develop best management practices (BMPs) to be implemented during construction. The CCAPCD has not yet developed these but has recommended using significance thresholds adopted by the Butte County Air Quality Management District (BCAQMD) due to their proximity in the SVAB. The BCAQMD Guidelines for Addressing Air Quality and Greenhouse Gas Impacts for Projects Subject to CEQA (BCAQMD Guidelines) were issued in 2014 and amended in 2024 (BCAQMD 2024). The BCAQMD Guidelines have air quality thresholds of significance for criteria pollutants and TACs (see Table 4).

Table 4. BCAQMD Air Quality Thresholds of Significance – Criteria Pollutants

Phase	NO_X	ROG	PM_{10}
Construction	137 lb/day	137 lb/day	80 lb/day
	4.5 tpy	4.5 tpy	None
Operational	25 lb/day	25 lb/day	80 lb/day

lb/day – pounds per day; tpy – tons per year

The BCAQMD Guidance outlines screening criteria for different types and sizes of projects. For projects that do not meet the screening-criteria and require further evaluation, BCAQMD requires that criteria air pollutants and GHG emissions that may occur during the construction and operational phases be quantified through the latest version of CalEEMod or another acceptable modeling approach. The proposed solar project is not one of the project “types” listed in the screening guidance. Therefore, to evaluate impacts of the project under CEQA, CalEEMod was used to quantify emissions for comparison to air quality thresholds of significance.

Recommended significance thresholds for TACs include mitigating below the following levels within a zone of influence of 1,000-foot radius from the source:

- Increased cancer risk of > 10 in one million;
- Chronic or acute increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute)
- Ambient diesel $PM_{2.5}$ increase > 0.3 $\mu g/m^3$ annual average

There is a potential for odor from construction equipment during construction. Any odorous impacts from construction will be temporary in nature and will be minimized by the use of Tier 4 equipment.

2.4.2 Approach and Methodology

Air pollutant emissions associated with the Project would occur over the short term (i.e., 11 months) due to construction-related activities including equipment exhaust, vehicle travel on paved and unpaved roads, and fugitive dust from soil disturbance activities. Construction activities would produce combustion emissions from construction equipment engines and motor vehicles transporting the construction crew, equipment, and materials. Exhaust emissions from construction activities would vary daily as activity levels change. Emissions quantification related to construction activities is necessary for comparison to the BCAQMD significance thresholds. In addition, the emissions documentation must include the quantification methodology used, including emission factors, emission factors sources, assumptions, and sample calculations where necessary. Because the emission calculation tool CalEEMod was used, the Emissions Calculation Assumption section presents the general assumptions for the specific inputs and settings used for the air quality analysis.

Once constructed, the Project would operate 7 days per week and 365 days per year. Only occasional, on-site maintenance is expected to be required following commissioning. Operations and maintenance activities would require up to three workers performing visual inspections, monitoring plant performance, executing minor repairs, and responding to needs for plant adjustment. On intermittent occasions, additional workers may be required for repairs or replacement of equipment, panel cleaning, and other specialized maintenance. However, due to the self-operating nature of the facilities, such occasions would likely occur infrequently. The expected maintenance would generate little traffic during operations. O&M vehicles would include light duty trucks (e.g., pickup, flatbed) and other light equipment for maintenance and module washing. Heavy equipment would not be utilized during normal operation other than water trucks delivering water to the facility.

Minimal water would be required for panel washing activities and general maintenance. The need for panel washing would be infrequent (e.g., months to years between washings) and determined based on operating considerations, including actual soiling of the PV panels and any expected benefit from cleaning.

2.4.2.1 Construction

The projected construction schedule and anticipated construction equipment and vehicles were used to determine emissions. The main construction processes are anticipated to occur during a period of approximately 11 months and would begin in July 2025. The construction will occur in the following five main phases shown in Table 5.

Table 5. Construction Schedule

Phase	Duration (days)
Preparation	9
Excavation	23
Utilities/Sub-grade	23
Construction	233
Paving	17

The first stage would include mobilization, site preparation, fencing, and laydown. The second stage would involve excavation, trenching and trench backfill. Because the facility has been designed to use flat areas of the site, grading would be minimal. The third stage includes installation of cables and utilities. The fourth stage includes construction of the inverters, PV modules, and BESS, as well as commissioning and testing. The final stage includes road paving.

Water for dust control and other construction needs would likely be trucked to the site, which this assessment conservatively assumes. Table 6 shows the construction equipment and vehicle trips associated with each stage.

Table 6. Construction Scenario Assumptions

Construction Phase	Equipment			Average / Peak Daily Worker Vehicle Round Trips*	Average / Peak Daily Vendor / Haul Truck Round Trips*
	Equipment Type	Quantity	Usage Hours		
Preparation	Tractors/Loaders/Backhoes	4	8	50 / 50	10 / 20
	Plate Compactors	2	8		
	Crawler Tractors	2	8		
	Dumpers/Tenders	5	8		
	Forklifts	2	8		
	Generator Sets	4	8		
	Graders	2	8		
	Scrapers	2	8		
	Skid Steer Loaders	4	8		
	Water Trucks	8	8		
Excavation	Tractors/Loaders/Backhoes	4	8	50 / 50	10 / 20
	Plate Compactors	2	8		
	Crawler Tractors	2	8		
	Dumpers/Tenders	5	8		
	Forklifts	2	8		
	Generator Sets	4	8		
	Graders	2	8		
	Scrapers	2	8		
	Skid Steer Loaders	2	8		
	Water Trucks	8	8		
Utilities/Sub-grade	Tractors/Loaders/Backhoes	4	8	100 / 100	10 / 20
	Plate Compactors	2	8		
	Crawler Tractors	2	8		
	Dumpers/Tenders	5	8		
	Forklifts	2	8		
	Generator Sets	4	8		
	Graders	2	8		
	Scrapers	2	8		
	Skid Steer Loaders	2	8		
	Water Trucks	8	8		
Construction	Tractors/Loaders/Backhoes	7	8	150 / 200	10 / 30
	Bore/Drill Rigs	10	8		
	Cement and Mortar Mixers	10	8		
	Forklifts	5	8		
	Concrete/Industrial Saws	3	8		
	Plate Compactors	1	8		
	Cranes	1	8		
	Dumpers/Tenders	5	8		
	Excavators	2	8		
	Generator Sets	4	8		
	Pavers	1	8		
	Paving Equipment	1	8		

Construction Phase	Equipment			Average / Peak Daily Worker Vehicle Round Trips*	Average / Peak Daily Vendor / Haul Truck Round Trips*
	Equipment Type	Quantity	Usage Hours		
	Skid Steer Loaders	2	8		
	Trenchers	10	8		
	Rollers	1	8		
	Water Trucks	2	8		
Paving	Rollers	1	8	20 / 20	2 / 5

2.4.2.2 Operation

Emissions from facility operations result from 3 workers per day commuting to and from the site, visual inspections, monitoring plant performance, executing minor repairs, and responding to needs for plant adjustment. Only occasional, on-site maintenance is expected to be required following commissioning. On intermittent occasions, the presence of 5–30 workers may be required for repairs or replacement of equipment, panel cleaning, and other specialized maintenance. However, due to the self-operating nature of the facility, such actions would likely occur infrequently.

2.4.2.3 Emission Calculation Assumptions

On-Road Equipment Assumptions

1. Trip lengths reflect trips between the Janus Solar facilities and major commercial centers and ports.
2. Exhaust emissions for on-road equipment were calculated using CalEEMod for years 2025 and 2026.
3. All on-road construction equipment emissions were determined using on-road emission factors; none were estimated using off-road emission factors.
4. Fugitive dust emissions were estimated for both paved roads and unpaved roads, where applicable.

A summary of on-road equipment and the number of trips is provided in Table 6.

Off-Road Equipment Assumptions

1. Exhaust emissions were calculated using the CalEEMod for years 2025 and 2026.
2. Fugitive dust emissions were estimated for grading activities and truck loading using CalEEMod.
3. Water trucks were modeled as on-site trucks using default CalEEMod emission factors.

A list of the types and quantity of construction equipment is provided in Table 6.

2.4.2.4 Construction Information and Assumptions

Construction-related emissions are based on the following:

1. The total acreage inside the proposed fence-line is approximately 886 acres. Approximately 13 acres will require excavation and grading. As a conservative estimate, the CalEEMod default value of 36 acres was used.
2. Mobilization of the construction equipment may occur in the open spaces of the shared facilities area. Equipment and vehicle travel may also occur within the 886-acre Project site and the shared facilities area during the construction period.

3. Construction activity is expected to last for approximately 11 months.

2.4.2.5 Combustion

Combustion emissions during construction will result from the following:

1. Exhaust from the on-site diesel construction equipment;
2. Exhaust from on-site water trucks used to control construction dust emissions;
3. Exhaust from pickup trucks and diesel trucks used to transport workers and materials around the Project site;
4. Exhaust from diesel trucks used to deliver equipment and materials; and
5. Exhaust from automobiles used by workers to commute to and from the Project site.

2.4.2.6 Fugitive Dust

Fugitive dust emissions during construction will result from:

1. Dust entrained during mobilization and construction at the construction site; and
2. Dust entrained during off-site travel on paved and unpaved surfaces.

2.4.2.7 Ambient Air Quality Analysis

Air quality impacts from diesel particulate matter (DPM, represented by exhaust $PM_{2.5}$) were assessed using AERMOD v23132. Construction equipment emissions were simulated as a single area source covering the Project property. The modeling inputs are summarized below.

- AERMOD was executed with the U.S. EPA regulatory default option.
- Five years of meteorological data (2015–2019) comprised of Oroville, California surface observations with concurrent upper air data from Oakland, California were obtained from Butte County AQMD in AERMOD-ready processed format. This meteorological data set was used to estimate the maximum 5-year average concentration by the refined AERMOD modeling to best represent an annual average predicted concentration that can occur considering varying hourly meteorology over a 5-year period.
- Receptors were placed along the property fence line at 20-meter intervals. A nested grid of receptors was developed using the following spacing: 100-meter spacing out to 2,000 meters, and 1,000-meter spacing out to 20,000 meters in accordance with the 2015 Office of Environmental Health Hazard Assessment’s (OEHHA’s) Air Toxics Hot Spots Program Risk Assessment Guidance (OEHHA 2015). Additionally, discrete receptors were placed to capture DPM concentrations at select points of interest. These include residences, off-site worker locations and sensitive receptors.
- Receptor elevations were determined by using National Elevation Data (NED) processed with the AERMAP v18181 terrain preprocessor.
- The area source was characterized to have a release height of 2.55 meters with an initial vertical dimension of 2.37 meters (EPA 2012). Annual mitigated construction equipment emissions were determined from CalEEMod and assigned to the area source. The HROFDAY factor in AERMOD was used to reflect the construction schedule (7:00 AM–7:00 PM Monday through Friday and 8:00 AM–8:00 PM on weekends).

The AERMOD dispersion modeling output file is provided in Appendix B, AERMOD Output File.

2.4.2.8 Health Risk Assessment

A health risk assessment (HRA) was conducted for Project construction emissions using HARP2 based on values from AERMOD. Therefore, the discussion of dispersion modeling input parameters in the Ambient Air Quality Analysis section above also applies to the HRA. As per the OEHHA Risk Assessment Guidance (OEHHA 2015), it is recommended to include the following types of receptors in HRAs:

- Point of Maximum Impact (PMI),
- Maximally Exposed Individual Resident (MEIR),
- Maximally Exposed Individual Worker (MEIW), and
- Sensitive Receptors (e.g., schools, day care centers, elder care centers, hospitals, etc.).

Therefore, although only a few residences that are not owned by the landowner are located inside the 1,000-foot radius from Project boundary, this analysis includes residences and sensitive receptors identified in Section 2.1.3, as well as additional off-site worker receptor locations. The point of maximum impact is expected to occur at the project boundary due to the near-surficial release height of the vehicle exhaust. The OEHHA default values for fraction at home, breathing rates etc., were used for exposure calculations in HARP2. Since operational activities would be limited to routine inspection and maintenance, which would have negligible emissions, no quantitative HRA was performed. Electronic HARP2 files are provided in Appendix C, HARP2 Output File.

2.5 IMPACT ANALYSIS

2.5.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The Project would not conflict with existing land uses or result in population growth. CCAPCD Rule 200 (nuisance conditions) is applicable to the Project. In addition, the Project would not result in a long-term increase in the number of trips or an increase in the overall vehicle miles traveled in the area. Vendor truck and worker vehicle trips would be generated during the proposed construction activities but would be limited after construction is completed.

During construction, unmitigated NO_x emissions would exceed the BCAQMD annual significance threshold. However, mitigated NO_X emissions would fall below the BCAQMD significance thresholds. Both unmitigated and mitigated ROG emissions are below the annual threshold of significance. Both unmitigated and mitigated PM_{10} emissions are below the daily threshold of significance.

Unmitigated and mitigated daily operational emissions are below significance thresholds for all pollutants. During the longer-term operational phase, the Project would include routine inspection and maintenance activities that would result in a net increase in emissions, although the increase in emissions would not exceed any significance threshold. Construction and operational emissions are summarized in Tables 7, 8, and 9.

As previously discussed, the renewable energy project meets Goal CON-2, Policies CON 2-2 and 2-3, Actions CON 2-E, CON-2F, and CON-2G of the Colusa County General Plan.

2.5.2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?

2.5.2.1 Construction

Less Than Significant Impact. Construction emissions are summarized in Tables 7 and 8. The Project area is in a non-attainment region for the California AAQS for PM_{10}. The CCAPCD has requested that the Project use BCAQMD annual and daily significance thresholds to address pollution sources associated with general construction activities, such as the operation of on-site construction equipment, fugitive dust from site grading activities, and travel by construction workers. Based on these recommended thresholds, the proposed Project would result in a significant contribution to localized ambient air quality if daily emissions exceeded 80 pounds per day (lbs/day) of PM_{10} during either construction or operation. Daily PM_{10} emissions will be well below this threshold for both construction and operation. The BCAQMD also specifies daily and annual significance thresholds for NO_X and ROG emissions from construction. Emissions for both are below significance thresholds.

