# Initial Study/Mitigated Negative Declaration for the Don Chapin Sand Dryer Plant, Volta, Merced County, California

**PUBLIC REVIEW DRAFT**

**JANUARY 2025**

PREPARED FOR

**Merced County**

**Community and Economic Development Department**

PREPARED BY

**SWCA Environmental Consultants**

# INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE DON CHAPIN SAND DRYER PLANT, VOLTA, MERCED COUNTY, CALIFORNIA

Prepared for

**Merced County**
**Community and Economic Development Department**
2222 M Street
Merced, California 95340
Attn: Tiffany Ho, Deputy Director of Planning

Prepared by

**SWCA Environmental Consultants**
4111 Broad Street, Suite 210
San Luis Obispo, California 93401
(805) 543-7095
www.swca.com

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# 1 INTRODUCTION

Don Chapin Company, Inc. (Applicant), is proposing the Don Chapin Sand Dryer Plant Project (project) to construct and operate a new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the Don Chapin Ready Mix Concrete Batch Plant located at 23878 Ingomar Grade in the Volta area in Merced County. The following Initial Study / Mitigated Negative Declaration (IS/MND) evaluates the potential environmental impacts associated with the construction and operation of the proposed project.

## 1.1 Project Location

The project site consists of three parcels with a cumulative acreage of 11.91 located directly adjacent and to the east of 23878 Ingomar Grade on the northeast side of South Ingomar Grade, 960 feet east of South Volta Road in the Volta area, identified as Assessor's Parcel Numbers (APNs) 081-060-086, -087, and -088 (Figure 1).

## 1.2 Environmental Setting

The project site consists of three undeveloped parcels within the County of Merced (County) Industrial (I) land use designation and Light Manufacturing (M-1) zoning designation (Figure 2 and Figure 3). The project site was formerly used as grazing land. Surrounding land uses include the Don Chapin Ready Mix Concrete Batch Plant in the I land use designation and M-1 zoning designation to the northwest; a junkyard in the I land use designation and M-1 zoning designation to the east; undeveloped agricultural land and scattered rural residences in the Agricultural (A) land use designation and General Agriculture (A-1) zoning designation to the north; and the Morning Star Packing Facility in the I and A land use designations and M-1, A-1, and General Manufacturing (M-2) zoning designations to the south.

The 11.91-acre project site is characterized by relatively flat topography with an elevation of approximately 100 feet above mean sea level. The project site is mostly undeveloped with the exception of barbed wire fencing along the southern perimeter of the project site and barbed wire fencing along the northwestern and eastern perimeters of the project site. There are no trees, surface water features, or other unique natural features located on the project site.

## 1.3 Project Description

Don Chapin Company, Inc. (Applicant), is proposing the Don Chapin Sand Dryer Plant Project (project) to construct and operate a new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the Don Chapin Ready Mix Concrete Batch Plant. The project would include the construction and operation of a sand dryer plant and precast concrete manufacturing facility with an operations building, truck scale, and other associated equipment; three (3) storage buildings; and other associated features, including a precast shop office and breakroom, an employee parking area, concrete storage areas, a catch basin, a lined retention basin, and fencing (Figure 4).

**Sand Dryer Plant**

The proposed sand dryer plant would be constructed in the western portion of the project site and would encompass a total area of 23,000 square feet. The proposed sand dryer plant would consist of a sand dryer, a load-out belt, a feed ramp, two (2) feed hoppers with a feed belt, product storage bunkers, an operations building, and a truck scale. The proposed sand dryer plant would be equipped with a 75-foot-

tall elevator and up to eight (8) storage silos 36 feet tall, and a screening system that is atop the silo system that is an additional 25.5 feet tall making the silo and screen system a total of 61.5 feet tall. The maximum height of the tallest part of the proposed sand dryer plant would be 75 feet. The plant would sort and dry pre-washed sand products into dried sand products for bagging and bulk use in value-added processes. Additionally, the precast concrete manufacturing operation would utilize new and returned concrete from the on-site ready mix plant to manufacture concrete products such as highway barrier rails, septic and other tanks, catch basins, and other associated precast concrete products. The products would be stored on-site and picked up by customers or delivered using facility trucks.

**Storage Buildings**

The project would include the construction of three (3) storage buildings for dried materials located in the northwestern portion of the project site, including a 12,000-square-foot storage building for bulk products, a 10,020-square-foot storage building for sacked products, and a 12,000-square-foot storage building for bagged storage. The storage buildings are planned to be constructed in two (2) or three (3) phases. The 12,000-square-foot storage building for bulk products and the 10,020-square-foot storage building for sacked products would be constructed in the first phase or second phase of construction. The 12,000-square-foot storage building for bulk products would be constructed in the second or third phase of construction.

**Other Structures and Equipment**

The project includes the construction and installation of other proposed structures and equipment, including a 4,000-square-foot precast shop office and breakroom, a 20,060-square-foot employee parking area, precast concrete storage areas, a catch basin, a lined retention basin, fencing, security lighting, and utility infrastructure. The existing vehicle ingress and egress located at 23878 Ingomar Grade would be maintained and no new points of ingress or egress would be created on the project site.

*Precast Shop Office and Breakroom*

The project includes the installation of a 4,000-square-foot precast concrete shop office and breakroom in the northern portion of the project site. The precast shop office and breakroom would be used as a breakroom, small office space, and storage for tools.

*Employee Parking Area*

The project includes the construction of a 20,060-square-foot employee parking area in the southwestern portion of the project site. The parking area would consist of 16 parking stalls and asphalt-concrete paving. The proposed sand dryer plant would be closed to the public and no visitors or customers are expected. Further, ample parking for employees and all visitors exists at the Don Chapin Ready Mix Concrete Batch Plant location and, as a result, no new Americans with Disabilities Act or electric vehicle stalls are required or proposed.

*Precast Concrete Product Storage Areas*

Storage areas for precast concrete products would primarily be located in the southern and eastern portions of the project site.

*Catch Basin*

The project includes the construction of a 2,560-square-foot catch basin in the eastern portion of the project site to catch all stormwater and surface runoff from leaving the project site.

*Lined Retention Basin*

The project includes the construction of a precast tank/catch basin, a pumping system, and a lined storage retention basin with the capacity to capture a 10-year stormwater elevation of 100.45 feet, with a maximum level of 101.5 feet and a total volume of 3.25 acre-feet. The purpose of the retention basin is to catch all stormwater and surface runoff from leaving the project site. The stored and retained water would be returned to the ready mixed concrete batch plant for use in the concrete manufacturing process.

*Fencing*

The project includes the installation of 6-foot-tall chain link fencing topped with three (3) strands of barbed wire and equipped with a view guard. The fencing would be installed along the entire perimeter of the project site.

*Security lighting*

A total of ten (10) outdoor lights would be installed for security purposes only, four (4) on the sand dryer plant and a total of six (6) on the operations, breakroom, and storage buildings.

*Utilities*

The project would utilize the existing water well located on the Don Chapin Ready Mix Concrete Batch Plant location and no new water well would be required. The project would not require any additional water use for plant operations or employee facilities. Additionally, the project would utilize the existing septic system located on the Don Chapin Ready Mix Concrete Batch Plant location and no new septic system would be required on the project site.

An existing Pacific Gas and Electric Company (PG&E) natural gas line is present along Ingomar Grade and would provide natural gas to the project once connected. In addition, the project is expected to be provided with electricity by a service drop from PG&E, consisting of at least 1,200 amps. It is anticipated that the project would require 9,000,000 British thermal units (Btus) and 600 amps of electrical service. The additional service is being installed for potential future truck charging facilities for electric-powered trucks and equipment. The Don Chapin Ready Mix Concrete Batch Plant location is currently being permitted to install solar power augmentation, which would add solar power to the existing ready mix concrete batch plant and the proposed sand dryer plant. Installation of solar power is not included in the proposed project.

**Construction**

Construction of the project would result in approximately 11.91 acres of ground disturbance, including 5,600 cubic yards of cut and 2,460 cubic yards of fill with 3,200 cubic yards to be balanced or stored on-site. Construction activities are anticipated to begin in early 2025 and would occur over a total estimated timeframe of 36 months, including up to four (4) weeks for grading activities, four (4) weeks for the construction and installation of the proposed drainage basins and underground utilities, 12 to 16 weeks for construction of the sand dryer plant and building foundations, and a phased two-year period for final site construction. Construction activities would be limited to weekdays during daytime hours (7:00 a.m. through 3:30 p.m.).

Construction activities would require the use of an aerial lift, a crane, an excavator, a forklift, a grader, two (2) tractors, a paver, a roller, a rubber-tired loader, a scraper, and other similar construction equipment. Construction activities would include four (4) to five (5) construction workers per day. Water for dust control would be used on an as-needed basis depending on the season of construction.

**Operation**

Operation of the sand dryer plant is anticipated to commence in mid-2025 and the operation of other proposed buildings and facilities would commence in 2026 and/or 2027. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. Truck trips would be required to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product. The proposed sand dryer plant would be closed to the public and no visitors or customers are expected. The proposed sand dryer plant and precast concrete operation would operate Monday through Friday between 7:00 a.m. and 5:00 p.m. and would employ six (6) new employees.

The project would result in approximately 50 gallons per day of additional wastewater flows that would be treated by the existing septic system located at the ready mix concrete batching plant. No additional water use for project activities would be necessary. The sand dryer plant would require the use of natural gas and electricity provided by PG&E.