During construction of the Project, the primary construction contractor shall implement the following standard construction practices to reduce fugitive dust emissions:

- All disturbed areas, including soil piles, areas that have been graded, and unpaved roads, shall be watered twice daily during dry conditions, and when feasible, covered and enclosed.
- When materials are transported off site, they shall be wetted and covered securely, and at least 2 feet of freeboard shall be maintained.
- Limit traffic speeds on unpaved roads to 15 miles per hour.
- Apply dust suppressant to Spring Valley Road, the unpaved road accessing the Project site, before and during the construction period, as needed to reduce dust associated with truck traffic.
- Curtail construction activities when the County's Air Quality Index exceeds 150.
- Vehicle travel distances and total traffic amounts on roads at the Project site and accessing the Project site shall be minimized through efficient planning and management. Special consideration must be given to minimizing the travel distances of heavy or heavily laden vehicles, particularly during the construction period.
- During anticipated peak truck trip periods of heavy equipment and vendor deliveries, a traffic control flagger shall be present on Spring Valley Road. The traffic flagger shall enforce the 15 mile per hour speed limit for heavy vehicles on unpaved roads and shall monitor and log dust conditions, per the requirements outlined below.
- Signage will be placed on Spring Valley Road describing the 15 mile per hour speed limit for heavy vehicles.
- The construction contractor is the designated dust control site coordinator and is responsible for implementing dust control. It is the dust control site coordinator's responsibility to:
    - Read and understand applicable mitigation measures and have them available at the job site.
    - Implement the mitigation measures and ensure that all employees, workers, and subcontractors know their dust control responsibilities.
    - Use contingency control measures when primary controls are ineffective.
    - Monitor the worksite for compliance with the dust control mitigation measures.

- Maintain a daily log monitoring the implementation and effectiveness of the control measures, including off-site emissions due to material transport and other activities.

- Each day during construction, the construction contractor shall keep a daily log of dust conditions that includes the following information:
    - Date
    - Time
    - Wind speed
    - Temperature
    - Minutes off-site visible emissions were observed darker than 20 percent opacity, including date, time, location, and work activity
    - Soil conditions (damp, dry, etc.)
    - Corrective actions taken, if needed

The dust control mitigation measure applied in CalEEMod included watering of exposed surfaces up to 2 times per day. Detailed emissions calculations are provided in Appendix A, CalEEMod.

Table 7. Estimated Maximum Annual Construction Criteria Air Pollutant Emissions

Max. Rolling 12-month	Emissions (tons per year)					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated						
2025	0.71	6.10	10.02	0.01	2.29	0.55
2026	0.44	3.70	6.52	0.01	1.08	0.30
Mitigated						
2025	0.36	3.40	10.68	0.01	2.10	0.40
2026	0.23	2.24	6.87	0.01	1.00	0.23
BCAQMD Threshold	*4.5*	*4.5*	--	--	--	--
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Table 8. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Max. Rolling 12-month	Emissions (lbs/day)					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated	9.84	91.67	171.04	0.27	37.60	8.02
Mitigated	5.45	61.03	177.41	0.27	35.44	6.41
BCAQMD Threshold	*137*	*137*	--	--	*80*	--
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

2.5.2.2 Operation

Less Than Significant Impact. Project operational emissions were estimated using CalEEMod to include potential area, energy, mobile, off-road, and stationary source emissions. This included solvent emissions from paints and primers, water trucks, potential emergency generator emissions, and vehicle emissions from maintenance vehicles. Table 9 presents the maximum daily operational emissions in pounds per day with a comparison to BCAQMD thresholds. Operational emissions would be well below the BCAQMD thresholds of significance for all pollutants. Detailed emissions calculations are provided in Appendix A, CalEEMod.

Table 9. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
	lbs/day					
Area, Energy, Mobile, Off-road, Stationary	1.96	2.83	5.57	0.01	0.13	0.10
BCAQMD Threshold	*25*	*25*	--	--	*80*	--
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

The project will also employ long-term dust control practices. Once per year, generally in latespring, the Project Owner shall be responsible for the application of dust suppressant to Spring Valley Road, the unpaved road accessing the Project site. The dust suppressant shall be applied on Spring Valley Road from the intersection with Walnut Drive to the entrance to the Project site. The timing of the application and the rate of application shall be done as needed and to the satisfaction of the Public Works Director.

Emissions data for Colusa County obtained using CEPAM 2019SIP v1.02 were used for comparison with potential Project emissions. A summary of annual and daily emissions in Colusa County is provided Tables 10 and 11, respectively. A comparison of the Project annual PM_{10} emissions to the lowest annual PM_{10} emissions over the past 10 years shows potential construction PM_{10} to be 0.045 percent, and 0.022 percent of the total County annual emissions in 2025 and 2026, respectively, and operational emissions to be 0.00043 percent of the total county annual emissions.

A comparison of county-wide daily emissions (tons per day) with Project construction and operational emissions using the lowest daily Colusa County PM_{10} emissions over the past 10 years shows construction emissions would be 0.047 percent and 0.024 percent of the County daily emissions in 2025 and 2026, respectively, and operational emissions would be 0.0079 percent of the County total daily emissions.

The Project area is in non-attainment for the California AAQS for PM_{10}. The CCAPCD requires the use of the BCAQMD's daily and annual significance thresholds to address pollution sources associated with general construction activities, such as the operation of on-site construction equipment, fugitive dust from site grading activities, and travel by construction workers. Although the Project site is located in a non-attainment region for PM_{10}, the cumulative emissions associated with the Project would not be considerable, as the emissions would fall below BCAQMD thresholds. Under this condition, the Project would not make a cumulatively considerable contribution during construction or operations. Therefore, impacts would be less than significant. Additionally, the Project would not conflict with the CCAPCD PM_{10} attainment plans, which address cumulative emissions in Colusa County and account for emissions associated with construction activity.

The comparison of the Project emissions to the area source County emissions shows that the projected PM_{10} emissions from construction and operation of the Project will be a small fraction of the County emissions. Therefore, the Project would not interfere with attainment progress for the CAAQS for PM_{10} in the County.

Table 10. Colusa County Historical Region-Wide Annual Pollutant Emissions

Year / Source Type*		Emissions (tons/year)					
		NO_x	CO	ROG	SO_x	PM_{10}	$PM_{2.5}$
2013	Point	448.2	192.0	89.9	116.2	378.7	127.8
	All other	3,668.5	6,625.1	20,353.6	33.6	4,422.5	983.2
2014	Point	397.5	223.4	80.8	101.6	312.6	96.6
	All other	3,539.0	6,438.5	20,288.7	33.9	4,424.5	979.0
2015	Point	345.2	189.6	91.6	23.3	280.0	110.2
	All other	3,611.1	16,218.4	20,944.5	142.6	5,508.7	1,883.1
2016	Point	348.5	341.1	115.9	28.6	366.1	167.4
	All other	3,167.7	5,741.5	20,143.4	32.3	4,389.3	926.6
2017	Point	315.6	188.8	75.6	24.0	298.5	108.4
	All other	3,018.7	5,170.0	20,038.2	28.2	4,347.4	886.7
2018	Point	308.4	184.8	76.3	23.1	301.3	107.6
	All other	3,107.0	19,465.1	21,019.7	132.8	5,773.4	2,092.5
2019	Point	308.4	185.5	77.0	23.2	304.6	107.8
	All other	3,017.8	19,327.3	20,985.1	132.7	5,771.1	2,090.1
2020	Point	313.8	192.5	68.9	23.0	273.8	102.1
	All other	2,896.8	19,214.5	20,905.0	132.7	5,747.9	2,077.9
2021	Point	1,475.9	429.5	685.7	25.5	426.1	180.0
	All Other	1,497.0	18,801.0	20,269.8	132.7	5,627.3	1,996.6
2022	Point	1,457.0	427.2	671.5	25.3	429.9	180.1
	All Other	1,404.5	18,708.6	20,251.7	132.6	5,623.0	1,993.0
2023	Point	1,435.4	424.5	658.4	24.7	431.7	178.7
	All Other	1,321.0	18,640.8	20,238.8	132.5	5,620.5	1,990.8
Project Construction							
2025		3.40	10.68	0.36	0.01	2.10	0.40
2026		2.24	6.87	0.23	0.01	1.00	0.23
Project Operation		0.50	0.76	0.29	0.002	0.02	0.02

* All other sources include stationary aggregated, areawide, on-road mobile, other mobile, and biogenic for years 2013–-2020. Beginning in 2021, all other sources include areawide, on-road mobile, other mobile, and biogenic.

Table 11. Colusa County Historical Region-Wide Daily Pollutant Emissions

Year / Source Type*		Emissions (tons/day)					
		NO_x	CO	ROG	SO_x	PM_{10}	$PM_{2.5}$
2013	Point	1.23	0.53	0.25	0.32	1.04	0.35
	All other	10.05	18.15	55.76	0.09	12.12	2.69
2014	Point	1.09	0.61	0.22	0.28	0.86	0.26
	All other	9.70	17.64	55.59	0.09	12.12	2.68
2015	Point	0.95	0.52	0.25	0.06	0.77	0.30
	All other	9.89	44.43	57.38	0.39	15.09	5.16
2016	Point	0.95	0.93	0.32	0.08	1.00	0.46
	All other	8.68	15.73	55.19	0.09	12.03	2.54
2017	Point	0.86	0.52	0.21	0.07	0.82	0.30

Year / Source Type*		Emissions (tons/day)					
		NO_x	CO	ROG	SO_x	PM_{10}	$PM_{2.5}$
	All other	8.27	14.16	54.90	0.08	11.91	2.43
2018	Point	0.84	0.51	0.21	0.06	0.83	0.29
	All other	8.51	53.33	57.59	0.36	15.82	5.73
2019	Point	0.84	0.51	0.21	0.06	0.83	0.30
	All other	8.27	52.95	57.49	0.36	15.81	5.73
2020	Point	0.86	0.53	0.19	0.06	0.75	0.28
	All other	7.94	52.64	57.27	0.36	15.75	5.69
2021	Point	4.04	1.18	1.88	0.07	1.17	0.49
	All other	4.10	51.51	55.53	0.36	15.42	5.47
2022	Point	3.99	1.17	1.84	0.07	1.18	0.49
	All other	3.85	51.26	55.48	0.36	15.41	5.46
2023	Point	3.93	1.16	1.80	0.07	1.18	0.49
	All other	3.62	51.07	55.45	0.36	15.40	5.45
Project Construction							
2025		0.009	0.029	0.001	<0.001	0.006	0.001
2026		0.006	0.019	0.001	<0.001	0.003	0.001
Project Operation		0.001	0.002	0.001	<0.001	<0.001	<0.001

* All other sources include stationary aggregated, areawide, on-road mobile, other mobile, and biogenic for years 2013–-2020. Beginning in 2021, all other sources include areawide, on-road mobile, other mobile, and biogenic..

2.5.3 Would the project expose sensitive receptors to substantial pollutant concentrations?

2.5.3.1 Construction

Less Than Significant Impact. The Project consists of construction of a solar PV generating and battery storage facility that may have the potential to affect nearby sensitive receptors. The use of combustion equipment in Project construction activities could result in elevated concentrations of DPM, which could lead to health impacts for nearby sensitive receptors. As stated previously, BCAQMD identifies significance thresholds for TAC that are based on localized impacts. These include a maximum incremental lifetime cancer risk greater than 10 in 1 million, a chronic and acute hazard index (i.e., ratio of concentrations to Reference Exposure Levels) of one or more, and an annual diesel particulate matter concentration of 0.3 μg/m^3. The primary TAC emitted from construction activities is diesel PM (as $PM_{2.5}$). A HRA was performed to estimate the potential cancer and chronic risk (characterized by a hazard index) at the maximally exposed receptors. Acute risk was not evaluated since OEHHA has not established an acute Reference Exposure Level for DPM.

While HRAs generally focus on sensitive receptors (e.g., residences, schools, and hospitals), a full receptor grid surrounding the Project site was conservatively used. Table 12 summarizes the HRA results at the PMI, MEIR, MEIW and maximally exposed individual sensitive receptor.

Table 12: HRA for Mitigated Construction Emissions

Maximum Impact Receptor	Cancer Risk (Persons per Million)	Chronic Hazard Index	Receptor Coordinates (UTM NAD 83 Zone 10)	
			Easting (meters)	Northing (meters)
PMI	1.64	2.04E-03	562162.00	4326589.00
MEIR 1	0.34	4.18E-04	563523.00	4326392.00
MEIR 2	0.37	4.56E-04	561352.00	4328174.00
MEIR 3	0.21	2.62E-04	564143.00	4330100.00
MEIR 4	0.09	1.10E-04	562162.00	4326589.00
SR 1	0.01	1.20E-05	572581.00	4333193.00
SR 2	<0.01	1.00E-05	572606.00	4334093.00
SR 3	<0.01	1.00E-05	572804.00	4334125.00
MEIW 1	<0.01	3.40E-05	564144.00	4333548.00
MEIW 2	<0.01	1.40E-05	570497.00	4332064.00
MEIW 3	<0.01	3.20E-05	571703.00	4326731.00

As shown above, the cancer risk is expected to be below the 10 in one million BCAQMD threshold. Chronic risk (characterized by Hazard Index) is also expected to be below 1.0. Additionally, dispersion modeling conducted for the Project indicates an annual maximum value of 0.01018 μg/m^3, which is well under the BCAQMD significance threshold of 0.3 μg/m^3.

The Project proposes to limit diesel particulate matter from construction activities using the following mitigation measures:

- Install diesel particulate filters or implement other CARB-verified diesel emission control strategies.
- All on- and off-road diesel equipment shall not idle for more than five minutes. Signs shall be posted in the designated queuing areas and/or job sites to remind drivers and operators of the five-minute idling limit.
- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications. Equipment must be checked and determined to be running in proper condition before the start of work.
- Idling, staging and queuing of diesel equipment within 1,000 feet of sensitive receptors shall be limited.

In addition to the above mitigation measures, the Project will use ultra-low sulfur diesel fuels (<=15 parts per million by weight sulfur). For this analysis, the use of Tier 4 engines was employed for all off-road diesel equipment rated at greater than 25 horsepower.

2.5.3.2 Operation

Operational emissions will be minimal and will occur intermittently for Project maintenance. Therefore, the Project would not expose sensitive receptors to substantial pollutant concentrations. As such, localized impacts to off-site sensitive receptors would be less than significant.

Another potential TAC that may impact sensitive receptors is natural occurring asbestos (NOA). NOA has been identified by the CARB as a toxic air contaminant. Serpentine and ultramafic rocks, which may contain NOA, are found in certain mountainous areas of Colusa County. A review of geologic formations within the Project site indicates no ultramafic rocks present (California Department of Conservation 2021). Figure 3 presents a geologic map of the Project area showing the location of ultramafic (serpentine rock).

Therefore, mitigated pollutant impacts during construction and operation would not result in emissions of criteria pollutants in excess of established BCAQMD thresholds.