## 1.4 Required Discretionary Approvals

The project would require the following discretionary approvals:

- San Joaquin Valley Air Pollution Control District (SJVAPCD) Operation Approval/Permit(s)
- County of Merced Building Permit(s)
- PG&E Electrical Permits

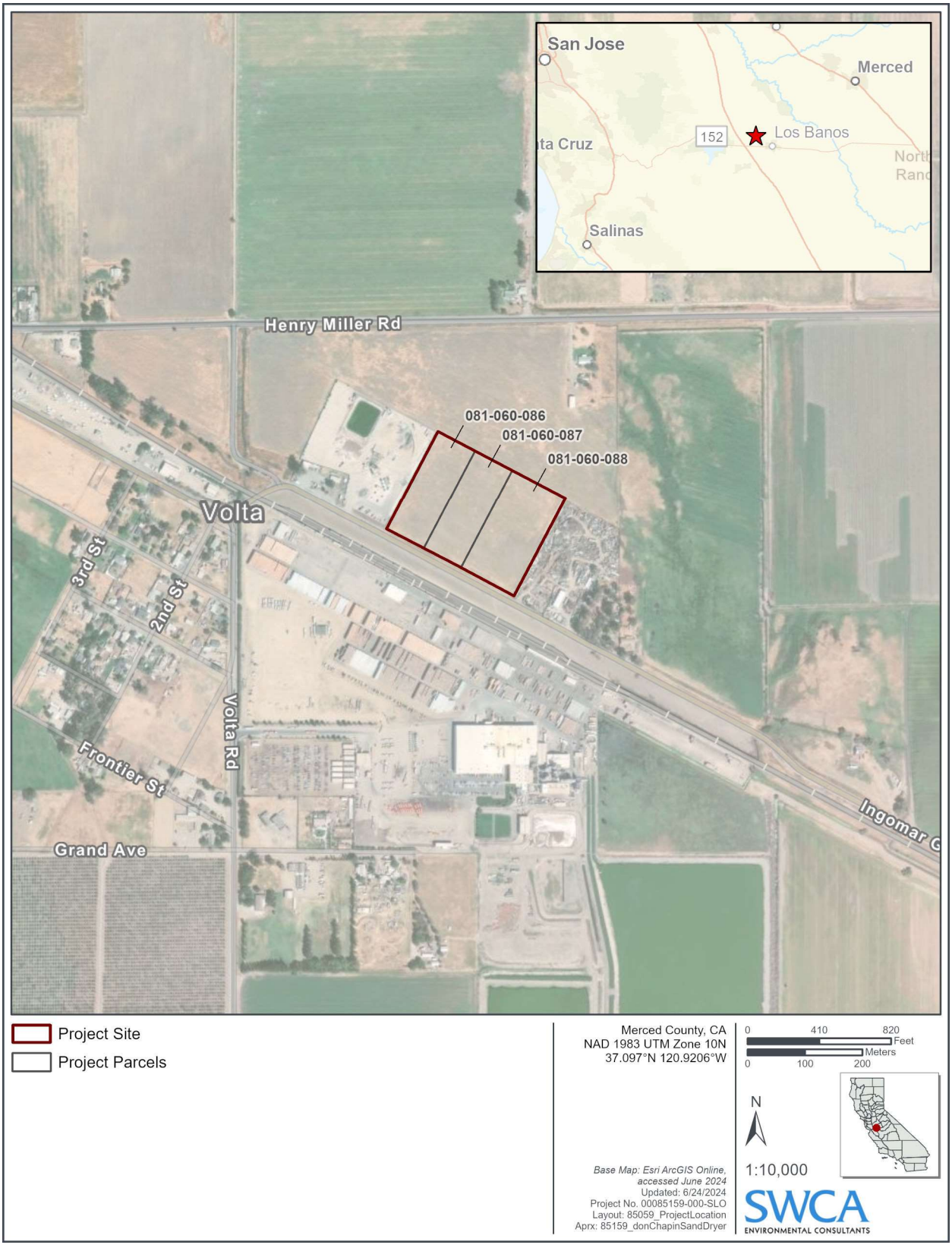


**Figure 1. Project location map.**

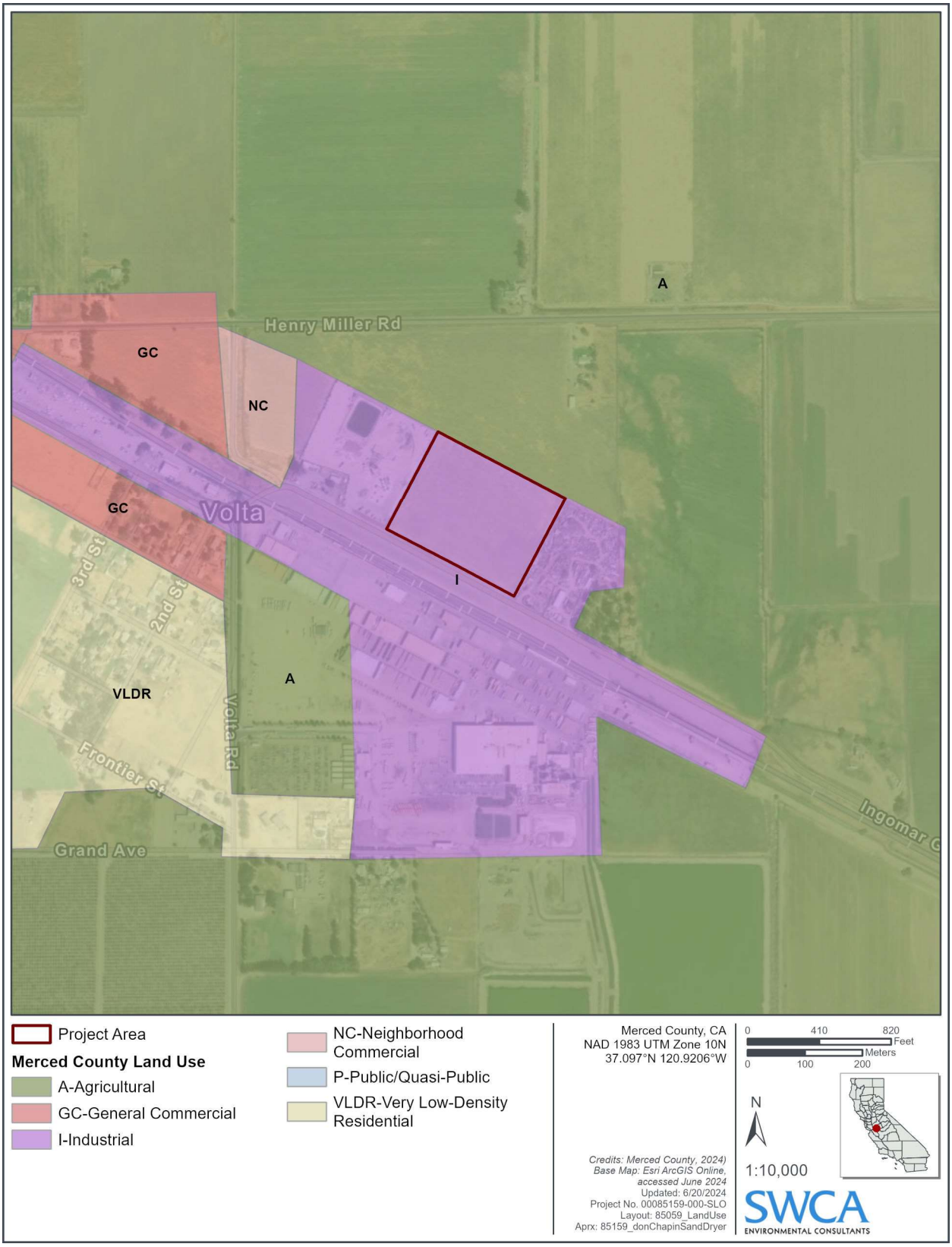


**Figure 2. Land use map.**

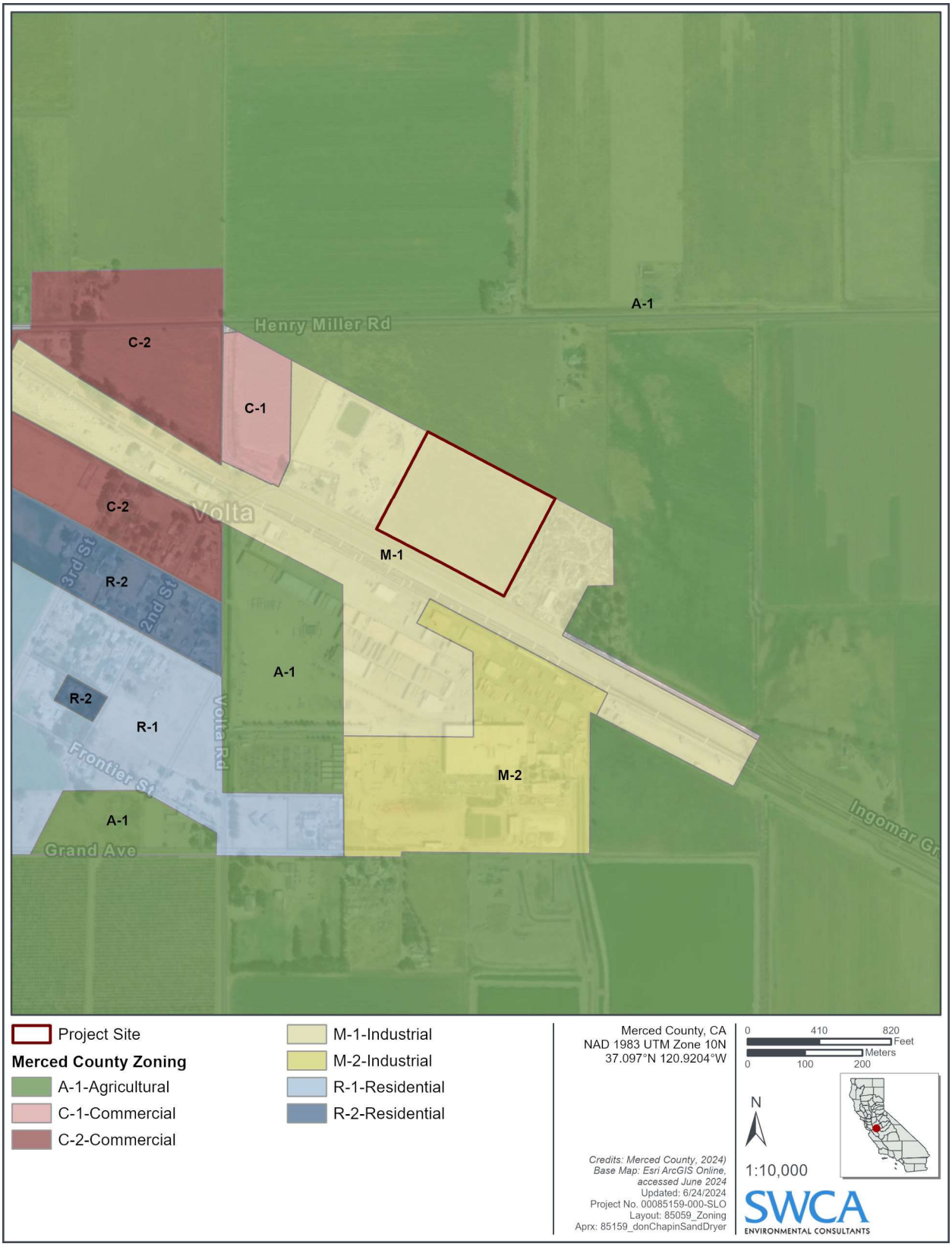


**Figure 3. Zoning map.**

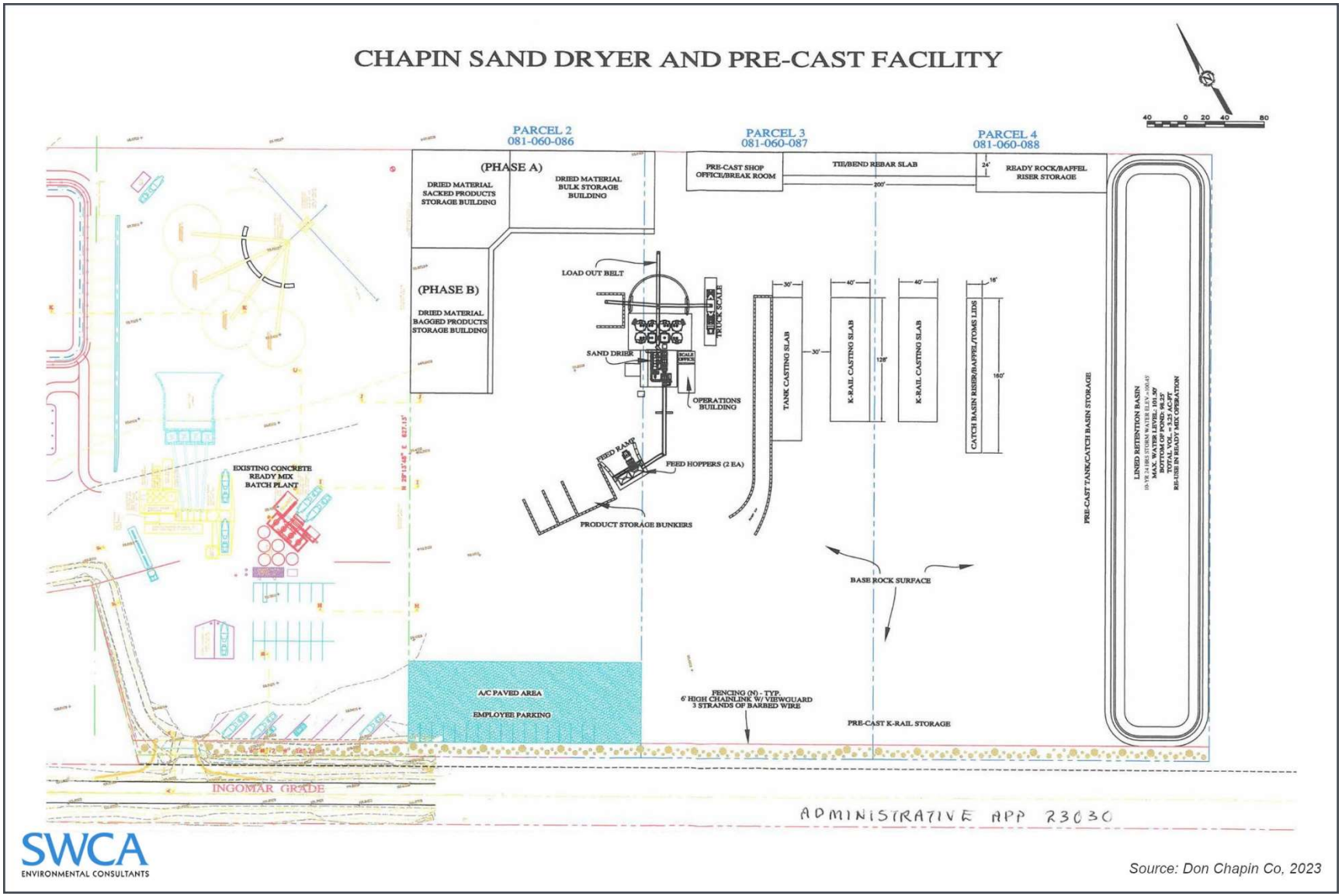


**Figure 4. Site plan.**

# 2 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

## Environmental Factors Potentially Affected

The proposed project could have a "Potentially Significant Impact" for environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

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

## Environmental Determination

On the basis of this initial evaluation:

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

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

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

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

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

**Date:** _____ **Signed:** _____

# I. Aesthetics

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Except as provided in Public Resources Code Section 21099, would the project:* | | | | |
| (a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| (b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| (c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | ☐ | ☐ | ☒ | ☐ |
| (d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide people of the state "with . . . enjoyment of aesthetic, natural, scenic and historic environmental qualities" (California Public Resources Code [PRC] Section 21001(b)). A scenic vista is generally defined as a high-quality view displaying good aesthetic and compositional values that can be seen from public viewpoints. Some scenic vistas are officially or informally designated by public agencies or other organizations. A substantial adverse effect on a scenic vista would occur if the project would significantly degrade the scenic landscape as viewed from public roads or other public areas. A proposed project's potential effect on a scenic vista is largely dependent on the degree to which it would complement or contrast with the natural setting, the degree to which it would be noticeable in the existing environment, and whether it detracts from or complements the scenic vista.

The California Scenic Highway Program was created by the State Legislature in 1963 with the intention of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors. A highway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. According to the California Department of Transportation (Caltrans) State Scenic Highway System Map, there are no designated state scenic highways within or in the immediate vicinity of the project site. The nearest designated scenic highway is Interstate (I-) 5, located approximately four (4) miles west of the project site (Caltrans 2018).

The *2030 Merced County General Plan Natural Resources Element* provides context for the existing visual character of the county and identifies policies to protect scenic resources in the county. The existing visual character of Merced County primarily consists of rural and agricultural landscapes, and scenic vistas include the Coastal and Sierra Nevada mountain ranges and the Los Banos, Merced, San Joaquin, and Bear Creek River corridors. In addition, State Route 152 and I-5 are designated scenic routes in parts of the county (Merced County 2013a). The following goal and policies would be applicable to the proposed project:

**Goal NR-4:** Protect scenic resources and vistas.

**Policy NR-4.1:** **Scenic Resource Preservation.** Promote the preservation of agricultural land, ranch land, and other open space areas as a means of protecting the County's scenic resources.

**Policy NR-4.5:** **Light Pollution Reduction.** Require good lighting practices, such as the use of specific light fixtures that reduce light pollution, minimize light impacts, and preserve views of the night sky.

## *Environmental Evaluation*

### a) Would the project have a substantial adverse effect on a scenic vista?

Scenic vistas in the county include the Coastal and Sierra Nevada mountain ranges and the Los Banos, Merced, San Joaquin, and Bear Creek River corridors (Merced County 2013a). The project site is not located within the viewshed of a scenic vista; therefore, the project would not have a substantial adverse effect on a scenic vista, and *no impacts* would occur.

### b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The nearest designated scenic highway is I-5, located approximately four (4) miles west of the project site (Caltrans 2018). Due to the distance, the project site would not be visible from I-5; therefore, the project would not damage scenic resources within the viewshed of a state scenic highway, and *no impacts* would occur.

### c) In non-urbanized areas, would the 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 publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The project site is located in a rural area of Merced County. The project site currently consists of three (3) undeveloped parcels totaling 11.91 acres in size and is characterized by relatively flat topography with predominantly non-native grassland habitat. There are no trees, surface water features, or other unique natural features located on the project site. The entire project site is in the I land use designation and M-1 zoning designation. Surrounding land uses generally consist of industrial development, agricultural land, scattered rural residences, and existing roads and utility infrastructure.

The project would include the construction and operation of a sand dryer plant and precast concrete manufacturing facility with an operations building, truck scale, and other associated equipment; three (3) storage buildings; and other associated features, including a precast shop office and breakroom, an employee parking area, concrete storage areas, a catch basin, a lined retention basin, and fencing. The project would result in new industrial development on the project site and the maximum height of the new development would be 75 feet, which would be consistent with the height standards identified in Section 20.12.030 of the Merced County Code. The proposed project would be an addition/expansion to the Don

Chapin Ready Mix Concrete Batch Plant located immediately northwest and the existing Morning Star Packing Facility is located to the south; therefore, the proposed project would be consistent with the level and scale of existing industrial development in the project area and would not substantially degrade the existing visual character of the project area. The project includes the installation of 6-foot-tall chain link fencing topped with three (3) strands of barbed wire and equipped with a view guard along the entire perimeter of the project site, which would partially conceal operational activities on the project site and minimize the potential to adversely affect public views of the project area. The proposed development would be consistent with the designated land use and zoning and would be consistent with existing development in the project area; therefore, the project would not substantially degrade the existing visual character or quality of public views of the project site or its surroundings, and impacts would be *less than significant*.

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

A total of ten (10) outdoor lights would be installed for security purposes only, four (4) on the sand dryer plant and a total of six (6) on the operations, breakroom, and storage buildings. Proposed outdoor lighting fixtures would be required to comply with Section 18.40.070 of the Merced County Code, which requires outdoor lighting to be designed and maintained to contain glare and reflection within the boundaries of the project site; be hooded, directed downward, and away from adjacent properties and public areas; avoid blinking, flashing, or unusually high intensity; and be similar in scale, intensity, and height to surrounding uses. Based on required compliance with the Merced County Code, the project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area; therefore, impacts would be *less than significant.*

## *Conclusion*

The project would not substantially affect a scenic vista, damage a scenic resource, conflict with zoning, or create a source of new light or glare; therefore, impacts related to aesthetics would be less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# II. Agriculture and Forestry Resources

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:* | | | | |
| (a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| (b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| (c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| (d) Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| (e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

## *Setting*

The California Department of Conservation (CDOC) Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and current land use. For environmental review purposes under CEQA, the FMMP categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land are considered "agricultural land." Other non-agricultural designations include, but are not limited to, Urban and Built-up Land, Other Land, and Water. According to the FMMP, the project site is located on land that is designated as Grazing Land (CDOC 2024).