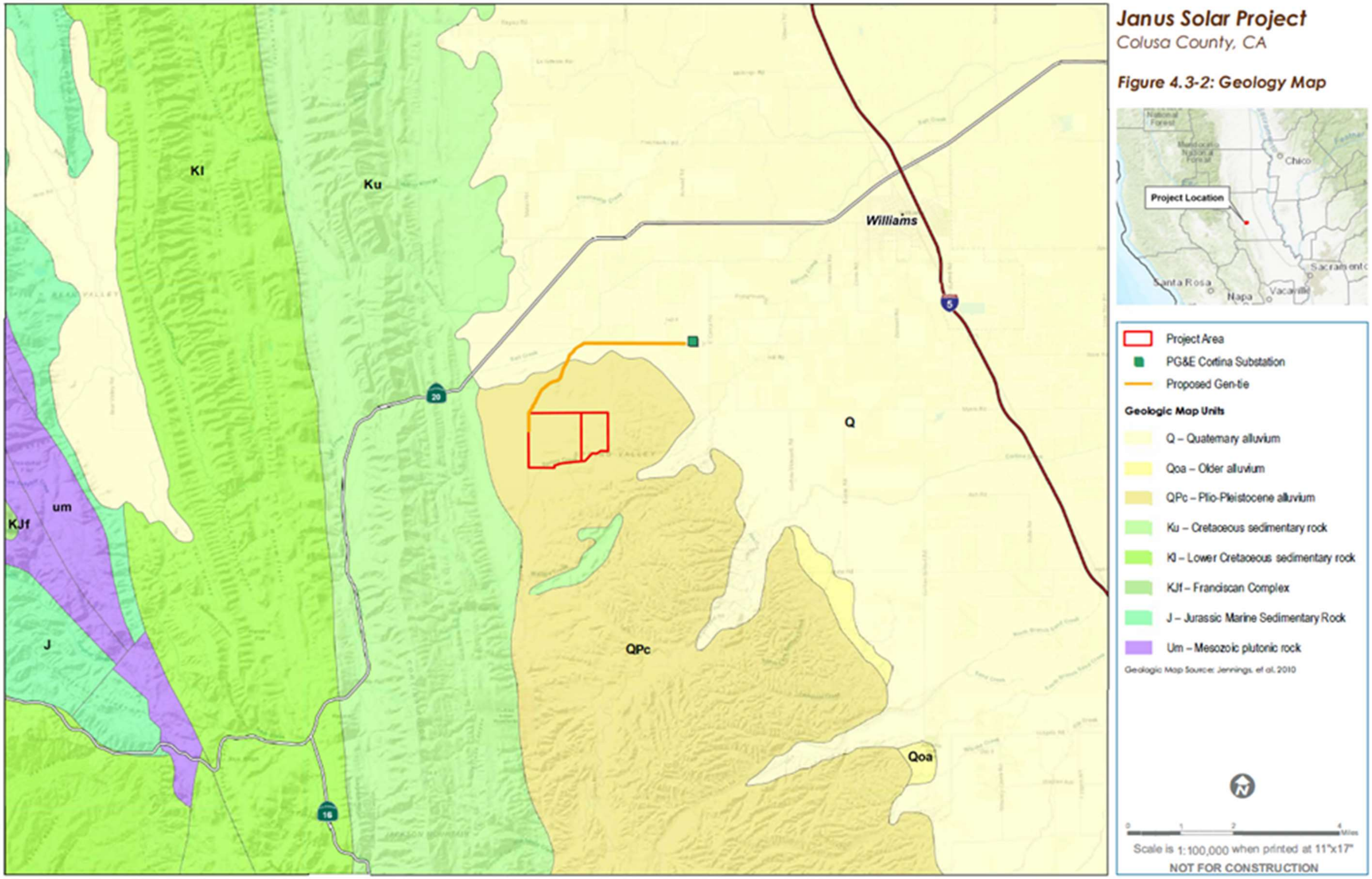

Figure 3. Geology Map

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

Less Than Significant Impact. The land use surrounding the Project site is rural. Properties are currently used for cattle grazing, agriculture, and open space. The closest residence is approximately 100 feet to the south of the Project site, and the next closest residence is approximately 430 feet south of the proposed gen-tie line. During Project-related construction activities, various diesel-powered vehicles and equipment could create minor odors. These odors are not likely to be noticeable beyond the immediate vicinity and would be temporary and short-lived. Therefore, construction odor impacts would be less than significant. The Project will include portable toilets on site during construction, operations, and decommissioning. The portable toilets will be regularly maintained and cleaned by a third-party service. Therefore, odor from the use of portable toilets is not anticipated to impact nearby residences.

Long-term odors are associated typically with industrial projects involving use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes. Odors are also associated with such uses as sewage treatment facilities and landfills. The Project involves no elements related to these types of uses. Therefore, no long-term odor impacts would occur with Project implementation.

3.0 GREENHOUSE GAS EMISSIONS

3.1 ENVIRONMENTAL SETTING

3.1.1 The Greenhouse Effect

Certain gases in the Earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. A GHG is any gas in the atmosphere that absorbs infrared radiation. As solar radiation enters the earth's atmosphere, a portion of the radiation is absorbed by the earth's surface, and a portion is reflected back through the atmosphere into space. The absorbed radiation is eventually emitted from the earth into the atmosphere, not as solar radiation, but as infrared radiation. Most solar radiation passes through GHGs; infrared radiation is selectively absorbed or "trapped" by GHGs as heat and then reradiated back toward the earth's surface, warming the lower atmosphere and the earth's surface. This phenomenon, known as the "greenhouse effect," is beneficial for maintaining a habitable climate on the earth. As the atmospheric concentrations of GHGs rise, however, the average temperature of the lower atmosphere gradually increases, thereby increasing the potential for indirect effects such as a decrease in precipitation as snow, a rise in sea level, and changes to plant and animal species and habitat.

Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed globally. Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, scientific evidence reveals that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 54 percent is sequestered through ocean uptake, uptake by northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO_2 emissions remains stored in the atmosphere. The quantity of GHGs that it takes to ultimately result in climate change is not known precisely, although scientific evidence strongly indicates no single project would be expected to contribute measurably to a noticeable incremental change in the global average temperature.

3.1.2 Greenhouse Gases and Global Warming Potential

GHGs are emitted by natural processes and human activities. Natural GHG sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Human activities known to emit GHGs include industrial manufacturing, utilities, transportation, residential, and agricultural activities. The GHGs that enter the atmosphere because of human activities are CO_2, CH_4, N_2O, fluorinated carbons (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

CO_2 is an odorless, colorless gas with both natural and anthropogenic sources. Examples of natural sources are respiration of bacteria, plants, and animals, evaporation from oceans, and decomposition of organic matter. Human activities that emit CO_2 include burning coal, oil, natural gas, and wood.

CH_4 is a flammable gas that is the main component of natural gas. When burned in the presence of oxygen, CO_2 and water are released. There are no direct health effects from exposure to CH_4. Sources of CH_4 include decay or organic material, natural gas fields, cattle, and landfills.

N_2O is a colorless gas that can cause euphoria, dizziness, and slight hallucinations when exposed to higher concentrations. Sources include agricultural sources (e.g. microbial processes in soil and water, fertilizer) and industrial processes (e.g. fossil fuel-fired power plants, vehicle emissions, nylon production).

Fluorinated Gases are synthetic and emitted from a variety of industrial processes.

HFCs are man-made chemicals used as a substitute for CFCs (chlorofluorocarbons) for automobile air conditioners and refrigerants.

PFCs are very stable and do not break down through the chemical processes in the lower atmosphere; they have long lifetimes (between 10,000 and 50,000 years). The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

SF_6 is an inorganic, colorless, odorless, nontoxic, nonflammable gas used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.

Global Warming Potential

The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of one kilogram of a trace substance relative to that of one kilogram of a reference gas. The reference gas used is CO_2. Therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e).

Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). In 2007, the IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4; IPCC 2007). The updated GWPs in the IPCC AR4 are used in recent GHG emissions inventories. In 2013, the IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5). This was followed by the Sixth Assessment Report (AR6), which was finalized in March 2023. However, the United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories requires the use of GWP values from the AR4. To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values, and statewide and national GHG inventories have not yet updated their GWP values to the AR6 values. Therefore, this analysis was completed using the GWP values from AR4.

By applying the GWP ratios, project-related CO_2e emissions can be tabulated in MT per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 13, Global Warming Potentials and Atmospheric Lifetimes.

Table 13: Global Warming Potentials and Atmospheric Lifetimes

Greenhouse Gas (years)	Atmospheric Lifetime	Global Warming Potential (100-year time horizon)		
		AR4	AR5	AR6
Carbon Dioxide (CO_2)	50 to 200	1	1	1
Methane (CH_4)	12	25	28	29.8[1]/ 27.2[2]/
Nitrous Oxide (N_2O)	114	298	265	273
Sulfur Hexafluoride (SF_6)	3,200	22,800	23,500	-

1/ Fossil origin
2/ Non-fossil origin
Source: IPCC (2007, 2013, and 2021)

3.2 REGULATORY SETTING

3.2.1 Federal Regulations

Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, that CO_2 is an air pollutant as defined under the CAA, and that the EPA has the authority to regulate emissions of GHGs. Responding to the mounting issue of climate change, the EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions.

Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act

On December 7, 2009, the EPA adopted its Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CAA (Endangerment Finding). The Endangerment Finding is based on Section 202(a) of the CAA, which states that the Administrator (of EPA) should regulate and develop standards for "emission[s] of air pollution from any class of classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." The rule addresses Section 202(a) in two distinct findings. The first addresses whether the concentrations of the six key GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten the health and welfare of current and future generations. The second addresses whether the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs, and therefore, the threat of climate change.

The Administrator found that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CAA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, which are most likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wildfires, droughts, sea level rise, and higher intensity storms) are a threat to public health and welfare. Therefore, GHGs were found to endanger the public health and welfare of current and future generations.

The Administrator also found that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHGs fit within the CAA definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but rather allow the EPA to define the GHG standards proposed earlier in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.

Various subsequent federal rulemakings limit GHG emissions from fossil fuel-fired power plants through EPA's major stationary source permitting program and through EPA's New Source Performance Standards. These rulemakings have been subject to court challenges and political manipulation, such that applicants for air permits are required to evaluate the current status of the regulatory requirements. These GHG rules do not apply to the activities associated with the Project.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide the EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data allows the reporters to track their own emissions, compare them to similar facilities, and help identify cost-effective opportunities to reduce emissions in the future. Reporting is at the facility level, with the exception of certain suppliers of fossil fuels and industrial GHGs, along with vehicle and engine manufacturers, which report at the corporate level. An estimated 85 percent of the total United States GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks

In April 2010, the USEPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) established a national program consisting of new standards for model year (MY) 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. USEPA finalized the first-ever national GHG emissions standards under the CAA, and NHTSA has finalized the Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The new standards were applicable to new passenger cars, light-duty trucks, and medium duty passenger vehicles, covering MY 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in MY 2016 under USEPA's GHG program, and 34.1 miles per gallon in MY 2016 under NHTSA's CAFE program and represent a harmonized and consistent national program (USEPA and NHTSA 2010).

In August 2012, the USEPA and NHTSA issued final rules extending the national program to improve fuel economy for MY 2017 through 2025. These standards require vehicles to meet an estimated combined average emissions level of 163 grams of CO_2 per mile in MY 2025 under USEPA's GHG program, and 49.6 miles per gallon in MY 2025 under NHTSA's CAFE program (USEPA and NHTSA 2012). In August 2018, the 'Safer Affordable Fuel-Efficient' (SAFE) Vehicles Rule was proposed for MY 2021–2026 passenger cars and light trucks. This rule went into effect on June 29, 2020, thereby setting new CO_2 standards for MY 2021 and later (85 *Federal Register* 40901).

In December 2021, following Executive Order 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis), the USEPA further revised the GHG emissions standards under CAA section 202(a) for light-duty vehicles for 2023 and later MY to adopt the more stringent SAFE rule standards in each MY from 2023 through 2026 (86 *Federal Register* 74434).

On April 18, 2024, USEPA published a final rule, Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, that sets new, more protective standards to further reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027 (89 *Federal Register* 27842).

Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 *Federal Register* 57106–57513). The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines. In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase-two program will apply to vehicles with MY 2018 through 2027 for certain trailers, and MY 2021 through 2027 for semi-trucks, large pick-up trucks, vans, and all types of sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (81 *Federal Register* 73478).

Presidential Executive Orders 13990 and 14008

Executive Order 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis), issued on January 20, 2021, directs all executive departments and agencies to immediately review and take action to address the promulgation of federal regulations and other actions that conflict with important national objectives and to immediately commence work to confront the climate crisis (86 *Federal Register* 7037).

Executive Order 14008 (Tackling the Climate Crisis at Home and Abroad) issued on January 27, 2021, declares the Administration's policy to build resilience against the impacts of existing climate change and projected changes according to current trajectories in both the United States and with other countries abroad (86 *Federal Register* 7619).

3.2.2 State Regulations

California Air Resources Board

CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. Various Statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO_2e and produced 424 million gross metric tons of CO_2e in 2017. In the United States, transportation, industrial operations, and utility sectors produce over 75 percent of all GHGs emitted. Some legislation, such as the landmark Assembly Bill (AB) 32 and California Global Warming Solutions Act of 2006, was specifically enacted to address GHG emissions.

AB 1493 & Executive Order S-3-05

The State legislature has enacted a series of bills that constitutes the most aggressive program to reduce GHGs of any state in the nation. In 2002, California passed AB 1493, which requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions beginning with the 2009 model year. In June 2005, Executive Order S-3-05 was signed to reduce California's GHG emissions to: (1) 2000 levels by 2010; (2) 1990 levels by 2020; and (3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006.

AB 32 (California Global Warming Solutions Act of 2006)

The California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 to 38599) establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires the state to create an opportunity for interested parties to comment on the scoping plan by conducting public workshops which are required in regions with low-income communities and minority populations. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. In 2016, statewide GHG emissions fell below the levels recorded in 1990, 4 years ahead of schedule.

SB 97

SB 97, enacted in 2007, acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. CEQA requires that lead agencies consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions can affect the environment adversely because they contribute, cumulatively, to global climate change. Thus, GHG emissions require consideration in CEQA documents.

Executive Order B-30-15, SB 32 and AB 197 (Statewide Interim GHG Targets)

California Executive Order B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce GHG emissions to 40 percent below 1990 levels by 2030 and directed state agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels. Specifically, the Executive Order directed CARB to update the Scoping Plan to express this 2030 target in MT. In 2016, the Legislature passed SB 32 which codifies a 2030 GHG emissions reduction goal of 40 percent below 1990 levels. With this, the Legislature passed a companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

California Air Resources Board Scoping Plan

To achieve the goals of AB 32, CARB adopted a Scoping Plan establishing an overall framework for the measures that would be adopted to reduce California's GHG emissions. The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other federal actions.