According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey, the project site is underlain by Pedcat loam, 0 to 2 percent slopes. This poorly drained soil has a very high runoff class and a depth-to-restrictive feature of more than 80 inches. The typical soil profile consists of loam, clay, and stratified sandy clay loam to clay. This soil is not designated as Prime Farmland by the NRCS (NRCS 2024).

The Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agriculture or related open space use. In return, landowners receive property tax assessments

that are much lower than normal because they are based on farming and open space uses as opposed to full market value. The project site is not subject to a Williamson Act contract.

According to PRC Section 12220(g), forest land is defined as land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for the management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Timberland is defined as land, other than land owned by the federal government and land designated by the California Board of Forestry and Fire Protection as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. The project site and surrounding area are not considered forestland by PRC Section 12220(g).

## *Environmental Evaluation*

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

The project site is underlain by land designated as Grazing Land by the FMMP (CDOC 2024). The project site does not consist of designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the FMMP; therefore, the proposed project would not result in conversion of Farmland, and *no impacts* would occur.

### b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The project site is not located within the County's Agricultural land use or zoning designations and is not subject to a Williamson Act contract. Therefore, the project would not result in a conflict with existing zoning for agricultural use or a Williamson Act contract, and *no impacts* would occur.

### c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The project site and surrounding area are not within forest land, timberland, or timberland production land use or zoning designations; therefore, the proposed project would not conflict with the zoning, or cause rezoning of, designated forest land, timberland, or timberland production, and *no impacts* would occur.

### d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The project site and surrounding area are not designated or zoned for forest land uses and do not meet the definition of forest land established in PRC Section 12220(g). Further, the project does not include the removal or trimming of any existing trees. Therefore, the project would not result in the loss or conversion of forest land, and *no impacts* would occur.

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

The project site is currently undeveloped and has been previously used as grazing land. Surrounding land uses include existing industrial uses to the south, east, and west and agricultural grazing land to the north. The nearest agricultural row crops are located approximately 0.5 mile northeast of the project site. As previously evaluated, the project would not result in the conversion of Farmland or forest land and would not interfere with zoning for agricultural or forest land uses. Due to distance, the operation of the proposed sand drying plant and precast concrete manufacturing facility is not expected to result in substantial dust emissions in a manner that could adversely affect cropland within the project vicinity. In addition, the project would not require additional water use or groundwater pumping that could reduce the availability of water for existing agricultural uses in the vicinity of the project site. Therefore, the project would not indirectly result in the conversion of Farmland or forest land, and *no impacts* would occur.

## *Conclusion*

The proposed project would not result in the conversion of farmland or forest land, and would not interfere with zoning for agricultural or forest land uses. Therefore, the project would not result in impacts related to agriculture and forestry resources.

## *Mitigation Measures*

Mitigation is not necessary.

# III. Air Quality

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:* | | | | |
| (a) Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| (b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? | ☐ | ☐ | ☒ | ☐ |
| (c) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| (d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB),

set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). National and state standards have been established for six (6) criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide ($NO_2$), ozone ($O_3$), particulate matter—which is broken down for regulatory purposes into particles of 10 micrometers or smaller ($PM_{10}$) and particles of 2.5 micrometers and smaller ($PM_{2.5}$)—lead (Pb), and sulfur dioxide ($SO_2$). In addition, state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide ($H_2S$), and vinyl chloride. The NAAQS and California Ambient Air Quality Standards (CAAQS) are set at levels that protect public health with a margin of safety and are subject to periodic review and revision.

Merced County is located within the San Joaquin Valley Air Basin (SJVAB) and under the jurisdiction of the SJVAPCD. The San Joaquin Valley is prone to one of the most challenging air quality problems in the nation, as it is home to over 4,000,000 residents and includes several major metropolitan areas, vast expanses of agricultural land, industrial sources, highways, and schools. Under the NAAQS, the SJVAB is designated as Nonattainment-Extreme for the 8-hour $O_3$ standard, Maintenance-Serious for the $PM_{10}$ standard, and Nonattainment-Moderate for the $PM_{2.5}$ standard. Under the CAAQS, the SJVAB is designated Nonattainment for the 1-hour $O_3$ standard, 8-hour $O_3$ standard, $PM_{10}$ standards, and $PM_{2.5}$ standards.

The SJVAPCD has established air quality thresholds of significance for CO, nitrogen oxides ($NO_X$), reactive organic gases (ROG), sulfur oxides ($SO_X$), $PM_{10}$, and $PM_{2.5}$, as shown in Table 1.

**Table 1. SJVAPCD Thresholds**

| | Construction Phase | Operational Phase | |
|---|---|---|---|
| Pollutant | Annual Emissions (tons/year) | Permitted Equipment and Activities (tons/year) | Non-Permitted Equipment and Activities (tons/year) |
| Carbon monoxide (CO) | 100 | 100 | 100 |
| Nitrogen oxides ($NO_X$) | 10 | 10 | 10 |
| Reactive organic gases (ROG) | 10 | 10 | 10 |
| Sulfur oxides ($SO_X$) | 27 | 27 | 27 |
| Particulate matter 10 microns in diameter or smaller ($PM_{10}$) | 15 | 15 | 15 |
| Particulate matter 2.5 microns in diameter of smaller ($PM_{2.5}$) | 15 | 15 | |

Source: SJVAPCD (2015)

The SJVAPCD maintains a set of rules and regulations to improve and maintain healthy air quality for the entire population within its jurisdiction. When developing new regulations, the SJVAPCD must comply with complex procedures established by statutes in federal and state codes. The following are some of the rules and regulations that would apply to the project:

- *Rule 2010.3 Authority to Construct:* Any person building, altering, or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, shall first obtain authorization for such construction from the Air Pollution Control Officer (APCO). An Authority to Construct shall remain in effect until the Permit to Operate the

source operation for which the application was filed is granted or denied, or the application is canceled as described in Rule 2050 (Cancellation of Application).

- *Rule 2010.4 Permit to Operate:* Before any new or modified source operation, or any existing source operation so described may be operated, a written permit shall be obtained from the APCO. No Permit to Operate shall be granted either by the APCO or the Hearing Board for any source operation constructed or installed without authorization as required, until the information required is presented to the APCO and such source operation is altered, if necessary, and made to conform to the standards set forth in Rule 2070 (Standards for Granting Applications) and elsewhere in these rules and regulations.
- *Rule 2070.7 Operation According to the Permit to Operate Conditions:* A person shall not operate any source operation contrary to conditions specified on the Permit to Operate issued in accordance with the provisions of this rule.
- *Regulation IV (Prohibitions)*
  - *Rule 4101 Visible Emissions:* The purpose of this rule is to prohibit the emissions of visible air contaminants into the atmosphere.
  - *Rule 4102 Nuisance:* A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
  - *Rule 4601 Architectural Coatings*. The purpose of this rule is to limit VOC emissions from architectural coatings.
- *Regulation VIII:* The purpose of Regulation VIII (Fugitive $PM_{10}$ Prohibitions) is to reduce ambient concentrations of fine particulate matter ($PM_{10}$) by requiring actions to prevent, reduce, or mitigate anthropogenic fugitive dust emissions and includes Rule 8011 (General Requirements), Rule 8021 (Construction, Demolition Excavation, Extraction and other Earthmoving Activities), Rule 8031 (Bulk Materials), Rule 8041 (Carryout and Track out), Rule 8051 (Open Areas), Rule 8061 (Paved and Unpaved Roads), and 8071 (Unpaved Vehicle/Equipment Traffic Areas).

Currently, the NAAQS and CAAQS are exceeded in most parts of SJVAB. In response, SJVAPCD has adopted a series of AQMPs to meet the federal and state ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy. SJVAPCD's most recently adopted AQMPs are the 2016 Ozone Plan for 2008 8-Hour Ozone Standard and the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards (CARB 2024). Currently under review are the 2022 Ozone Plan for 2015 8-Hour Ozone Standard and the 2024 Plan for the 2012 $PM_{2.5}$ Standards (CARB 2024).

### *Ozone*

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, at ground level, troposphere, or "bad," ozone is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up where it meets the second layer, the stratosphere. The stratospheric, or "good," ozone layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. "Bad" ozone is what is known as a photochemical pollutant. It needs ROG, $NO_X$, and sunlight to form. ROG and $NO_X$ are emitted from various sources throughout Merced County. Significant ozone formation generally requires an adequate number of precursors in the atmosphere and

several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant. It is generated over a large area and transported and spread by the wind. As the primary constituent of smog, ozone is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically ROG and $NO_X$. Sources of precursor gases number in the thousands and include common sources, such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

### *Combustion Emissions*

Combustion emissions (ROG and $NO_X$) are most significant when using large diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other heavy equipment. Emissions can vary substantially from day to day, depending on the level of activity and the specific type of operation. ROG and $NO_X$ are the critical pollutants caused by construction work because of the high output of these pollutants by the heavy diesel equipment normally used in grading operations.

### *Carbon Monoxide*

CO, an odorless, colorless, poisonous gas that is highly reactive, is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is a byproduct of motor vehicle exhaust, which contributes more than 66% of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95% of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources, such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

### *Sulfates*

Sulfates ($SO_4^{-2}$) are particulate products that come from the combustion of sulfur-containing fossil fuels. When sulfur monoxide (SO) or $SO_2$ is exposed to oxygen, it precipitates out into sulfates ($SO_3$ or $SO_4$). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline, diesel fuel) that contain sulfur. This sulfur is oxidized to $SO_2$ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of $SO_2$ to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

### *Particulate Matter*

Particulate matter ($PM_{10}$ and $PM_{2.5}$) pollution consists of very small liquid and solid particles floating in the air. Some particles are large and dark enough to be seen as soot or smoke, and others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can

include smoke, soot, dust, salt, acids, and metals and can form when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. Particulate matter or airborne dust are small particles that remain suspended in the air for long periods of time. Particulates of concern are $PM_{10}$ and $PM_{2.5}$, which are small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, possibly leading to adverse health effects; $PM_{2.5}$ is a subset of $PM_{10}$.

The composition of $PM_{10}$ and $PM_{2.5}$ can vary greatly with time, location, the sources of the material, and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of $PM_{10}$ and $PM_{2.5}$. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous $SO_2$ and $NO_X$ in the atmosphere to create sulfates ($SO_4$) and nitrates ($NO_3$), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western United States, there are sources of $PM_{10}$ in both urban and rural areas. $PM_{10}$ and $PM_{2.5}$ are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

The *2030 Merced County General Plan Air Quality Element* provides the following goals and policies related to the reduction of air pollutants and greenhouse gas (GHG) emissions that would be applicable to the proposed project:

**Goal AQ-1.** Reduce air pollutants and greenhouse gas emissions and anticipate adaptation due to future consequences of global and local climate change.

**Goal AQ-4.** Reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs.

- **Policy AQ-4.1.** **Decrease Vehicle Miles Traveled.** Require diverse, higher-density land uses (e.g., mixed-use and infill development) to decrease vehicle miles traveled.

**Goal AQ-6.** Improve air quality in Merced County by reducing emissions of $PM_{10}$ and other particulates from mobile and non-mobile sources.

- **Policy AQ-6.1.** **Particulate Emissions from Construction.** Support the SJVAPCD's efforts to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible and consistent with State and Federal regulations.
- **Policy AQ-6.2.** **Emissions from County Roads.** Require $PM_{10}$ emission reductions on County-maintained roads to the maximum extent feasible and consistent with State and Federal regulations.
- **Policy AQ-6.3.** **Paving Materials.** Require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate

emissions and are appropriate to the scale and intensity of use.

**Policy AQ-6.5:** Industrial Best Management Practices (RDR, JP) Require industrial facilities to incorporate economically feasible Best Management Practices and control technology to reduce PM10 and PM2.5 emissions consistent with State and Federal regulations.

## *Environmental Evaluation*

### a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

A project would conform with applicable adopted plans if it complies with the rules, regulations, and emission control strategies in the applicable air quality attainment plans. The project would comply with the applicable rules and regulations, including the use of standard control measures for construction equipment and fugitive $PM_{10}$. In compliance with SJVAPCD Regulation VIII (which includes Rules 8011, 8021, 8031, 8041, 8051, 8061, and 8071) requirements, the following measures would be implemented during construction of the project:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, using chemical stabilizer/suppressant, or by covering with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing the application of water or by presoaking.
- With the demolition of buildings up to six (6) stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six (6) inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden).
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

SJVAPCD Rule 8021 requires the owner or operator to obtain approval of a Dust Control Plan prior to commencing construction activities at any project that meets any of these thresholds:

- Nonresidential projects that include five (5) acres or more of disturbed surface area.
- Residential projects that include ten (10) or more acres of disturbed surface area.
- Projects that involve the movement of 2,500 cubic yards or more of bulk material on any three (3) days of the project—consecutive or otherwise—regardless of disturbed surface area.

The project would disturb more than five (5) acres and therefore would obtain a Dust Control Plan and comply with all recordkeeping requirements.

Consistency with air quality plans is typically conducted based on a comparison of project-generated growth in employment, population, and vehicle miles traveled within the region, which is used for the development of the emissions inventories contained in the air quality plans. The region's State Implementation Plan (SIP) comprises the SJVAPCD air quality plans: 2016 Ozone Plan for 2008 8-Hour Ozone Standard, 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards, 2016 Plan for the 2012 $PM_{2.5}$ Standard, 2015 Plan for the 1997 $PM_{2.5}$ Standard, 2013 1-hour Ozone Plan, and several other older SIPs. Currently under review are the 2022 Ozone Plan for 2015 8-Hour Ozone Standard and the 2024 Plan for the 2012 $PM_{2.5}$ Standards (CARB 2024). Project compliance with all SJVAPCD rules and regulations results in conformance with SJVAPCD air quality plans. These air quality attainment plans are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These SIPs and associated control measures are based on information derived from projected growth in the air district in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by the counties and incorporated cities in each county. Operation of the project would result in only six (6) new full-time employees and would not significantly increase employment, population, or growth within the region. The project does not include residential development or large local or regional employment centers, and thus would not result in significant population or employment growth. Therefore, the project would not conflict with the implementation of applicable SJVAPCD air quality plans and impacts would be *less than significant.*

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

SJVAPCD's thresholds of significance represent the allowable emissions a project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed SJVAPCD's thresholds of significance on a project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. The area is currently non-attainment for 1-hour and 8-hour ozone standards, non-attainment for annual arithmetic mean for $PM_{2.5}$ standards, and non-attainment for 24-hour $PM_{10}$ standards. The national attainment status for the project area is currently non-attainment/extreme for 8-hour ozone standards and non-attainment/serious for 24-hour and annual arithmetic mean for $PM_{2.5}$ standards. Impacts related to the construction and operation of the project are addressed separately below.

### *Construction*

Project implementation would generate emissions of criteria air pollutants during construction. The estimated unmitigated emissions from the construction of the project are summarized in Table 2, which includes the standard fugitive control measures. In CalEEMod, the following measures were included to reflect standard measures for fugitive dust control: water exposed areas two times per day, and water the

unpaved roads traveled to the project a minimum of two times per day. The detailed assumptions and calculations, as well as CalEEMod outputs, are provided in Appendix A.

**Table 2. Unmitigated Construction Emissions Summary**

| Construction Year | Unmitigated Construction Emissions | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $PM_{10}$ | $PM_{2.5}$ | $SO_2$ |
| ***Pollutant Emission (short tons per year)*** | | | | | | |
| 2025 annual emissions | 0.20 | 1.67 | 2.10 | 0.24 | 0.14 | 0.004 |
| SJVAPCD annual significance thresholds | 10 | 10 | 100 | 15 | 15 | 27 |
| ***Threshold exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

Source: Emissions were quantified using CalEEMod version 2022.1.1.26 (California Air Pollution Control Officers Association 2023).

Note: Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

As shown in Table 2, even without the incorporation of mitigation measures, estimated unmitigated construction emissions for all pollutants are below SJVAPCD annual significance thresholds. As presented above, the project would not violate any air quality significance thresholds or contribute considerably to an existing or projected air quality violation. Therefore, air quality impacts from project construction would be *less than significant.*

## *Operations*

When construction is completed, the project would be an operational new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the existing Don Chapin Ready Mix Concrete Batch Plant. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. Project operations would generate VOC, $NO_X$, CO, $SO_X$, $PM_{10}$, and $PM_{2.5}$ emissions. The estimated emissions from the operation of the project are summarized in Table 3. Complete details of the emissions calculations are provided in Appendix A.

**Table 3. Unmitigated Operational Emissions Summary**

| Operation Year 2025 | Unmitigated Operational Emissions Summary | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $PM_{10}$ | $PM_{2.5}$ | $SO_2$ |
| ***Pollutant Emission (short tons per year)*** | | | | | | |
| Mobile | 0.008 | 0.15 | 0.09 | 0.07 | 0.02 | <0.005 |
| Area | 0.30 | <0.01 | 0.24 | <0.005 | <0.005 | <0.005 |
| Energy | <0.01 | 0.07 | 0.06 | 0.005 | 0.005 | <0.005 |
| Off-Road | 0.01 | 0.17 | 0.29 | <0.005 | <0.005 | <0.005 |
| **Total** | **0.32** | **0.39** | **0.69** | **0.05** | **0.02** | **<0.005** |
| SJVAPCD annual significance thresholds | 10 | 10 | 100 | 15 | 15 | 27 |
| ***Threshold exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

Source: Emissions were quantified using CalEEMod version 2022.1.1.26 (California Air Pollution Control Officers Association 2023).

Note: Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

As Table 3 shows that estimated unmitigated operational emissions for all pollutants are below SJVAPCD significance thresholds. As such, the project would not violate any air quality significance thresholds or contribute considerably to an existing or projected air quality violation, and air quality impacts from project operations would be *less than significant.*

As shown in Table 2 and Table 3, estimated daily and annual construction and operational emissions would not exceed the SJVAPCD significance thresholds; however, per requirements of SJVAPCD, dust control would be implemented during the construction and operation of the project. As such, the project would not result in a cumulatively considerable net increase in emissions of any criteria pollutants for which the project region is non-attainment during construction or operation; therefore, potential impacts would be *less than significant.*

## c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Some population groups, such as children, the elderly, and acutely and chronically ill persons are considered more sensitive to air pollution than others. Sensitive receptor locations typically include residential areas, hospitals, elder-care facilities, rehabilitation centers, daycare centers, and parks. Surrounding land uses include the existing Don Chapin Ready Mix Concrete Batch Plant to the northwest, a junkyard to the east, undeveloped agricultural land and scattered rural residences to the north, residences to the southwest, and the Morning Star Packing Facility and General Manufacturing to the south. The closest sensitive receptor is located approximately 700 feet north of the project site. All other air quality sensitive receptors are located at greater distances from the project and would be less impacted by project emissions. Implementation of the proposed project would only result in the long-term operation of permitted emission sources that would not adversely affect nearby sensitive receptors. Short-term (36 months on and off) construction activities could result in temporary increases in pollutant concentrations. Additionally, airborne asbestos is classified as a known human carcinogen and was identified by CARB as a toxic air contaminant (TAC) in 1986. The project is not located in a geologic setting with the potential to host asbestos; therefore, the project would not expose sensitive receptors to asbestos (CARB 2000a).

The project would not produce high doses of any TACs during construction or operation. Implementation of the project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Short-term construction activities (36 months on and off) could result in temporary increases in pollutant concentrations. Emissions of all criteria pollutants are below the SJVAPCD thresholds and would not have any significant impact. The project's emissions of TACs would be minimal and would consist of diesel PM emissions during construction activities. Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations and the project would not include any industrial sources of other TACs.

Construction-related activities that would result in temporary, intermittent emissions of diesel PM would be from the exhaust of off-road equipment and on-road, heavy-duty trucks. On-road, diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions.