CARB's 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan; CARB 2022) was adopted on December 15, 2022. The Plan sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world.

AB 1279 (California Crisis Act)

In 2022, California passed AB 1279 (California Crisis Act), which introduced a statewide policy to achieve net zero GHG emissions by 2045 and maintain net negative GHG emissions thereafter. Furthermore, AB 1279 ensures that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. This bill would require the state board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable CO_2 removal solutions and carbon capture, utilization, and storage technologies in California, as specified.

SB 1078 (California Renewable Portfolio Standard), SB X1-2, SB 250 and SB 100

In 2002, SB 1078 established a Renewable Portfolio Standard (RPS), which required an annual increase in renewable generation by utilities with a goal of 20 percent renewable generation by 2010. SB X1-2 expanded the RPS by establishing a renewable energy target of 20 percent of the total electricity sold to retail customers in California per year by 2013, and 33 percent by 2020 and subsequent years. SB 350 further expanded the RPS by establishing a goal of 50 percent of the total electricity sold to retail customers in California per year by 2030. SB 100 mandates that the CPUC, CEC, and CARB plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. The statute requires these agencies to issue a joint policy report on SB 100 every four years. The first of these reports was issued in 2021. This Scoping Plan reflects the SB 100 Core Scenario resource mix with a few minor updates. This bill also updates the state's Renewables Portfolio Standard (RPS) to include the following interim targets:

- 44% of retail sales procured from eligible renewable sources by December 31, 2024
- 52% of retail sales procured from eligible renewable sources by December 31, 2027
- 60% of retail sales procured from eligible renewable sources by December 31, 2030

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3.2.3 Local Regulations

Colusa County General Plan

The Colusa County General Plan ("General Plan") identifies the County's vision for the future and provides a framework to guide decisions on growth, development, and conservation of open space and resources (Colusa County 2012). The General Plan does not have any plans or regulations specific to GHGs; however, the General Plan policies related to renewable energy development that are relevant to the proposed Project include the following.

<u>Objective CON-2A: Use Energy Efficiently and Encourage the Use of Renewable and Sustainable Sources of Energy</u>

- Policy CON 2-2: Encourage the development of large-scale commercial energy projects that utilize renewable sources such as solar, wind, biomass, and agricultural byproducts.
- Policy CON 2-3: Allow commercial alternative energy facilities, including solar, wind and biomass in the Agriculture General, Agriculture Upland, Industrial, Forest, and Resource Conservation land use designations with a Conditional Use Permit.

The Project will help the County meet their renewable energy goals in the General Plan.

3.3 SIGNIFICANCE CRITERIA AND METHODOLOGY

3.3.1 Thresholds of Significance

The State of California has developed guidelines to address the significance of greenhouse gas impacts based on Appendix G of the CEQA Guidelines, which indicates that a project has significant air quality impact if the project:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and
2. Conflict with an applicable plan, policy, or regulations adopted for the purpose of reducing the emissions of greenhouse gases.

3.3.2 Approach and Methodology

A GHG analysis is required to be included in CEQA documents for all non-exempt projects. CCAPCD and BCAQMD have not adopted GHG thresholds of significance. The BCAQMD CEQA guidance suggests compliance with Qualified Greenhouse Gas Reduction Strategy, Lead Agency's threshold, or consistency with goals of AB 32 for projects subject to CEQA.

For this Project, the major source of GHG is the combustion of fuel in construction equipment, in vehicles used to haul equipment and materials, in on-site trucks and in vehicles used by workers commuting to and from the site.

There are three types of GHG from fuel combustion, including CO_2, CH_4 and N_2O. GHG emissions are presented as CO_2e. CO_2e is computed based on global warming equivalence. The CH_4 global warming equivalence is 25 times that of CO_2, and the N_2O global warming equivalence is 298 times that of CO_2. Mathematically, the CO_2e can be represented by the following equation:

$$CO_2e \text{ Emissions} = CO_2 \text{ Emissions} + 25 \times CH_4 \text{ Emissions} + 298 \times N_2O \text{ Emissions}$$

The CalEEMod model was used to estimate the GHG emissions during the construction phase of the proposed Project. Based on the construction schedule, and the types and quantities of construction equipment and haul trucks, the maximum CO_2e emissions were estimated. For typical diesel-fueled combustion equipment used in construction activities, the emissions factors adjusted with global warming equivalence are the following:

1. CO_2 emission factors are 22.4 pounds of CO_2e per gallon consumed;
2. CH_4 emission factors are 0.065 pounds of CO_2e per gallon consumed; and
3. N_2O emission factors are 0.068 pounds of CO_2e per gallon consumed.

Additionally, GHG emissions are associated with fugitive emissions of SF_6 from gas-insulated switchgear equipment, such as the high-voltage circuit breakers at the on-site substation. The SF_6 global warming equivalence is 22,800 times that of CO_2. The Project will have no more than two high-voltage circuit breakers, each with up to 160 pounds of SF_6 for a total of up to 320 pounds, and a maximum leak rate of 0.5 percent per year. CO_2e resulting from SF_6 gas leakage can be represented by the following equation:

$$CO_2e \text{ Emissions} = SF_6 \text{ gas contained in equipment (lbs)} \times 0.5\% \text{ leak rate} \times 0.0004536 \text{ MT/lb} \times 22{,}800$$

3.4 IMPACT ANALYSIS

3.4.1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

3.4.1.1 Construction Emissions

Less Than Significant Impact. Construction of the Project would increase GHG generation, which can contribute to global climate change. The Project will, however, decrease GHG emissions by generating and storing renewable power. This analysis is provided in response to recent heightened interest in the subject of global climate change and, specifically, in the California legislature’s passage and the Governor’s signing of AB 32, which is intended to control and reduce the emission of global warming gases in California; and SB 97, which directs the Office of Planning and Research and the California Resources Agency to develop CEQA Guidelines on how local agencies should analyze and, if necessary, mitigate for GHG emissions.

Construction emissions would be associated with vehicle engine exhaust from construction equipment and vehicles, equipment and material deliveries, and construction worker commuting trips. Construction-related GHG emissions are considered temporary and short term. Annual Construction Emissions are provided in Table 14.

Table 14. Estimated Annual Construction Greenhouse Gas Emissions

Construction Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2025	2,302.75	0.07	0.12	2,340.95
2026	1,453.79	0.03	0.07	1,476.01
Total Project Construction GHG Emissions	3,756.53	0.10	0.19	3,816.96

3.4.1.2 Operational Emissions

Less Than Significant Impact. Operation of the Project would generate GHG emissions through motor vehicle trips to and from the Project site, energy use, special maintenance activities such as panel washing, waste and wastewater generation, potential use of the emergency generator, and potential leakage from gas-insulated circuit breakers. The CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described previously. The estimated operational GHG emissions are shown in Table 15. GHG emissions from operational activities will be minimal and will not have significant impact on the environment.

Table 15. Estimated Annual Operational Greenhouse Gas Emissions

Annual Operation	CO_2	CH_4	N_2O	SF_6	CO_2e
	Metric Tons per Year				
Total Project Operational GHG Emissions	231.66	0.07	0.002	0.000726	234.0

3.4.2 Would the project conflict with an applicable plan, policy, or regulations adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The Project will support State legislation climate goals, including emissions reductions required by AB 32 and SB 32, and will help the state reach renewable portfolio standards required by SB 1078, SB XI-2, and SB 350. While GHG would be generated from construction and occasional operation and maintenance activities, the Project would result in a net reduction in GHG from the generation and storage of solar energy that would potentially replace energy generated by fossil fuels. The Project would assist in the attainment of the state's goals by using a renewable source of energy that could displace electricity generated by fossil-fuel-fired power plants, and therefore would comply with the goals and objectives of the state. The solar energy project will meet Colusa County's conservation objective CON-2A and will meet Policies CON 2-2 and 2-3.

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Appendix A. Detailed CalEEMod Output

Janus Solar Project (Annual) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Janus Solar Project (Annual)
Construction Start Date	7/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.20
Location	Spring Valley Rd, Williams, CA 95987, USA
County	Colusa
City	Unincorporated
Air District	Colusa County APCD
Air Basin	Sacramento Valley
TAZ	228
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	666	User Defined Unit	666	43,560	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.2	9.06	72.8	148	0.18	2.51	33.7	35.6	2.32	4.56	6.33	—	31,805	31,805	0.93	1.53	59.2	32,344
Mit.	5.68	4.68	42.1	155	0.18	0.74	32.9	33.5	0.71	4.56	5.06	—	31,805	31,805	0.93	1.53	59.2	32,344
% Reduced	49%	48%	42%	-4%	—	70%	2%	6%	69%	—	20%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.6	8.85	74.7	124	0.18	2.51	18.5	21.0	2.32	3.59	5.91	—	30,370	30,370	0.95	1.53	1.53	30,852
Mit.	5.15	4.47	44.1	131	0.18	0.74	18.5	19.2	0.71	3.59	4.30	—	30,370	30,370	0.95	1.53	1.53	30,852
% Reduced	52%	50%	41%	-5%	—	70%	—	8%	69%	—	27%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.70	3.92	33.4	54.9	0.08	1.18	11.4	12.6	1.09	1.90	2.99	—	13,909	13,909	0.41	0.74	11.4	14,151
Mit.	2.25	1.95	18.6	58.5	0.08	0.34	11.1	11.5	0.33	1.88	2.20	—	13,909	13,909	0.41	0.74	11.4	14,151
% Reduced	52%	50%	44%	-7%	—	71%	2%	8%	70%	1%	26%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.86	0.71	6.10	10.0	0.01	0.21	2.08	2.29	0.20	0.35	0.55	—	2,303	2,303	0.07	0.12	1.89	2,343
Mit.	0.41	0.36	3.40	10.7	0.01	0.06	2.03	2.10	0.06	0.34	0.40	—	2,303	2,303	0.07	0.12	1.89	2,343
% Reduced	52%	50%	44%	-7%	—	71%	2%	8%	70%	1%	26%	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	—	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—
Mit.	—	Yes	Yes	—	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	—	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—
Mit.	—	Yes	Yes	—	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	4.50	4.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mit.	—	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	11.2	9.06	72.8	148	0.18	2.51	33.7	35.6	2.32	4.56	6.33	—	31,805	31,805	0.93	1.53	59.2	32,344
2026	10.3	8.59	69.6	143	0.18	2.22	18.5	20.7	2.05	3.59	5.64	—	31,437	31,437	0.92	1.49	54.1	31,958
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	10.6	8.85	74.7	124	0.18	2.51	18.5	21.0	2.32	3.59	5.91	—	30,370	30,370	0.95	1.53	1.53	30,852
2026	10.1	8.40	71.2	121	0.18	2.22	18.5	20.7	2.05	3.59	5.64	—	30,036	30,036	0.61	1.49	1.40	30,497
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.70	3.92	33.4	54.9	0.08	1.18	11.4	12.6	1.09	1.90	2.99	—	13,909	13,909	0.41	0.74	11.4	14,151
2026	2.91	2.42	20.3	35.7	0.05	0.64	5.28	5.91	0.59	1.03	1.62	—	8,781	8,781	0.17	0.44	6.82	8,922
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.86	0.71	6.10	10.0	0.01	0.21	2.08	2.29	0.20	0.35	0.55	—	2,303	2,303	0.07	0.12	1.89	2,343
2026	0.53	0.44	3.70	6.52	0.01	0.12	0.96	1.08	0.11	0.19	0.30	—	1,454	1,454	0.03	0.07	1.13	1,477

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.68	4.68	42.1	155	0.18	0.74	32.9	33.5	0.71	4.56	5.06	—	31,805	31,805	0.93	1.53	59.2	32,344
2026	5.25	4.58	41.5	149	0.18	0.74	18.5	19.2	0.71	3.59	4.30	—	31,437	31,437	0.92	1.49	54.1	31,958
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.15	4.47	44.1	131	0.18	0.74	18.5	19.2	0.71	3.59	4.30	—	30,370	30,370	0.95	1.53	1.53	30,852
2026	5.08	4.39	43.1	128	0.18	0.74	18.5	19.2	0.71	3.59	4.30	—	30,036	30,036	0.61	1.49	1.40	30,497

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.25	1.95	18.6	58.5	0.08	0.34	11.1	11.5	0.33	1.88	2.20	—	13,909	13,909	0.41	0.74	11.4	14,151
2026	1.46	1.27	12.3	37.6	0.05	0.21	5.28	5.49	0.20	1.03	1.24	—	8,781	8,781	0.17	0.44	6.82	8,922
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.41	0.36	3.40	10.7	0.01	0.06	2.03	2.10	0.06	0.34	0.40	—	2,303	2,303	0.07	0.12	1.89	2,343
2026	0.27	0.23	2.24	6.87	0.01	0.04	0.96	1.00	0.04	0.19	0.23	—	1,454	1,454	0.03	0.07	1.13	1,477

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.88	1.77	2.77	5.18	0.01	0.10	0.01	0.12	0.09	< 0.005	0.10	3.59	1,405	1,409	0.42	0.01	0.06	1,423
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.54	1.45	2.76	3.28	0.01	0.10	0.01	0.11	0.09	< 0.005	0.10	3.59	1,396	1,400	0.42	0.01	< 0.005	1,414
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.71	1.60	2.76	4.18	0.01	0.10	0.01	0.11	0.09	< 0.005	0.10	3.59	1,396	1,399	0.42	0.01	0.02	1,413
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.31	0.29	0.50	0.76	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	0.59	231	232	0.07	< 0.005	< 0.005	234

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.01	0.10	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.6	18.6	< 0.005	< 0.005	0.06	19.0
Area	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	1.88	1.77	2.77	5.18	0.01	0.10	0.01	0.12	0.09	< 0.005	0.10	3.59	1,405	1,409	0.42	0.01	0.06	1,423
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.01	0.10	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	17.0	17.0	< 0.005	< 0.005	< 0.005	17.4
Area	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	1.54	1.45	2.76	3.28	0.01	0.10	0.01	0.11	0.09	< 0.005	0.10	3.59	1,396	1,400	0.42	0.01	< 0.005	1,414
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.02	12.7
Area	1.10	1.09	0.01	0.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.84	3.84	< 0.005	< 0.005	—	3.86
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30

Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.07	0.06	0.19	0.22	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	30.4	30.4	< 0.005	< 0.005	0.00	30.5
Total	1.71	1.60	2.76	4.18	0.01	0.10	0.01	0.11	0.09	< 0.005	0.10	3.59	1,396	1,399	0.42	0.01	0.02	1,413
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.05	2.05	< 0.005	< 0.005	< 0.005	2.10
Area	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.53	2.53	< 0.005	< 0.005	—	2.55
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Waste	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Off-Road	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Stationary	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.31	0.29	0.50	0.76	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	0.59	231	232	0.07	< 0.005	< 0.005	234