Based on the construction-related emissions modeling, the maximum daily emissions of exhaust $PM_{10}$ (used as a surrogate for diesel PM since exhaust emissions contain any diesel particulates) would be 1.37 pounds during peak construction. A portion of these emissions would be related to haul trucks traveling to and from the project site. In addition, studies show that diesel PM is highly dispersive and that

concentrations of diesel PM decline with distance from the source (e.g., 500 feet from a freeway, the concentration of diesel PM decreases by 70%) (CARB 2005). Construction would not be limited to only one portion of the project site but would occur throughout the project site in stages. Construction-related TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk greater than 10 in 1 million or a hazard index greater than 1.0 because the low exposure level reflects the 1) relatively low mass of diesel PM emissions that would be generated by construction activity on the project site (i.e., less than five (5) pounds per day of exhaust $PM_{10}$), 2) the relatively short duration of diesel PM-emitting construction activity at the project site, and 3) the highly dispersive properties of diesel PM.

Operation-related TAC emissions would be negligible, and the project worker and truck trips would total 30 trips per day. Also, any on-road, diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions. No other TAC emission sources will occur during operations. The SJVAPCD would monitor and control potential TACs from permitted stationary sources. Therefore, construction- and operation-generated emissions of TACs would be *less than significant.*

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

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The project would not be a source of any odors during operations. Construction of the project could result in the emission of odors from construction equipment and vehicles. During construction, a limited number of diesel engines would be operated on the project site for limited durations. Diesel exhaust and VOCs from these diesel engines would be emitted; however, the short duration of construction activities is expected to last approximately 36 months intermittently, limited in extent at any given time, and distributed through the project site. In addition, emissions would disperse rapidly from the project site, and diesel exhaust odors would be consistent with existing vehicle odors in the area.

The project does not include any uses identified as being associated with odors. Existing surrounding land uses include the Don Chapin Ready Mix Concrete Batch Plant to the northwest, a junkyard to the east, undeveloped agricultural land and scattered rural residences to the north, residences to the southwest, and the Morning Star Packing Facility and General Manufacturing to the south. Beyond the scattered residences adjacent to the project site (the closest being approximately 700 feet north of the proposed project), there are not substantial numbers of people within the vicinity. Implementation of the proposed project would only result in the long-term operation of permitted emission sources that would not be odorous. Therefore, the construction and operation of the project would not create other emissions or odors adversely affecting a substantial number of people; impacts would be *less than significant.*

## *Conclusion*

The proposed project would result in minimal criteria pollutant emissions during construction and operation and would not exceed any SJVAPCD thresholds. The project would not expose sensitive receptors to substantial pollutant concentrations and would not be a source of odors or other adverse emissions. Therefore, the project would not result in impacts related to air quality.

## *Mitigation Measures*

Mitigation is not necessary.

# IV. Biological Resources

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| (b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| (c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | ☒ |
| (d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | ☐ | ☒ |
| (e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☐ | ☒ |
| (f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |

## *Setting*

The federal Endangered Species Act of 1973 provides legislation to protect federally listed plant and wildlife species and requires that the responsible agency or individual consult with the U.S. Fish and Wildlife Service (USFWS) to determine the extent of impact to a particular species. If the USFWS determines that impacts to a species would likely occur, alternatives and measures to avoid or reduce impacts must be identified.

The Migratory Bird Treaty Act (MBTA) of 1918 protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade of bird feathers, popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies.

The California Endangered Species Act (CESA) of 1970 ensures legal protection for plants and wildlife formally listed as endangered or threatened by the State of California. California Fish and Game Code (CFGC) Sections 2080 and 2081 prohibit the take (defined as hunting, pursuing, catching, capturing, or killing) of endangered, threatened, or candidate species unless otherwise authorized by a permit. The

California Department of Fish and Wildlife (CDFW) regulates activities that may result in the "take" of such species. The CESA has a much less inclusive definition of "take" (limited to direct take such as hunting, shooting, capturing, etc.) that does not include the broad "harm" and "harassment" definitions in federal law.

CFGC Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected species, such as: (1) prohibiting the take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species;" and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. The CDFW is unable to authorize incidental take of Fully Protected species when activities are proposed in areas inhabited by those species; therefore, project-related activities must avoid the take of Fully Protected species.

The CDFW also maintains a list of California Species of Special Concern (SSC). Species are given this designation based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, the CDFW is empowered to review projects for their potential to impact state-listed and SSC species and their habitats.

CFGC Section 3503, Protections of Bird's Nests, includes provisions to protect the nests and eggs of birds. CFGC Section 3503 states: "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." In addition, CFGC Section 3513 states that it is unlawful to take or possess any migratory bird as designated in the MBTA or any part of such migratory birds except as provided by rules and regulations under provisions of the MBTA.

## Biological Resources Assessment

The following analysis is based on the biological resources assessment prepared for the project by SWCA Environmental Consultants (SWCA) (SWCA 2024) (Appendix B). The biological resources assessment includes findings and recommendations based on a background literature review and a biological field survey of the project site on July 30, 2024.

### *Existing Conditions*

The project site is entirely undeveloped and consists of perennial rye grass fields and alkali weed – salt grass flats. In addition, Parish's glasswort patches were observed just outside of the southwestern edge of the project site. Alkali weed – salt grass flats and Parish's glasswort are considered sensitive natural communities by the CDFW. A roadside irrigation canal runs outside of the project site, along the southern edge parallel to Ingomar Grade. In addition to the roadside irrigation canal, the USFWS NWI Wetlands Mapper identified freshwater emergent wetlands within the northern portion of the project site (SWCA 2024). Plants often associated with wetlands were observed throughout the project site; however, other indicators of wetland hydrology were not observed. Further, previous field surveys of the project site did not identify wetlands within the project area. Based on these previous assessments, wetlands are not present.

### *Special-Status Species*

Based on a nine-quadrangle query of the CDFW California Natural Diversity Database (CNDDB), 12 special-status plant species and eight special-status animal species have been previously documented in the project region (SWCA 2024). The special-status plant and animal species that have been previously documented within the project region were compared to the soil types, habitat, and other existing

conditions observed at the project site during the biological field survey to determine the potential for special-status species to occur on-site. Based on the findings of the background literature review and biological field survey, the following 12 special-status plant species, eight special-status animal species, and migratory birds to have the potential to occur on-site:

Special-Status Plants

- Alkali milk-vetch (*Astragalus tener* var. *tener*) is a California Rare Plant Rank (CRPR) 1B.2 that grows in alkaline flats and vernally moist meadows at elevations below 197 feet. The nearest occurrence of alkali milk-vetch is approximately 7.71 miles northeast of the project site. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Heartscale (*Atriplex cordulata* var. *cordulata*) is a CRPR 1B.2 that grows in saline or alkaline soils in association with grassland and saltbush (*Atriplex* spp.) scrub habitats at elevations below 1,840 feet. The nearest occurrence of heartscale is approximately 1.71 miles northwest of the project site. In addition, this species was identified by T. Harvey & Associates (HTH) during a 2015 pre-activity survey on the parcel immediately northwest of the project site (HTH 2015). Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Crownscale (*Atriplex coronata* var. *coronata*) is a CRPR 4.2 that grows in fine alkaline soils at elevations below 656 feet. The nearest occurrence of crownscale is approximately 14 miles south of the project site. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Vernal pool smallscale (*Atriplex persistens*) is a CRPR 1B.2 that grows in alkaline vernal pools at elevations below 377 feet. The nearest occurrence of vernal pool smallscale is approximately 6.78 miles northeast of the project site. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is a CRPR 4.2 that grows in grasslands, the edges of marshes and vernal pools, and in disturbed sites at elevations below 1,640 feet. The nearest occurrence of Parry's rough tarplant is approximately 4.41 miles southeast of the project site. Suitable habitat for this species is present on-site and this species was observed on the fence line between the proposed project site and the existing concrete facility; therefore, this species occurs on-site.

- Hispid salty bird's-beak (*Chloropyron molle* ssp. *hispidum*) is a CRPR 1B.1 that grows in saline marshes and flats at elevations below 427 feet. The nearest occurrence of hispid salty bird's-beak overlaps the proposed project area. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Delta button-celery (*Eryngium racemosum*) is a CRPR 1B.1 and a state critically endangered that grows in seasonally flooded clay depressions in floodplains at elevations below 100 feet. The nearest occurrence of delta button-celery species is approximately 5.51 miles west of the project

site. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Hogwallow starfish (*Hesperevax caulescens*) is a CRPR 4.2 that occurs in the drying shrink-swell clay of vernal pools on flats and steep slopes, and occasionally in serpentine soil. This species is known to occur at elevations below 1,640 feet. The nearest occurrence of this hogwallow starfish is approximately 12 miles northwest of the project site. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Alkali-sink goldfields (*Lasthenia chrysantha*) is a CRPR 1B.1 that grows in vernal pools and wet saline flats at elevations below 330 feet. The nearest occurrence of alkali-sink goldfields is approximately 15 miles northwest of the project site. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Ferris' goldfields (*Lasthenia ferrisiae*) is a CRPR 4.2 that grows in vernal pools at elevations ranging from 65 to 2,295 feet. The nearest occurrence of Ferris' goldfields is approximately 1.5 miles west of the project site. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) is a CRPR 1B.1 that occurs in saline places and vernal pools at elevations below 3,281 feet. The nearest occurrence of Coulter's goldfields is approximately 11 miles northeast of the proposed project area. Marginally suitable habitat for this species is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

- Prostrate vernal pool navarretia (*Navarretia prostrata*) is a CRPR 1B.1 that occurs in alkaline floodplains and vernal pools at elevations below 2,297 feet. The nearest occurrence of this species is approximately 6.43 miles northeast of the project site. Marginally suitable habitat for this prostrate vernal pool navarretia is present on-site; however, this species was not observed during the botanical survey conducted during the appropriate blooming period and is not expected to occur on-site.

Special-Status Animals

- Burrowing owl (*Athene cunicularia*) is a CDFW species of special concern (SSC) that generally inhabits open grasslands, prairies, and fields with short-stature vegetation, but may also occupy agricultural and developed areas. This species was documented approximately 4.3 miles southwest of the project site. Suitable habitat for burrowing owl is present throughout the project site; however, no signs of burrowing owl were observed during the field survey. Based on the nearest documented occurrence and the presence of suitable habitat, there is potential to encounter this species on-site.

- Swainson's hawk (*Buteo swainsoni*) is a state-threatened species that typically occurs in open desert, grasslands, riparian areas, and cropland with large, scattered trees or small tree stands. This species was documented approximately 0.5 miles west of the project site. Suitable foraging habitat for Swainson's hawk is present throughout the project site; however, there are no suitable nesting sites within the project area and no signs of Swainson's hawk were observed during the

field survey. However, based on the nearest documented occurrence and the presence of suitable foraging habitat, there is a potential to encounter this species on-site or in the vicinity of the project site.

- California horned lark (*Eremophila alpestris actia*) is a CDFW SSC that inhabits open areas, such as grasslands and agricultural areas. This species was documented approximately 5.7 miles west of the project site. Suitable habitat for California horned lark is present throughout the project site; however, no signs of California horned lark were present during the field survey. Based on the nearest documented occurrence and the presence of suitable habitat, there is potential to encounter this species on-site.

- American badger (*Taxidea taxus*) is an SSC that prefers open and arid habitats such as grasslands, meadows, savannahs, open-canopy desert scrub, and open chaparral. This species was documented approximately 6.79 miles southwest of the project site. Suitable habitat for American badger is present throughout the project site; however, no signs of American badger were present during the field survey. Based on the nearest documented occurrence, the presence of suitable habitat, and the rich prey base, there is potential to encounter this species on-site.

- San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally endangered and state-threatened species that is endemic to the San Joaquin Valley and adjacent arid valleys of central California. Highly suitable habitats for kit fox are characterized by sparsely vegetated saltbush scrublands and grasslands dominated by red brome (*Bromus rubens*) on flat or gently rolling terrain. This species was documented approximately 3.2 miles southwest of the project site. Marginally suitable habitat for San Joaquin kit fox is present throughout the project site; however, no signs of San Joaquin kit fox were present during the field survey. Based on the nearest documented occurrence and the habitat suitability, there is potential to encounter this species on-site.

- San Joaquin coachwhip (*Masticophis flagellum ruddocki*) is an SSC that occurs in a variety of habitats including dry, treeless habitats such as grasslands and desert scrub. This species seeks refuge under objects such as rocks, as well as under shrubs or in rodent burrows. This species has occurred approximately 7.5 miles southwest of the project site. Suitable habitat for San Joaquin coachwhip is present throughout the project site; however, no signs of San Joaquin coachwhip were present during the field survey. Based on the nearest documented occurrence and the habitat suitability, there is potential to encounter this species on-site.

- Monarch butterfly (*Danaus plexippus*) is a federal candidate species that begins migrating in early November to overwintering sites in southern California and Mexico. This species flies north for breeding as milkweeds come into bloom in the spring. Monarch caterpillars feed exclusively on milkweed plants. Wintering monarchs have very specific habitat requirements for overwintering sites, including dappled sunlight, high humidity, fresh water, and an absence of freezing temperatures or high winds. Milkweed plants were observed within the project site; and no monarch caterpillars were observed on the milkweed; however, these plants are perennial and may be used by monarchs in future years. Therefore, there is potential for monarch eggs, caterpillars, and/or chrysalises to be present within the project area.

- Crotch bumble bee (*Bombus crotchii*) is a state candidate species that inhabits open grassland and scrub habitats primarily in California, from Sacramento south into Mexico, and from the coast east into Nevada. Crotch bumble bee colonies are typically found underground in abandoned holes made by ground squirrels, mice, and rats, and occasionally abandoned bird nests. Crotch bumble bees may also nest above-ground in tufts of grass or cavities in downed wood, rock walls or brush piles. Crotch bumble bees are generalist foragers, feeding on a variety of flowering

plants. There are no CNDDB records of Crotch bumble bee within the nine quadrangles encompassing the project site; however, the Xerces Bumble Bee Watch database includes verified observations of this species approximately 6 miles west of the project site (Xerces Society 2024a). Based on habitat suitability, there is potential to encounter this species on-site.

- Bird species protected by the federal or state government, all native avian species are protected by federal and state legislation, most notably the MBTA and the California Fish and Game Code. Collectively, these and other international regulations make it unlawful to collect, sell, pursue, hunt, or kill native migratory birds, their eggs, nests, or any parts thereof. Avian species can be expected to occur within the project area during all seasons and throughout the construction of the proposed project. The grassland and ruderal areas on-site may provide nesting habitat for ground-nesting species. Raptors are particularly drawn to large trees and structures, and they are less tolerant of disturbances than other species.

## *Environmental Evaluation*

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

The project includes construction and ground-disturbing activities, which would have the potential to result in the direct removal of special-status plant species if present within the project site during construction. In addition, proposed construction activities have the potential to result in direct (i.e., take) or indirect (i.e., noise, dust, light pollution) disturbance to special-status animal species if present within the project area during project construction.

#### Special-Status Plants

Based on a nine-quadrangle query of the CDFW CNDDB, 12 special-status plant species have been previously documented in the project region. The special-status plant species that have been previously documented within the project region were compared to the soil types, habitat, and other existing conditions observed at the project site during the biological field survey to determine the potential for special-status species to occur on-site. Based on the findings of the background literature review and biological field survey, only Parry's rough tarplant occurs within the project site along the fence line between the proposed project site and the existing concrete facility. Proposed ground-disturbing activities near the existing fence line would have the potential to result in direct removal of this species. In addition, indirect impacts to special-status plants in adjacent areas may result from dust emissions during construction, altered hydrology, or the spread of non-native and invasive plant species to areas not previously impacted. Mitigation Measures BIO-1 and BIO-2 have been included to reduce potential impacts related to Parry's rough tarplant through worker environmental awareness training and general construction best management practices. In addition, Mitigation Measure BIO-3 has been included to reduce potential impacts to Parry's rough tarplant through avoidance and, if avoidance is not possible, proper restoration and monitoring. Therefore, with the implementation of Mitigation Measures BIO-1 through BIO-3, the project would not have a substantial adverse effect on special-status plant species; therefore, impacts would be *less than significant with mitigation*.

## Special-Status Animals

Based on a nine-quadrangle query of the CDFW CNDDB and a search of the Xerces Bumble Bee Watch database, eight special-status animal species have been previously documented in the project region. The special-status animal species that have been previously documented within the project region were compared to the habitat conditions observed at the project site during the biological field survey to determine the potential for special-status species to occur on-site. Based on the findings of the background literature review and biological field survey, there is potential for burrowing owl, Swainson's hawk, California horned lark, American badger, San Joaquin kit fox, San Joaquin coachwhip, monarch butterfly, Crotch bumble bee, and nesting migratory birds to occur within the project site.

### *Special-Status Mammals*

As previously identified, there is potential for American badger and San Joaquin kit fox to occur within the project site. Proposed construction activities would have the potential to result in direct and indirect impacts to this species, including vehicle strikes, loss of habitat, and den destruction. Mitigation Measures BIO-1 and BIO-2 have been included to reduce potential impacts related to special-status mammal species through worker environmental awareness training and general construction best management practices. In addition, Mitigation Measure BIO-4 has been included to reduce impacts to special-status mammals through the implementation of preconstruction surveys and implementation of proper avoidance and monitoring measures. With the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-4, the project would not have a substantial adverse effect on special-status mammals; therefore, impacts would be *less than significant with mitigation*.

### *Special-Status Reptiles*

As previously identified, there is potential for San Joaquin coachwhip to occur within the project site. Proposed grading and construction activities would have the potential to result in direct and indirect impacts to this species, including vehicle strikes and loss of habitat. Mitigation Measures BIO-1 and BIO-2 have been included to reduce potential impacts related to special-status reptile species through worker environmental awareness training and general construction best management practices. In addition, Mitigation Measure BIO-4 has been included to reduce impacts to special-status reptile species through the implementation of preconstruction surveys and implementation of proper avoidance and monitoring measures. With the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-4, the project would not have a substantial adverse effect on special-status reptiles; therefore, impacts would be *less than significant with mitigation*.

### *Special-Status Insects*

As previously identified, there is potential for monarch butterfly and Crotch bumble bee to occur within the project site. Proposed grading and construction activities would have the potential to result in direct and indirect impacts to this species, including loss of milkweed and other flowering plants and other habitat disturbances. Mitigation Measures BIO-1 and BIO-2 have been included to reduce potential impacts related to special-status insect species through worker environmental awareness training and general construction best management practices. In addition, Mitigation Measure BIO-4 has been included to reduce impacts to monarchs through the implementation of preconstruction surveys and implementation of proper avoidance measures. With the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-4, the project would not have a substantial adverse effect on monarchs; therefore, impacts would be *less than significant with mitigation*.

### *Special-Status and Migratory Birds*

As previously identified, there is potential for burrowing owl, Swainson's hawk, California horned lark, and nesting migratory birds. Proposed construction activities would have the potential to result in direct and indirect impacts to this species, including habitat removal, dust pollution, and noise pollution. Mitigation Measures BIO-1 and BIO-2 have been included to reduce potential impacts related to special-status and migratory bird species through worker environmental awareness training and general construction best management practices. In addition, Mitigation Measure BIO-4 has been included to reduce impacts to special-status and migratory bird species through the implementation of preconstruction surveys and implementation of proper avoidance and monitoring efforts. With the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-4, the project would not have a substantial adverse effect on special-status and migratory birds; therefore, impacts would be *less than significant with mitigation*.

### *Conclusion*

Based on the analysis provided above, potential impacts associated with substantial adverse effects on special-status species and their habitats would be *less than significant with mitigation*.

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

The project site is entirely undeveloped and consists of perennial rye grass fields and alkali weed – salt grass flats. In addition, Parish's glasswort patches were observed just outside of the southwestern edge of the project site. Alkali weed – salt grass flats and Parish's glasswort are considered sensitive natural communities by the CDFW (SWCA 2024). There is no riparian habitat located on the project site. Proposed ground-disturbing and construction activities have the potential to result in the direct removal of sensitive natural communities on-site. Mitigation Measures BIO-1 and BIO-2 have been included to reduce potential impacts related to sensitive natural communities through worker environmental awareness training and general construction best management practices. In addition, Mitigation Measure BIO-3 has been included to reduce potential impacts to sensitive natural communities through avoidance and, if avoidance is not possible, proper restoration and monitoring. Therefore, with the implementation of Mitigation Measures BIO-1 through BIO-3, the project would not have a substantial adverse effect on sensitive natural communities; therefore, impacts would be *less than significant with mitigation*.