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.01	0.10	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.6	18.6	< 0.005	< 0.005	0.06	19.0
Area	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338

Stationa	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	1.88	1.77	2.77	5.18	0.01	0.10	0.01	0.12	0.09	< 0.005	0.10	3.59	1,405	1,409	0.42	0.01	0.06	1,423
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.01	0.10	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	17.0	17.0	< 0.005	< 0.005	< 0.005	17.4
Area	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	1.54	1.45	2.76	3.28	0.01	0.10	0.01	0.11	0.09	< 0.005	0.10	3.59	1,396	1,400	0.42	0.01	< 0.005	1,414
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.02	12.7
Area	1.10	1.09	0.01	0.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.84	3.84	< 0.005	< 0.005	—	3.86
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.07	0.06	0.19	0.22	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	30.4	30.4	< 0.005	< 0.005	0.00	30.5
Total	1.71	1.60	2.76	4.18	0.01	0.10	0.01	0.11	0.09	< 0.005	0.10	3.59	1,396	1,399	0.42	0.01	0.02	1,413
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.05	2.05	< 0.005	< 0.005	< 0.005	2.10
Area	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.53	2.53	< 0.005	< 0.005	—	2.55

Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Waste	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Off-Road	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Stationary	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.31	0.29	0.50	0.76	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	0.59	231	232	0.07	< 0.005	< 0.005	234

3. Construction Emissions Details

3.1. Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.24	4.39	40.3	43.1	0.09	1.83	—	1.83	1.68	—	1.68	—	8,860	8,860	0.36	0.07	—	8,891
Dust From Material Movement	—	—	—	—	—	—	4.24	4.24	—	0.46	0.46	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.13	0.11	0.99	1.06	< 0.005	0.05	—	0.05	0.04	—	0.04	—	218	218	0.01	< 0.005	—	219
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.58	0.58	< 0.005	0.06	0.06	—	2.13	2.13	< 0.005	< 0.005	< 0.005	2.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.03	0.38	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.7	87.7	< 0.005	< 0.005	0.15	88.8
Vendor	< 0.005	< 0.005	0.19	0.01	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	166	166	< 0.005	0.03	0.17	174
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.03	14.7
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.5	27.5	< 0.005	< 0.005	0.03	28.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.77	1.61	14.6	52.3	0.09	0.39	—	0.39	0.37	—	0.37	—	8,860	8,860	0.36	0.07	—	8,891
Dust From Material Movement	—	—	—	—	—	—	1.65	1.65	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	1.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	218	218	0.01	< 0.005	—	219
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.58	0.58	< 0.005	0.06	0.06	—	2.13	2.13	< 0.005	< 0.005	< 0.005	2.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.03	0.38	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.7	87.7	< 0.005	< 0.005	0.15	88.8
Vendor	< 0.005	< 0.005	0.19	0.01	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	166	166	< 0.005	0.03	0.17	174
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.03	14.7
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.5	27.5	< 0.005	< 0.005	0.03	28.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.08	4.26	38.5	40.1	0.08	1.77	—	1.77	1.63	—	1.63	—	8,370	8,370	0.34	0.07	—	8,399
Dust From Material Movement	—	—	—	—	—	—	4.24	4.24	—	0.46	0.46	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.43	2.52	0.01	0.11	—	0.11	0.10	—	0.10	—	527	527	0.02	< 0.005	—	529
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.44	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.08	0.96	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	224	224	0.01	0.01	0.39	227
Vendor	0.01	< 0.005	0.48	0.04	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	424	424	< 0.005	0.07	0.43	445
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.1	37.1	< 0.005	< 0.005	0.07	37.6
Vendor	< 0.005	< 0.005	0.09	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	70.3	70.3	< 0.005	0.01	0.07	73.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Excavation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.52	12.0	48.9	0.08	0.38	—	0.38	0.36	—	0.36	—	8,370	8,370	0.34	0.07	—	8,399
Dust From Material Movement	—	—	—	—	—	—	1.65	1.65	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.76	3.08	0.01	0.02	—	0.02	0.02	—	0.02	—	527	527	0.02	< 0.005	—	529
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	87.3	87.3	< 0.005	< 0.005	—	87.6

Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.08	0.96	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	224	224	0.01	0.01	0.39	227
Vendor	0.01	< 0.005	0.48	0.04	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	424	424	< 0.005	0.07	0.43	445
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.1	37.1	< 0.005	< 0.005	0.07	37.6
Vendor	< 0.005	< 0.005	0.09	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	70.3	70.3	< 0.005	0.01	0.07	73.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.40	7.03	62.4	82.3	0.13	2.38	—	2.38	2.19	—	2.19	—	13,266	13,266	0.54	0.11	—	13,312
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.5	21.5	< 0.005	< 0.005	0.03	22.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.40	7.03	62.4	82.3	0.13	2.38	—	2.38	2.19	—	2.19	—	13,266	13,266	0.54	0.11	—	13,312
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.7	21.7	< 0.005	< 0.005	< 0.005	22.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.97	2.48	22.0	29.1	0.05	0.84	—	0.84	0.77	—	0.77	—	4,689	4,689	0.19	0.04	—	4,705
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	2.07	2.07	< 0.005	0.21	0.21	—	7.62	7.62	< 0.005	< 0.005	< 0.005	7.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	4.02	5.31	0.01	0.15	—	0.15	0.14	—	0.14	—	776	776	0.03	0.01	—	779
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.32
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	2.65	1.96	3.21	65.3	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	11,783	11,783	0.39	0.36	43.5	11,942
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.13	1.76	4.58	41.6	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	10,347	10,347	0.41	0.36	1.13	10,465
Vendor	0.11	0.06	7.71	0.56	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,735	6,735	< 0.005	1.06	0.40	7,053
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.76	0.63	1.37	16.1	0.00	0.00	3.72	3.72	0.00	0.87	0.87	—	3,771	3,771	0.14	0.13	6.64	3,819
Vendor	0.04	0.02	2.67	0.20	0.02	0.05	0.65	0.70	0.05	0.18	0.23	—	2,380	2,380	< 0.005	0.38	2.38	2,495
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.11	0.25	2.94	0.00	0.00	0.68	0.68	0.00	0.16	0.16	—	624	624	0.02	0.02	1.10	632
Vendor	0.01	< 0.005	0.49	0.04	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	394	394	< 0.005	0.06	0.39	413
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.91	2.65	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,266	13,266	0.54	0.11	—	13,312

Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.5	21.5	< 0.005	< 0.005	0.03	22.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.91	2.65	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,266	13,266	0.54	0.11	—	13,312
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.7	21.7	< 0.005	< 0.005	< 0.005	22.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	0.93	11.2	31.3	0.05	0.22	—	0.22	0.20	—	0.20	—	4,689	4,689	0.19	0.04	—	4,705
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	2.07	2.07	< 0.005	0.21	0.21	—	7.62	7.62	< 0.005	< 0.005	< 0.005	7.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.17	2.05	5.72	0.01	0.04	—	0.04	0.04	—	0.04	—	776	776	0.03	0.01	—	779
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.32
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.65	1.96	3.21	65.3	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	11,783	11,783	0.39	0.36	43.5	11,942
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	2.13	1.76	4.58	41.6	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	10,347	10,347	0.41	0.36	1.13	10,465
Vendor	0.11	0.06	7.71	0.56	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,735	6,735	< 0.005	1.06	0.40	7,053
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.76	0.63	1.37	16.1	0.00	0.00	3.72	3.72	0.00	0.87	0.87	—	3,771	3,771	0.14	0.13	6.64	3,819
Vendor	0.04	0.02	2.67	0.20	0.02	0.05	0.65	0.70	0.05	0.18	0.23	—	2,380	2,380	< 0.005	0.38	2.38	2,495
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.11	0.25	2.94	0.00	0.00	0.68	0.68	0.00	0.16	0.16	—	624	624	0.02	0.02	1.10	632
Vendor	0.01	< 0.005	0.49	0.04	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	394	394	< 0.005	0.06	0.39	413
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.95	6.65	59.8	82.0	0.13	2.09	—	2.09	1.92	—	1.92	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.0	21.0	< 0.005	< 0.005	0.03	22.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	7.95	6.65	59.8	82.0	0.13	2.09	—	2.09	1.92	—	1.92	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.2	21.2	< 0.005	< 0.005	< 0.005	22.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.27	1.90	17.0	23.4	0.04	0.59	—	0.59	0.55	—	0.55	—	3,785	3,785	0.15	0.03	—	3,798
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.67	1.67	< 0.005	0.17	0.17	—	6.01	6.01	< 0.005	< 0.005	< 0.005	6.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.35	3.11	4.26	0.01	0.11	—	0.11	0.10	—	0.10	—	627	627	0.03	0.01	—	629
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	1.87	2.86	60.1	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	11,539	11,539	0.38	0.36	39.5	11,694
Vendor	0.11	0.06	6.85	0.51	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,594	6,594	< 0.005	1.02	14.6	6,913
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.06	1.69	3.90	38.3	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	10,137	10,137	0.07	0.36	1.02	10,246
Vendor	0.11	0.06	7.44	0.52	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,596	6,596	< 0.005	1.02	0.38	6,900
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.48	1.01	11.9	0.00	0.00	3.00	3.00	0.00	0.70	0.70	—	2,978	2,978	0.02	0.10	4.85	3,014
Vendor	0.03	0.02	2.08	0.15	0.01	0.04	0.53	0.56	0.04	0.14	0.18	—	1,879	1,879	< 0.005	0.29	1.80	1,968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.18	2.17	0.00	0.00	0.55	0.55	0.00	0.13	0.13	—	493	493	< 0.005	0.02	0.80	499
Vendor	0.01	< 0.005	0.38	0.03	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	311	311	< 0.005	0.05	0.30	326
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.91	2.64	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.0	21.0	< 0.005	< 0.005	0.03	22.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.91	2.64	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.2	21.2	< 0.005	< 0.005	< 0.005	22.2

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.75	9.03	25.3	0.04	0.17	—	0.17	0.16	—	0.16	—	3,785	3,785	0.15	0.03	—	3,798
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.67	1.67	< 0.005	0.17	0.17	—	6.01	6.01	< 0.005	< 0.005	< 0.005	6.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	1.65	4.61	0.01	0.03	—	0.03	0.03	—	0.03	—	627	627	0.03	0.01	—	629
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.22	1.87	2.86	60.1	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	11,539	11,539	0.38	0.36	39.5	11,694
Vendor	0.11	0.06	6.85	0.51	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,594	6,594	< 0.005	1.02	14.6	6,913
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.06	1.69	3.90	38.3	0.00	0.00	10.6	10.6	0.00	2.48	2.48	—	10,137	10,137	0.07	0.36	1.02	10,246
Vendor	0.11	0.06	7.44	0.52	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,596	6,596	< 0.005	1.02	0.38	6,900
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.48	1.01	11.9	0.00	0.00	3.00	3.00	0.00	0.70	0.70	—	2,978	2,978	0.02	0.10	4.85	3,014
Vendor	0.03	0.02	2.08	0.15	0.01	0.04	0.53	0.56	0.04	0.14	0.18	—	1,879	1,879	< 0.005	0.29	1.80	1,968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.11	0.09	0.18	2.17	0.00	0.00	0.55	0.55	0.00	0.13	0.13	—	493	493	< 0.005	0.02	0.80	499
Vendor	0.01	< 0.005	0.38	0.03	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	311	311	< 0.005	0.05	0.30	326
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	0.87	0.99	< 0.005	0.04	—	0.04	0.03	—	0.03	—	142	142	0.01	< 0.005	—	142
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.60	6.60	< 0.005	< 0.005	—	6.62
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.10
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.25	0.38	8.01	0.00	0.00	1.41	1.41	0.00	0.33	0.33	—	1,539	1,539	0.05	0.05	5.26	1,559
Vendor	0.02	0.01	1.37	0.10	0.01	0.03	0.37	0.40	0.03	0.10	0.13	—	1,319	1,319	< 0.005	0.20	2.93	1,383
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.26	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	64.9	64.9	< 0.005	< 0.005	0.11	65.7
Vendor	< 0.005	< 0.005	0.07	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.4	61.4	< 0.005	0.01	0.06	64.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.66	0.99	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	142	142	0.01	< 0.005	—	142
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.60	6.60	< 0.005	< 0.005	—	6.62
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.10
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.25	0.38	8.01	0.00	0.00	1.41	1.41	0.00	0.33	0.33	—	1,539	1,539	0.05	0.05	5.26	1,559

Vendor	0.02	0.01	1.37	0.10	0.01	0.03	0.37	0.40	0.03	0.10	0.13	—	1,319	1,319	< 0.005	0.20	2.93	1,383
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.26	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	64.9	64.9	< 0.005	< 0.005	0.11	65.7
Vendor	< 0.005	< 0.005	0.07	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.4	61.4	< 0.005	0.01	0.06	64.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Utilities/Sub-grade (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.08	4.26	38.5	40.1	0.08	1.77	—	1.77	1.63	—	1.63	—	8,370	8,370	0.34	0.07	—	8,399
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.43	2.52	0.01	0.11	—	0.11	0.10	—	0.10	—	527	527	0.02	< 0.005	—	529
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.44	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.77	1.31	2.14	43.5	0.00	0.00	7.07	7.07	0.00	1.66	1.66	—	7,855	7,855	0.26	0.24	29.0	7,961
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.16	1.92	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	448	448	0.02	0.02	0.79	454
Vendor	0.01	< 0.005	0.48	0.04	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	424	424	< 0.005	0.07	0.43	445
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.03	0.35	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	74.2	74.2	< 0.005	< 0.005	0.13	75.1
Vendor	< 0.005	< 0.005	0.09	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	70.3	70.3	< 0.005	0.01	0.07	73.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Utilities/Sub-grade (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.52	12.0	48.9	0.08	0.38	—	0.38	0.36	—	0.36	—	8,370	8,370	0.34	0.07	—	8,399
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.76	3.08	0.01	0.02	—	0.02	0.02	—	0.02	—	527	527	0.02	< 0.005	—	529
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.77	1.31	2.14	43.5	0.00	0.00	7.07	7.07	0.00	1.66	1.66	—	7,855	7,855	0.26	0.24	29.0	7,961
Vendor	0.11	0.06	7.11	0.55	0.04	0.13	1.85	1.99	0.13	0.51	0.64	—	6,734	6,734	< 0.005	1.06	15.6	7,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.16	1.92	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	448	448	0.02	0.02	0.79	454
Vendor	0.01	< 0.005	0.48	0.04	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	424	424	< 0.005	0.07	0.43	445
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.03	0.35	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	74.2	74.2	< 0.005	< 0.005	0.13	75.1
Vendor	< 0.005	< 0.005	0.09	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	70.3	70.3	< 0.005	0.01	0.07	73.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.34	0.31	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Total	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Total	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.34	0.31	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Total	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Total	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6

Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Total	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Total	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Preparation	Site Preparation	7/1/2025	7/9/2025	7.00	9.00	—
Excavation	Grading	7/10/2025	8/1/2025	7.00	23.0	—
Construction	Building Construction	8/25/2025	4/14/2026	7.00	233	—
Paving	Paving	4/15/2026	5/1/2026	7.00	17.0	—
Utilities/Sub-grade	Trenching	8/2/2025	8/24/2025	7.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Preparation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Preparation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Preparation	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Preparation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Preparation	Graders	Diesel	Average	2.00	8.00	148	0.41
Preparation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Preparation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Excavation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Excavation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Excavation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Excavation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48

Excavation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Excavation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Excavation	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Construction	Bore/Drill Rigs	Diesel	Average	10.0	8.00	83.0	0.50
Construction	Cement and Mortar Mixers	Diesel	Average	10.0	8.00	10.0	0.56
Construction	Concrete/Industrial Saws	Diesel	Average	3.00	8.00	33.0	0.73
Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Construction	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Construction	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Construction	Forklifts	Diesel	Average	5.00	8.00	82.0	0.20
Construction	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Construction	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Construction	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Construction	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Construction	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Construction	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Construction	Tractors/Loaders/Backhoes	Diesel	Average	7.00	8.00	84.0	0.37
Construction	Trenchers	Diesel	Average	10.0	8.00	40.0	0.50
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Utilities/Sub-grade	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Utilities/Sub-grade	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Utilities/Sub-grade	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Utilities/Sub-grade	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Utilities/Sub-grade	Graders	Diesel	Average	2.00	8.00	148	0.41
Utilities/Sub-grade	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Utilities/Sub-grade	Scrapers	Diesel	Average	2.00	8.00	423	0.48

Utilities/Sub-grade	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Utilities/Sub-grade	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Preparation	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Preparation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Preparation	Forklifts	Diesel	Tier 4 Final	2.00	8.00	82.0	0.20
Preparation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Preparation	Graders	Diesel	Tier 4 Final	2.00	8.00	148	0.41
Preparation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Preparation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Preparation	Skid Steer Loaders	Diesel	Tier 4 Final	4.00	8.00	71.0	0.37
Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Excavation	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Excavation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Excavation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Excavation	Graders	Diesel	Tier 4 Final	2.00	8.00	148	0.41
Excavation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Excavation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Excavation	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Excavation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Excavation	Forklifts	Diesel	Tier 4 Final	2.00	8.00	82.0	0.20
Construction	Bore/Drill Rigs	Diesel	Tier 4 Final	10.0	8.00	83.0	0.50
Construction	Cement and Mortar Mixers	Diesel	Average	10.0	8.00	10.0	0.56

Construction	Concrete/Industrial Saws	Diesel	Tier 4 Final	3.00	8.00	33.0	0.73
Construction	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
Construction	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Construction	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Construction	Forklifts	Diesel	Tier 4 Final	5.00	8.00	82.0	0.20
Construction	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Construction	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Construction	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Construction	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Construction	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Construction	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	7.00	8.00	84.0	0.37
Construction	Trenchers	Diesel	Tier 4 Final	10.0	8.00	40.0	0.50
Paving	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Utilities/Sub-grade	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Utilities/Sub-grade	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Utilities/Sub-grade	Forklifts	Diesel	Tier 4 Final	2.00	8.00	82.0	0.20
Utilities/Sub-grade	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Utilities/Sub-grade	Graders	Diesel	Tier 4 Final	2.00	8.00	148	0.41
Utilities/Sub-grade	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Utilities/Sub-grade	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Utilities/Sub-grade	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Utilities/Sub-grade	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Preparation	—	—	—	—
Preparation	Worker	100	50.0	LDA,LDT1,LDT2
Preparation	Vendor	20.0	100	HHDT
Preparation	Hauling	0.00	20.0	HHDT
Preparation	Onsite truck	16.0	1.02	HHDT
Excavation	—	—	—	—
Excavation	Worker	100	50.0	LDA,LDT1,LDT2
Excavation	Vendor	20.0	100	HHDT
Excavation	Hauling	0.00	20.0	HHDT
Excavation	Onsite truck	16.0	1.02	HHDT
Construction	—	—	—	—
Construction	Worker	300	50.0	LDA,LDT1,LDT2
Construction	Vendor	20.0	100	HHDT
Construction	Hauling	0.00	20.0	HHDT
Construction	Onsite truck	4.00	1.02	HHDT
Paving	—	—	—	—
Paving	Worker	40.0	50.0	LDA,LDT1,LDT2
Paving	Vendor	4.00	100	HHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Utilities/Sub-grade	—	—	—	—
Utilities/Sub-grade	Worker	200	50.0	LDA,LDT1,LDT2
Utilities/Sub-grade	Vendor	20.0	100	HHDT
Utilities/Sub-grade	Hauling	0.00	20.0	HHDT
Utilities/Sub-grade	Onsite truck	16.0	1.02	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Preparation	—	—	—	—
Preparation	Worker	100	50.0	LDA,LDT1,LDT2
Preparation	Vendor	20.0	100	HHDT
Preparation	Hauling	0.00	20.0	HHDT
Preparation	Onsite truck	16.0	1.02	HHDT
Excavation	—	—	—	—
Excavation	Worker	100	50.0	LDA,LDT1,LDT2
Excavation	Vendor	20.0	100	HHDT
Excavation	Hauling	0.00	20.0	HHDT
Excavation	Onsite truck	16.0	1.02	HHDT
Construction	—	—	—	—
Construction	Worker	300	50.0	LDA,LDT1,LDT2
Construction	Vendor	20.0	100	HHDT
Construction	Hauling	0.00	20.0	HHDT
Construction	Onsite truck	4.00	1.02	HHDT
Paving	—	—	—	—
Paving	Worker	40.0	50.0	LDA,LDT1,LDT2
Paving	Vendor	4.00	100	HHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Utilities/Sub-grade	—	—	—	—
Utilities/Sub-grade	Worker	200	50.0	LDA,LDT1,LDT2
Utilities/Sub-grade	Vendor	20.0	100	HHDT
Utilities/Sub-grade	Hauling	0.00	20.0	HHDT
Utilities/Sub-grade	Onsite truck	16.0	1.02	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Preparation	—	—	36.0	0.00	—
Excavation	—	—	92.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	6.00	0.00	0.00	1,564	20.0	0.00	0.00	5,214

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	24,467	204	0.0330	0.0040	4,961

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	24,467	204	0.0330	0.0040	4,961

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	325,851

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	325,851

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	6.66	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	6.66	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.54	200	66.0	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.6	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	20.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	32.2
AQ-PM	6.14
AQ-DPM	7.07
Drinking Water	8.62
Lead Risk Housing	51.1
Pesticides	87.0
Toxic Releases	4.29
Traffic	3.30
Effect Indicators	—
CleanUp Sites	37.6
Groundwater	71.7
Haz Waste Facilities/Generators	43.3
Impaired Water Bodies	91.9
Solid Waste	83.3

Sensitive Population	—
Asthma	37.5
Cardio-vascular	78.0
Low Birth Weights	71.3
Socioeconomic Factor Indicators	—
Education	83.9
Housing	21.6
Linguistic	63.3
Poverty	69.7
Unemployment	13.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	40.63903503
Employed	39.30450404
Median HI	41.72975747
Education	—
Bachelor's or higher	15.24445015
High school enrollment	100
Preschool enrollment	24.93263185
Transportation	—
Auto Access	43.87270627
Active commuting	46.59309637
Social	—
2-parent households	76.45322726
Voting	73.2580521

Neighborhood	—
Alcohol availability	49.71127935
Park access	39.93327345
Retail density	1.475683306
Supermarket access	44.86077249
Tree canopy	42.6793276
Housing	—
Homeownership	58.27024253
Housing habitability	67.48363916
Low-inc homeowner severe housing cost burden	64.71192095
Low-inc renter severe housing cost burden	92.86539202
Uncrowded housing	32.32388041
Health Outcomes	—
Insured adults	18.96573848
Arthritis	0.0
Asthma ER Admissions	72.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	33.5
Cognitively Disabled	50.3
Physically Disabled	45.1
Heart Attack ER Admissions	31.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0

Obesity	0.0
Pedestrian Injuries	65.3
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.2
SLR Inundation Area	0.0
Children	56.6
Elderly	61.3
English Speaking	31.0
Foreign-born	67.8
Outdoor Workers	2.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	81.1
Traffic Density	2.3
Traffic Access	0.0
Other Indices	—
Hardship	73.6
Other Decision Support	—
2016 Voting	57.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	54.0

Healthy Places Index Score for Project Location (b)	44.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Provided by Applicant
Construction: Construction Phases	Provided by Applicant
Construction: Off-Road Equipment	Provided by Applicant.
Construction: Trips and VMT	Provided by Applicant.
Operations: Architectural Coatings	Not applicable.
Operations: Water and Waste Water	Provided by Applicant
Operations: Solid Waste	1 cu. yd./wk, and assuming density for municipal solid waste (commercial - all waste, uncompacted) of 138 lbs per cu. yd.
Operations: Energy Use	Data for 'Refrigerated Warehouse-Rail' used to estimate energy use by BESS, O&M, Substation, and area lighting.
Operations: Off-Road Equipment	One off-road truck per day for potential O&M activities

Janus Solar Project (Daily) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Janus Solar Project (Daily)
Construction Start Date	7/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.20
Location	Spring Valley Rd, Williams, CA 95987, USA
County	Colusa
City	Unincorporated
Air District	Colusa County APCD
Air Basin	Sacramento Valley
TAZ	228
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	666	User Defined Unit	666	43,560	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.3	9.84	88.1	171	0.27	2.78	35.5	37.6	2.59	5.43	8.02	—	49,201	49,201	1.06	3.78	105	50,459
Mit.	6.78	5.45	57.4	177	0.27	1.01	34.8	35.4	0.98	5.43	6.41	—	49,201	49,201	1.06	3.78	105	50,459
% Reduced	45%	45%	35%	-4%	—	64%	2%	6%	62%	—	20%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.6	9.56	91.7	139	0.27	2.78	25.7	28.5	2.59	5.43	8.02	—	47,290	47,290	1.09	3.78	2.72	48,446
Mit.	6.08	5.17	61.0	146	0.27	1.01	25.7	26.7	0.98	5.43	6.41	—	47,290	47,290	1.09	3.78	2.72	48,446
% Reduced	47%	46%	33%	-5%	—	64%	—	6%	62%	—	20%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.05	4.18	40.4	60.8	0.12	1.29	14.2	15.5	1.20	2.63	3.83	—	20,941	20,941	0.46	1.69	19.4	21,477
Mit.	2.59	2.21	25.6	64.4	0.12	0.45	14.0	14.4	0.44	2.60	3.04	—	20,941	20,941	0.46	1.69	19.4	21,477
% Reduced	49%	47%	37%	-6%	—	65%	2%	7%	63%	1%	21%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.92	0.76	7.37	11.1	0.02	0.24	2.59	2.83	0.22	0.48	0.70	—	3,467	3,467	0.08	0.28	3.21	3,556
Mit.	0.47	0.40	4.67	11.7	0.02	0.08	2.55	2.63	0.08	0.47	0.56	—	3,467	3,467	0.08	0.28	3.21	3,556
% Reduced	49%	47%	37%	-6%	—	65%	2%	7%	63%	1%	21%	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Mit.	—	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Mit.	—	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mit.	—	Yes	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	12.3	9.84	88.1	171	0.27	2.78	35.5	37.6	2.59	5.43	8.02	—	49,201	49,201	1.06	3.78	105	50,459
2026	11.2	9.34	84.2	164	0.27	2.48	25.7	28.2	2.32	5.43	7.75	—	48,472	48,472	1.05	3.65	96.6	49,682
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	11.6	9.56	91.7	139	0.27	2.78	25.7	28.5	2.59	5.43	8.02	—	47,290	47,290	1.09	3.78	2.72	48,446
2026	11.0	9.09	87.4	135	0.27	2.48	25.7	28.2	2.32	5.43	7.75	—	46,606	46,606	0.64	3.65	2.50	47,712
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.05	4.18	40.4	60.8	0.12	1.29	14.2	15.5	1.20	2.63	3.83	—	20,941	20,941	0.46	1.69	19.4	21,477
2026	3.17	2.61	24.9	40.0	0.08	0.71	7.36	8.07	0.66	1.56	2.23	—	13,624	13,624	0.18	1.07	12.1	13,958
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.92	0.76	7.37	11.1	0.02	0.24	2.59	2.83	0.22	0.48	0.70	—	3,467	3,467	0.08	0.28	3.21	3,556
2026	0.58	0.48	4.54	7.30	0.01	0.13	1.34	1.47	0.12	0.29	0.41	—	2,256	2,256	0.03	0.18	2.01	2,311

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.78	5.45	57.4	177	0.27	1.01	34.8	35.4	0.98	5.43	6.41	—	49,201	49,201	1.06	3.78	105	50,459
2026	6.20	5.33	56.1	170	0.27	1.00	25.7	26.7	0.97	5.43	6.41	—	48,472	48,472	1.05	3.65	96.6	49,682
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.08	5.17	61.0	146	0.27	1.01	25.7	26.7	0.98	5.43	6.41	—	47,290	47,290	1.09	3.78	2.72	48,446
2026	5.98	5.07	59.3	141	0.27	1.00	25.7	26.7	0.97	5.43	6.41	—	46,606	46,606	0.64	3.65	2.50	47,712

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.59	2.21	25.6	64.4	0.12	0.45	14.0	14.4	0.44	2.60	3.04	—	20,941	20,941	0.46	1.69	19.4	21,477
2026	1.72	1.46	16.9	41.9	0.08	0.29	7.36	7.65	0.28	1.56	1.84	—	13,624	13,624	0.18	1.07	12.1	13,958
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.47	0.40	4.67	11.7	0.02	0.08	2.55	2.63	0.08	0.47	0.56	—	3,467	3,467	0.08	0.28	3.21	3,556
2026	0.31	0.27	3.08	7.65	0.01	0.05	1.34	1.40	0.05	0.29	0.34	—	2,256	2,256	0.03	0.18	2.01	2,311

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.08	1.96	2.83	5.57	0.01	0.10	0.03	0.13	0.09	0.01	0.10	3.59	1,433	1,437	0.43	0.02	0.12	1,453
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.71	1.62	2.82	3.82	0.01	0.10	0.03	0.13	0.09	0.01	0.10	3.59	1,423	1,426	0.43	0.02	< 0.005	1,442
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.83	1.72	2.80	4.50	0.01	0.10	0.02	0.12	0.09	0.01	0.10	3.59	1,415	1,418	0.42	0.02	0.04	1,434
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.33	0.31	0.51	0.82	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	0.59	234	235	0.07	< 0.005	0.01	237
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	25.0	25.0	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	25.0	25.0	—	—	—	—	80.0	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	No	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22	0.22	0.07	0.50	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	46.4	46.4	0.01	0.01	0.12	48.5
Area	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	2.08	1.96	2.83	5.57	0.01	0.10	0.03	0.13	0.09	0.01	0.10	3.59	1,433	1,437	0.43	0.02	0.12	1,453
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.19	0.18	0.08	0.64	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	43.7	43.7	0.01	0.01	< 0.005	45.9
Area	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6

Off-Roa	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	1.71	1.62	2.82	3.82	0.01	0.10	0.03	0.13	0.09	0.01	0.10	3.59	1,423	1,426	0.43	0.02	< 0.005	1,442
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.05	0.38	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	31.5	31.5	0.01	< 0.005	0.04	33.0
Area	1.10	1.09	0.01	0.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.84	3.84	< 0.005	< 0.005	—	3.86
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.07	0.06	0.19	0.22	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	30.4	30.4	< 0.005	< 0.005	0.00	30.5
Total	1.83	1.72	2.80	4.50	0.01	0.10	0.02	0.12	0.09	0.01	0.10	3.59	1,415	1,418	0.42	0.02	0.04	1,434
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.01	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.22	5.22	< 0.005	< 0.005	0.01	5.47
Area	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.53	2.53	< 0.005	< 0.005	—	2.55
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Waste	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Off-Road	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Stationary	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.33	0.31	0.51	0.82	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	0.59	234	235	0.07	< 0.005	0.01	237

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22	0.22	0.07	0.50	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	46.4	46.4	0.01	0.01	0.12	48.5
Area	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	2.08	1.96	2.83	5.57	0.01	0.10	0.03	0.13	0.09	0.01	0.10	3.59	1,433	1,437	0.43	0.02	0.12	1,453
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.19	0.18	0.08	0.64	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	43.7	43.7	0.01	0.01	< 0.005	45.9
Area	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	1.71	1.62	2.82	3.82	0.01	0.10	0.03	0.13	0.09	0.01	0.10	3.59	1,423	1,426	0.43	0.02	< 0.005	1,442
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.05	0.38	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	31.5	31.5	0.01	< 0.005	0.04	33.0
Area	1.10	1.09	0.01	0.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.84	3.84	< 0.005	< 0.005	—	3.86
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4

Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Waste	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Off-Road	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Stationary	0.07	0.06	0.19	0.22	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	30.4	30.4	< 0.005	< 0.005	0.00	30.5
Total	1.83	1.72	2.80	4.50	0.01	0.10	0.02	0.12	0.09	0.01	0.10	3.59	1,415	1,418	0.42	0.02	0.04	1,434
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.01	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.22	5.22	< 0.005	< 0.005	0.01	5.47
Area	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.53	2.53	< 0.005	< 0.005	—	2.55
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Waste	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Off-Road	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Stationary	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.33	0.31	0.51	0.82	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	0.59	234	235	0.07	< 0.005	0.01	237

3. Construction Emissions Details

3.1. Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	5.24	4.39	40.3	43.1	0.09	1.83	—	1.83	1.68	—	1.68	—	8,860	8,860	0.36	0.07	—	8,891
Dust From Material Movement	—	—	—	—	—	—	4.24	4.24	—	0.46	0.46	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.99	1.06	< 0.005	0.05	—	0.05	0.04	—	0.04	—	218	218	0.01	< 0.005	—	219
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.58	0.58	< 0.005	0.06	0.06	—	2.13	2.13	< 0.005	< 0.005	< 0.005	2.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981
Vendor	0.22	0.12	14.2	1.11	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,469	13,469	< 0.005	2.13	31.3	14,134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.03	0.38	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.7	87.7	< 0.005	< 0.005	0.15	88.8
Vendor	0.01	< 0.005	0.37	0.03	< 0.005	0.01	0.09	0.10	0.01	0.02	0.03	—	332	332	< 0.005	0.05	0.33	348
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.03	14.7
Vendor	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.0	55.0	< 0.005	0.01	0.06	57.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.77	1.61	14.6	52.3	0.09	0.39	—	0.39	0.37	—	0.37	—	8,860	8,860	0.36	0.07	—	8,891

Dust From Material Movement	—	—	—	—	—	—	1.65	1.65	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	1.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	218	218	0.01	< 0.005	—	219
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.58	0.58	< 0.005	0.06	0.06	—	2.13	2.13	< 0.005	< 0.005	< 0.005	2.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981

Vendor	0.22	0.12	14.2	1.11	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,469	13,469	< 0.005	2.13	31.3	14,134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.03	0.38	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.7	87.7	< 0.005	< 0.005	0.15	88.8
Vendor	0.01	< 0.005	0.37	0.03	< 0.005	0.01	0.09	0.10	0.01	0.02	0.03	—	332	332	< 0.005	0.05	0.33	348
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.03	14.7
Vendor	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.0	55.0	< 0.005	0.01	0.06	57.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.08	4.26	38.5	40.1	0.08	1.77	—	1.77	1.63	—	1.63	—	8,370	8,370	0.34	0.07	—	8,399
Dust From Material Movement	—	—	—	—	—	—	4.24	4.24	—	0.46	0.46	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.43	2.52	0.01	0.11	—	0.11	0.10	—	0.10	—	527	527	0.02	< 0.005	—	529
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.44	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981
Vendor	0.22	0.12	14.2	1.11	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,469	13,469	< 0.005	2.13	31.3	14,134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.08	0.96	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	224	224	0.01	0.01	0.39	227
Vendor	0.01	0.01	0.95	0.07	0.01	0.02	0.23	0.25	0.02	0.06	0.08	—	849	849	< 0.005	0.13	0.85	890
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.1	37.1	< 0.005	< 0.005	0.07	37.6
Vendor	< 0.005	< 0.005	0.17	0.01	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.14	147
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Excavation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.52	12.0	48.9	0.08	0.38	—	0.38	0.36	—	0.36	—	8,370	8,370	0.34	0.07	—	8,399
Dust From Material Movement	—	—	—	—	—	—	1.65	1.65	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.11	0.10	0.76	3.08	0.01	0.02	—	0.02	0.02	—	0.02	—	527	527	0.02	< 0.005	—	529
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.65	1.07	21.8	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,928	3,928	0.13	0.12	14.5	3,981
Vendor	0.22	0.12	14.2	1.11	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,469	13,469	< 0.005	2.13	31.3	14,134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.08	0.96	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	224	224	0.01	0.01	0.39	227
Vendor	0.01	0.01	0.95	0.07	0.01	0.02	0.23	0.25	0.02	0.06	0.08	—	849	849	< 0.005	0.13	0.85	890
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.1	37.1	< 0.005	< 0.005	0.07	37.6
Vendor	< 0.005	< 0.005	0.17	0.01	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.14	147
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.40	7.03	62.4	82.3	0.13	2.38	—	2.38	2.19	—	2.19	—	13,266	13,266	0.54	0.11	—	13,312
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.5	21.5	< 0.005	< 0.005	0.03	22.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.40	7.03	62.4	82.3	0.13	2.38	—	2.38	2.19	—	2.19	—	13,266	13,266	0.54	0.11	—	13,312
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.7	21.7	< 0.005	< 0.005	< 0.005	22.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.97	2.48	22.0	29.1	0.05	0.84	—	0.84	0.77	—	0.77	—	4,689	4,689	0.19	0.04	—	4,705
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	2.07	2.07	< 0.005	0.21	0.21	—	7.62	7.62	< 0.005	< 0.005	< 0.005	7.98

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	4.02	5.31	0.01	0.15	—	0.15	0.14	—	0.14	—	776	776	0.03	0.01	—	779
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.32
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.54	2.62	4.29	87.0	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	15,710	15,710	0.52	0.48	58.0	15,923
Vendor	0.33	0.19	21.3	1.66	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	20,203	20,203	< 0.005	3.19	46.9	21,201
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.84	2.35	6.10	55.4	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	13,796	13,796	0.55	0.48	1.50	13,953
Vendor	0.32	0.18	23.1	1.69	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	20,206	20,206	< 0.005	3.19	1.21	21,159
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.01	0.84	1.83	21.5	0.00	0.00	4.96	4.96	0.00	1.16	1.16	—	5,028	5,028	0.19	0.17	8.85	5,092
Vendor	0.11	0.06	8.02	0.59	0.05	0.14	1.96	2.10	0.14	0.54	0.68	—	7,141	7,141	< 0.005	1.13	7.15	7,484
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.15	0.33	3.93	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	832	832	0.03	0.03	1.46	843
Vendor	0.02	0.01	1.46	0.11	0.01	0.03	0.36	0.38	0.03	0.10	0.12	—	1,182	1,182	< 0.005	0.19	1.18	1,239
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.91	2.65	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,266	13,266	0.54	0.11	—	13,312
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.5	21.5	< 0.005	< 0.005	0.03	22.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.91	2.65	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,266	13,266	0.54	0.11	—	13,312
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.7	21.7	< 0.005	< 0.005	< 0.005	22.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	0.93	11.2	31.3	0.05	0.22	—	0.22	0.20	—	0.20	—	4,689	4,689	0.19	0.04	—	4,705
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	2.07	2.07	< 0.005	0.21	0.21	—	7.62	7.62	< 0.005	< 0.005	< 0.005	7.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.17	2.05	5.72	0.01	0.04	—	0.04	0.04	—	0.04	—	776	776	0.03	0.01	—	779
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.32

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.54	2.62	4.29	87.0	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	15,710	15,710	0.52	0.48	58.0	15,923
Vendor	0.33	0.19	21.3	1.66	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	20,203	20,203	< 0.005	3.19	46.9	21,201
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.84	2.35	6.10	55.4	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	13,796	13,796	0.55	0.48	1.50	13,953
Vendor	0.32	0.18	23.1	1.69	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	20,206	20,206	< 0.005	3.19	1.21	21,159
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.01	0.84	1.83	21.5	0.00	0.00	4.96	4.96	0.00	1.16	1.16	—	5,028	5,028	0.19	0.17	8.85	5,092
Vendor	0.11	0.06	8.02	0.59	0.05	0.14	1.96	2.10	0.14	0.54	0.68	—	7,141	7,141	< 0.005	1.13	7.15	7,484
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.15	0.33	3.93	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	832	832	0.03	0.03	1.46	843
Vendor	0.02	0.01	1.46	0.11	0.01	0.03	0.36	0.38	0.03	0.10	0.12	—	1,182	1,182	< 0.005	0.19	1.18	1,239
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	7.95	6.65	59.8	82.0	0.13	2.09	—	2.09	1.92	—	1.92	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.0	21.0	< 0.005	< 0.005	0.03	22.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.95	6.65	59.8	82.0	0.13	2.09	—	2.09	1.92	—	1.92	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.2	21.2	< 0.005	< 0.005	< 0.005	22.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.27	1.90	17.0	23.4	0.04	0.59	—	0.59	0.55	—	0.55	—	3,785	3,785	0.15	0.03	—	3,798
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.67	1.67	< 0.005	0.17	0.17	—	6.01	6.01	< 0.005	< 0.005	< 0.005	6.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.35	3.11	4.26	0.01	0.11	—	0.11	0.10	—	0.10	—	627	627	0.03	0.01	—	629
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.96	2.50	3.82	80.1	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	15,385	15,385	0.51	0.48	52.6	15,593
Vendor	0.33	0.19	20.5	1.53	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	19,783	19,783	< 0.005	3.06	43.9	20,740
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.25	5.20	51.1	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	13,516	13,516	0.10	0.48	1.36	13,662
Vendor	0.32	0.18	22.3	1.56	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	19,787	19,787	< 0.005	3.06	1.14	20,700
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.78	0.65	1.35	15.9	0.00	0.00	4.00	4.00	0.00	0.94	0.94	—	3,971	3,971	0.03	0.14	6.47	4,019
Vendor	0.09	0.05	6.24	0.44	0.04	0.11	1.58	1.69	0.11	0.43	0.55	—	5,637	5,637	< 0.005	0.87	5.39	5,903
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.25	2.90	0.00	0.00	0.73	0.73	0.00	0.17	0.17	—	657	657	< 0.005	0.02	1.07	665
Vendor	0.02	0.01	1.14	0.08	0.01	0.02	0.29	0.31	0.02	0.08	0.10	—	933	933	< 0.005	0.14	0.89	977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.91	2.64	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.0	21.0	< 0.005	< 0.005	0.03	22.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.91	2.64	31.7	88.7	0.13	0.61	—	0.61	0.58	—	0.58	—	13,283	13,283	0.54	0.11	—	13,328
Onsite truck	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	6.01	6.01	< 0.005	0.60	0.60	—	21.2	21.2	< 0.005	< 0.005	< 0.005	22.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.75	9.03	25.3	0.04	0.17	—	0.17	0.16	—	0.16	—	3,785	3,785	0.15	0.03	—	3,798
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.67	1.67	< 0.005	0.17	0.17	—	6.01	6.01	< 0.005	< 0.005	< 0.005	6.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	1.65	4.61	0.01	0.03	—	0.03	0.03	—	0.03	—	627	627	0.03	0.01	—	629
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.96	2.50	3.82	80.1	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	15,385	15,385	0.51	0.48	52.6	15,593
Vendor	0.33	0.19	20.5	1.53	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	19,783	19,783	< 0.005	3.06	43.9	20,740
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.25	5.20	51.1	0.00	0.00	14.1	14.1	0.00	3.31	3.31	—	13,516	13,516	0.10	0.48	1.36	13,662
Vendor	0.32	0.18	22.3	1.56	0.13	0.40	5.56	5.96	0.40	1.52	1.92	—	19,787	19,787	< 0.005	3.06	1.14	20,700
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.78	0.65	1.35	15.9	0.00	0.00	4.00	4.00	0.00	0.94	0.94	—	3,971	3,971	0.03	0.14	6.47	4,019
Vendor	0.09	0.05	6.24	0.44	0.04	0.11	1.58	1.69	0.11	0.43	0.55	—	5,637	5,637	< 0.005	0.87	5.39	5,903
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.25	2.90	0.00	0.00	0.73	0.73	0.00	0.17	0.17	—	657	657	< 0.005	0.02	1.07	665
Vendor	0.02	0.01	1.14	0.08	0.01	0.02	0.29	0.31	0.02	0.08	0.10	—	933	933	< 0.005	0.14	0.89	977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	0.87	0.99	< 0.005	0.04	—	0.04	0.03	—	0.03	—	142	142	0.01	< 0.005	—	142
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.60	6.60	< 0.005	< 0.005	—	6.62
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.10
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.25	0.38	8.01	0.00	0.00	1.41	1.41	0.00	0.33	0.33	—	1,539	1,539	0.05	0.05	5.26	1,559
Vendor	0.05	0.03	3.42	0.26	0.02	0.07	0.93	0.99	0.07	0.25	0.32	—	3,297	3,297	< 0.005	0.51	7.31	3,457
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.26	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	64.9	64.9	< 0.005	< 0.005	0.11	65.7
Vendor	< 0.005	< 0.005	0.17	0.01	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	154	154	< 0.005	0.02	0.15	161
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.4	25.4	< 0.005	< 0.005	0.02	26.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.66	0.99	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	142	142	0.01	< 0.005	—	142
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.60	6.60	< 0.005	< 0.005	—	6.62
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.10
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.25	0.38	8.01	0.00	0.00	1.41	1.41	0.00	0.33	0.33	—	1,539	1,539	0.05	0.05	5.26	1,559
Vendor	0.05	0.03	3.42	0.26	0.02	0.07	0.93	0.99	0.07	0.25	0.32	—	3,297	3,297	< 0.005	0.51	7.31	3,457
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.26	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	64.9	64.9	< 0.005	< 0.005	0.11	65.7
Vendor	< 0.005	< 0.005	0.17	0.01	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	154	154	< 0.005	0.02	0.15	161
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.4	25.4	< 0.005	< 0.005	0.02	26.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Utilities/Sub-grade (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.08	4.26	38.5	40.1	0.08	1.77	—	1.77	1.63	—	1.63	—	8,370	8,370	0.34	0.07	—	8,399
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.43	2.52	0.01	0.11	—	0.11	0.10	—	0.10	—	527	527	0.02	< 0.005	—	529
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.44	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.77	1.31	2.14	43.5	0.00	0.00	7.07	7.07	0.00	1.66	1.66	—	7,855	7,855	0.26	0.24	29.0	7,961
Vendor	0.22	0.12	14.2	1.11	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,469	13,469	< 0.005	2.13	31.3	14,134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.16	1.92	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	448	448	0.02	0.02	0.79	454
Vendor	0.01	0.01	0.95	0.07	0.01	0.02	0.23	0.25	0.02	0.06	0.08	—	849	849	< 0.005	0.13	0.85	890
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.01	0.03	0.35	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	74.2	74.2	< 0.005	< 0.005	0.13	75.1
Vendor	< 0.005	< 0.005	0.17	0.01	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.14	147
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Utilities/Sub-grade (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.52	12.0	48.9	0.08	0.38	—	0.38	0.36	—	0.36	—	8,370	8,370	0.34	0.07	—	8,399
Onsite truck	0.02	0.01	0.31	0.20	< 0.005	< 0.005	24.0	24.0	< 0.005	2.40	2.40	—	85.9	85.9	< 0.005	0.01	0.13	90.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.76	3.08	0.01	0.02	—	0.02	0.02	—	0.02	—	527	527	0.02	< 0.005	—	529
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.48	1.48	< 0.005	0.15	0.15	—	5.43	5.43	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	87.3	87.3	< 0.005	< 0.005	—	87.6

Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.77	1.31	2.14	43.5	0.00	0.00	7.07	7.07	0.00	1.66	1.66	—	7,855	7,855	0.26	0.24	29.0	7,961
Vendor	0.22	0.12	14.2	1.11	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,469	13,469	< 0.005	2.13	31.3	14,134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.16	1.92	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	448	448	0.02	0.02	0.79	454
Vendor	0.01	0.01	0.95	0.07	0.01	0.02	0.23	0.25	0.02	0.06	0.08	—	849	849	< 0.005	0.13	0.85	890
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.03	0.35	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	74.2	74.2	< 0.005	< 0.005	0.13	75.1
Vendor	< 0.005	< 0.005	0.17	0.01	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.14	147
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.26	2.26	< 0.005	< 0.005	—	2.29

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59

Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.34	0.31	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Total	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Total	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.34	0.31	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Total	1.27	1.24	0.02	1.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.79	7.79	< 0.005	< 0.005	—	7.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coating	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.93	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Total	0.20	0.20	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.64	0.64	< 0.005	< 0.005	—	0.64

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.29	0.29	< 0.005	< 0.005	—	0.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.05	0.05	< 0.005	< 0.005	—	0.05

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	3.59	0.00	3.59	0.36	0.00	—	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.08

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Highway	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Total	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Total	0.53	0.44	2.55	2.97	0.01	0.09	—	0.09	0.08	—	0.08	—	1,333	1,333	0.05	0.01	—	1,338
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Highway Trucks	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222
Total	0.10	0.08	0.47	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	221	221	0.01	< 0.005	—	222

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Total	0.06	0.06	0.19	0.21	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	29.9	29.9	< 0.005	< 0.005	0.00	30.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.03	5.03	< 0.005	< 0.005	0.00	5.04

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Preparation	Site Preparation	7/1/2025	7/9/2025	7.00	9.00	—
Excavation	Grading	7/10/2025	8/1/2025	7.00	23.0	—
Construction	Building Construction	8/25/2025	4/14/2026	7.00	233	—
Paving	Paving	4/15/2026	5/1/2026	7.00	17.0	—
Utilities/Sub-grade	Trenching	8/2/2025	8/24/2025	7.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Preparation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Preparation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Preparation	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Preparation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Preparation	Graders	Diesel	Average	2.00	8.00	148	0.41
Preparation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43

Preparation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Excavation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Excavation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Excavation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Excavation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Excavation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Excavation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Excavation	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Construction	Bore/Drill Rigs	Diesel	Average	10.0	8.00	83.0	0.50
Construction	Cement and Mortar Mixers	Diesel	Average	10.0	8.00	10.0	0.56
Construction	Concrete/Industrial Saws	Diesel	Average	3.00	8.00	33.0	0.73
Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Construction	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Construction	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Construction	Forklifts	Diesel	Average	5.00	8.00	82.0	0.20
Construction	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Construction	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Construction	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Construction	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Construction	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Construction	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

Construction	Tractors/Loaders/Backhoes	Diesel	Average	7.00	8.00	84.0	0.37
Construction	Trenchers	Diesel	Average	10.0	8.00	40.0	0.50
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Utilities/Sub-grade	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Utilities/Sub-grade	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Utilities/Sub-grade	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Utilities/Sub-grade	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Utilities/Sub-grade	Graders	Diesel	Average	2.00	8.00	148	0.41
Utilities/Sub-grade	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Utilities/Sub-grade	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Utilities/Sub-grade	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Utilities/Sub-grade	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Preparation	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Preparation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Preparation	Forklifts	Diesel	Tier 4 Final	2.00	8.00	82.0	0.20
Preparation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Preparation	Graders	Diesel	Tier 4 Final	2.00	8.00	148	0.41
Preparation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Preparation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Preparation	Skid Steer Loaders	Diesel	Tier 4 Final	4.00	8.00	71.0	0.37
Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Excavation	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Excavation	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38

Excavation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Excavation	Graders	Diesel	Tier 4 Final	2.00	8.00	148	0.41
Excavation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Excavation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Excavation	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Excavation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Excavation	Forklifts	Diesel	Tier 4 Final	2.00	8.00	82.0	0.20
Construction	Bore/Drill Rigs	Diesel	Tier 4 Final	10.0	8.00	83.0	0.50
Construction	Cement and Mortar Mixers	Diesel	Average	10.0	8.00	10.0	0.56
Construction	Concrete/Industrial Saws	Diesel	Tier 4 Final	3.00	8.00	33.0	0.73
Construction	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
Construction	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Construction	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Construction	Forklifts	Diesel	Tier 4 Final	5.00	8.00	82.0	0.20
Construction	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Construction	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Construction	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Construction	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Construction	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Construction	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	7.00	8.00	84.0	0.37
Construction	Trenchers	Diesel	Tier 4 Final	10.0	8.00	40.0	0.50
Paving	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Utilities/Sub-grade	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Utilities/Sub-grade	Dumpers/Tenders	Diesel	Average	5.00	8.00	16.0	0.38
Utilities/Sub-grade	Forklifts	Diesel	Tier 4 Final	2.00	8.00	82.0	0.20

Utilities/Sub-grade	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Utilities/Sub-grade	Graders	Diesel	Tier 4 Final	2.00	8.00	148	0.41
Utilities/Sub-grade	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Utilities/Sub-grade	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Utilities/Sub-grade	Skid Steer Loaders	Diesel	Tier 4 Final	2.00	8.00	71.0	0.37
Utilities/Sub-grade	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Preparation	—	—	—	—
Preparation	Worker	100	50.0	LDA,LDT1,LDT2
Preparation	Vendor	40.0	100	HHDT
Preparation	Hauling	0.00	20.0	HHDT
Preparation	Onsite truck	16.0	1.02	HHDT
Excavation	—	—	—	—
Excavation	Worker	100	50.0	LDA,LDT1,LDT2
Excavation	Vendor	40.0	100	HHDT
Excavation	Hauling	0.00	20.0	HHDT
Excavation	Onsite truck	16.0	1.02	HHDT
Construction	—	—	—	—
Construction	Worker	400	50.0	LDA,LDT1,LDT2
Construction	Vendor	60.0	100	HHDT
Construction	Hauling	0.00	20.0	HHDT
Construction	Onsite truck	4.00	1.02	HHDT
Paving	—	—	—	—
Paving	Worker	40.0	50.0	LDA,LDT1,LDT2

Paving	Vendor	10.0	100	HHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Utilities/Sub-grade	—	—	—	—
Utilities/Sub-grade	Worker	200	50.0	LDA,LDT1,LDT2
Utilities/Sub-grade	Vendor	40.0	100	HHDT
Utilities/Sub-grade	Hauling	0.00	20.0	HHDT
Utilities/Sub-grade	Onsite truck	16.0	1.02	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Preparation	—	—	—	—
Preparation	Worker	100	50.0	LDA,LDT1,LDT2
Preparation	Vendor	40.0	100	HHDT
Preparation	Hauling	0.00	20.0	HHDT
Preparation	Onsite truck	16.0	1.02	HHDT
Excavation	—	—	—	—
Excavation	Worker	100	50.0	LDA,LDT1,LDT2
Excavation	Vendor	40.0	100	HHDT
Excavation	Hauling	0.00	20.0	HHDT
Excavation	Onsite truck	16.0	1.02	HHDT
Construction	—	—	—	—
Construction	Worker	400	50.0	LDA,LDT1,LDT2
Construction	Vendor	60.0	100	HHDT
Construction	Hauling	0.00	20.0	HHDT
Construction	Onsite truck	4.00	1.02	HHDT
Paving	—	—	—	—
Paving	Worker	40.0	50.0	LDA,LDT1,LDT2

Paving	Vendor	10.0	100	HHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Utilities/Sub-grade	—	—	—	—
Utilities/Sub-grade	Worker	200	50.0	LDA,LDT1,LDT2
Utilities/Sub-grade	Vendor	40.0	100	HHDT
Utilities/Sub-grade	Hauling	0.00	20.0	HHDT
Utilities/Sub-grade	Onsite truck	16.0	1.02	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Preparation	—	—	36.0	0.00	—
Excavation	—	—	92.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	60.0	0.00	0.00	15,643	40.0	0.00	0.00	10,429

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	24,467	204	0.0330	0.0040	4,961

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	24,467	204	0.0330	0.0040	4,961

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	325,851

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	325,851

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	6.66	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	6.66	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.54	200	66.0	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.6	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	20.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	32.2
AQ-PM	6.14
AQ-DPM	7.07
Drinking Water	8.62
Lead Risk Housing	51.1

Pesticides	87.0
Toxic Releases	4.29
Traffic	3.30
Effect Indicators	—
CleanUp Sites	37.6
Groundwater	71.7
Haz Waste Facilities/Generators	43.3
Impaired Water Bodies	91.9
Solid Waste	83.3
Sensitive Population	—
Asthma	37.5
Cardio-vascular	78.0
Low Birth Weights	71.3
Socioeconomic Factor Indicators	—
Education	83.9
Housing	21.6
Linguistic	63.3
Poverty	69.7
Unemployment	13.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	40.63903503
Employed	39.30450404
Median HI	41.72975747
Education	—

Bachelor's or higher	15.24445015
High school enrollment	100
Preschool enrollment	24.93263185
Transportation	—
Auto Access	43.87270627
Active commuting	46.59309637
Social	—
2-parent households	76.45322726
Voting	73.2580521
Neighborhood	—
Alcohol availability	49.71127935
Park access	39.93327345
Retail density	1.475683306
Supermarket access	44.86077249
Tree canopy	42.6793276
Housing	—
Homeownership	58.27024253
Housing habitability	67.48363916
Low-inc homeowner severe housing cost burden	64.71192095
Low-inc renter severe housing cost burden	92.86539202
Uncrowded housing	32.32388041
Health Outcomes	—
Insured adults	18.96573848
Arthritis	0.0
Asthma ER Admissions	72.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	33.5
Cognitively Disabled	50.3
Physically Disabled	45.1
Heart Attack ER Admissions	31.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	65.3
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.2
SLR Inundation Area	0.0
Children	56.6
Elderly	61.3
English Speaking	31.0
Foreign-born	67.8
Outdoor Workers	2.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	81.1
Traffic Density	2.3

Traffic Access	0.0
Other Indices	—
Hardship	73.6
Other Decision Support	—
2016 Voting	57.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	54.0
Healthy Places Index Score for Project Location (b)	44.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Provided by Applicant
Construction: Construction Phases	Provided by Applicant
Construction: Off-Road Equipment	Provided by Applicant.

Construction: Trips and VMT	Provided by Applicant.
Operations: Architectural Coatings	Not applicable.
Operations: Water and Waste Water	Provided by Applicant
Operations: Solid Waste	1 cu. yd./wk, and assuming density for municipal solid waste (commercial - all waste, uncompacted) of 138 lbs per cu. yd.
Operations: Energy Use	Data for 'Refrigerated Warehouse-Rail' used to estimate energy use by BESS, O&M, Substation, and area lighting.
Operations: Off-Road Equipment	One off-road truck per day for potential O&M activities