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

There is a roadside irrigation canal that runs outside of the project site, along the southern edge parallel to Ingomar Grade. In addition to the roadside irrigation canal, the USFWS NWI Wetlands Mapper identified Freshwater Emergent Wetlands within the northern portion of the project site (SWCA 2024). Plants often associated with wetlands were observed throughout the project site; however, other indicators of wetland hydrology were not observed. Further, previous field surveys of the project site did not identify wetlands within the project area. Based on these previous assessments, wetlands are not present within the project site (SWCA 2024). Since no wetlands are located within the project site, the project would not have a substantial adverse effect on state or federally protected wetlands, and *no impacts* would occur.

### d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The project site is currently fenced and is surrounded by the Don Chapin Ready Mix Concrete Batch Plant to the northwest, a junkyard to the east, undeveloped agricultural land and scattered rural residences to the north, and the Morning Star Packing Facility to the south. Further, there are existing roadways and other infrastructure located in close proximity to the project site. The project site does not provide unimpeded access to natural areas and is not a wildlife corridor; therefore, the project is not expected to increase the current level of habitat fragmentation in the region nor is it expected to create a significant barrier to wildlife movement, and *no impacts* would occur.

### e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project site does not contain any sensitive tree resources, such as oak woodlands or riparian areas. Therefore, it would not conflict with any local policies or ordinances, and *no impacts* would occur.

### f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Based on the records and literature research conducted for the project, the project site does not overlap with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other conservation plans. Therefore, the project would not conflict with any approved local, regional, or state habitat conservation plans, and *no impacts* would occur.

## *Conclusion*

Mitigation Measures BIO-1 through BIO-4 have been included to avoid and/or minimize potential impacts related to biological resources. Therefore, with the implementation of Mitigation Measures BIO-1 through BIO-4, potential impacts related to biological resources would be less than significant.

## *Mitigation Measures*

**BIO-1** **Worker Environmental Awareness Training.** An environmental awareness training shall be presented to all construction personnel by a qualified biologist prior to the start of any project activities. The training shall include color photographs and a description of the ecology of all special-status species known to have the potential to occur, as well as other sensitive resources requiring avoidance during construction. The training shall also include a description of protection measures required by discretionary permits, an overview of the federal and California Endangered Species Acts, and the implications of noncompliance with these regulations. This will include an overview of the required avoidance and mitigation measures. A sign-in sheet with the name and signature of the qualified biologist who presented the training, and the names and signatures of the environmental awareness trainees will be kept. A fact sheet conveying the information provided in the environmental awareness training will be provided to all project personnel and anyone else who may enter the project site.

If new construction personnel join the project after the initial training period, they will receive environmental awareness training from a designated member of the construction team who attended the initial training before beginning work.

**BIO-2** **Site Maintenance and General Operations Training.** The following general measures are recommended to minimize impacts during active construction:

a. The use of heavy equipment and vehicles shall stay within the project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high-visibility fencing or flagging. No work shall occur outside of these limits.

b. Project plans, drawings, and specifications shall show the location of erosion and sediment controls, delineation of construction limits, and other pertinent measures to ensure the protection of sensitive habitats and resources.

c. Staging of equipment and materials shall occur in designated areas with appropriate demarcation and perimeter controls.

d. Secondary containment, such as drip pans, shall be used to prevent leaks and spills of potential contaminants.

e. Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur only in designated staging areas. Sandbags and/or absorbent pads and spill control kits shall always be available on-site to clean up and contain fuel spills and other contaminants.

f. Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.

g. Plastic monofilament netting (erosion control matting) or similar material will not be used on-site due to the potential to entangle special-status wildlife. Acceptable substitutes are coconut coir matting, biodegradable fiber rolls, or tackified hydroseeding compounds.

**BIO-3** **Preconstruction Survey and Avoidance Measures for Alkali Weed – Salt Grass and Parry's Rough Tarplant.** The boundaries of alkali weed – salt grass and Parry's rough tarplant plant populations identified within the Biological Survey Area shall be flagged in the field using data collected prior to the start of the project. If alkali weed – salt grass and/or Parry's rough tarplant cannot be avoided during construction (i.e., if avoidance is deemed infeasible), the project applicant shall consult with the CDFW and, if recommended, develop a mitigation plan for impacts to these resources prior to the onset of construction. The project applicant shall pay all required compensatory mitigation fees and implement all avoidance, minimization, and reporting requirements deemed necessary by CDFW.

**BIO-4** **Surveys, Avoidance, and Monitoring for Special-Status Wildlife.** A qualified biologist shall conduct surveys prior to the start of initial project activities to ensure special-status wildlife species are not present within proposed work areas. If special-status wildlife species are found, they shall be allowed to leave the area on their own volition or be relocated (as permitted) to suitable habitat areas outside the work area(s). If necessary,

resource agencies will be contacted for further guidance. Pre-activity surveys and/or monitoring shall be conducted as follows:

1. ***Preconstruction Survey and Avoidance Measures for American Badger and San Joaquin Kit Fox.*** A qualified biologist shall conduct a preconstruction survey within 30 days prior to the start of initial project activities to ensure American badger and San Joaquin kit fox are not present within proposed work area. If potential dens are discovered, they shall be monitored with a remote camera or tracking medium for at least 3 days to determine if they are occupied. If the qualified biologist determines that a den may be active during the non-reproductive season, a no-entry exclusion buffer shall be established within 50 feet of the den. If active dens are found during the American badger or San Joaquin kit fox reproductive season, no activity shall occur within 200 feet of the den. Exclusion buffers shall be prominently flagged and encircle the den. Exclusion zones shall be maintained until all project-related disturbances have been terminated or it has been determined by a qualified biologist that the den is no longer in use. If an exclusion buffer is not feasible, the applicant will contact the County of Merced for further guidance. The results of the survey shall be provided to the County of Merced prior to initial project activities. If construction lapses beyond 30 days from the survey, an additional survey will be required.
2. ***Preconstruction Survey and Avoidance Measures for Monarch Caterpillars.*** If work is planned to occur during the breeding season (March 16–October 30), a qualified biologist shall survey for monarch eggs, caterpillars, and chrysalises within the work area 2 weeks prior to the start of initial ground disturbance. If monarch eggs, caterpillars, or chrysalises are observed, no work shall occur within 25 feet until the monarch egg, caterpillar, or chrysalis is no longer present. If an exclusion buffer is not feasible, the applicant shall contact the County of Merced for further guidance. The results of the survey shall be provided to the County of Merced prior to initial project activities.
3. ***Preconstruction Surveys and Avoidance Measures for Crotch Bumble Bee.*** A qualified biologist shall complete focused surveys for Crotch bumble bee in accordance with California Department of Fish and Wildlife's guidance provided in *Survey considerations for CESA Candidate Bumble Bee Species* (CDFW 2023). If a Crotch bumble bee nest is observed, no work shall occur within 25 feet of the nest until it is no longer active. If an exclusion buffer is not feasible, the applicant shall contact the County of Merced for further guidance. The County of Merced shall coordinate with California Department of Fish and Wildlife for guidance to implement project activities and avoid take or proceed with an Incidental Take Permit. The results of the surveys shall be provided to the County of Merced prior to initial project activities.
4. ***Preconstruction Surveys for San Joaquin Coachwhip.*** A qualified biologist shall complete a preconstruction survey for San Joaquin coachwhip within 48 hours prior to the start of initial grading/excavation. If San Joaquin coachwhip is observed, it shall be allowed to leave on its own volition and the observation submitted to the California Natural Diversity Database. The results of the survey shall be provided to the County of Merced within 1 week of survey completion.

5. ***Preconstruction Surveys Burrowing Owl.*** If work will occur within 492 feet (150 meters) of burrowing owl habitat, within the breeding or non-breeding seasons, a qualified biologist shall conduct a preconstruction survey for this species within 14 days of the onset of construction. A second survey shall be completed immediately prior to construction (i.e., within the preceding 24 hours). The surveys shall be consistent with the methods outlined in Appendix D of the California Department of Fish and Wildlife 2012 *Staff Report on Burrowing Owl Mitigation* (Staff Report). Qualified biologists will walk 20- to 65-foot-wide (7- to 20-meter-wide) transects through the survey area and visually scan the entire project area for sign and individuals. These surveys may be completed concurrently with any other preconstruction surveys for special-status species.

   If occupied burrowing owl burrows are identified, the following buffer distances shall be observed by construction, unless otherwise authorized by the California Department of Fish and Wildlife:

| Location | Time of Year | Level of Disturbance | | |
|---|---|---|---|---|
| | | Low | Medium | High |
| Nesting Sites | April 1–August 15 | 656 feet | 1,640 feet | 1,640 feet |
| Nesting Sites | August 16–October 15 | 656 feet | 656 feet | 1,640 feet |
| Any Occupied Burrow | October 16–March 31 | 164 feet | 328 feet | 1,640 feet |

   Each exclusion buffer shall encircle the burrow and have a radius as specified in the table above. All foot and vehicle traffic, as well as all project activities, including storage of supplies and equipment, shall remain outside of exclusion buffers. Exclusion buffers shall be maintained until all project-related disturbances have been terminated, or it has been determined by a qualified biologist that the burrow is no longer in use. If avoidance of active burrows is infeasible, the applicant shall contact the County of Merced for further guidance. The County of Merced shall coordinate with the California Department of Fish and Wildlife for guidance to implement project activities and avoid take or proceed with an Incidental Take Permit. The results of the survey shall be submitted to the County of Merced prior to start of initial project activities.

6. ***Preconstruction Survey for Swainson's Hawk.*** If work is planned to occur between March 1 and September 1, a qualified biologist shall survey for nesting Swainson's hawks within a half-mile radius around the project site. Preconstruction surveys for Swainson's hawk should be conducted according to the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Survey in California's Central Valley*. If an active nest is identified within the half-mile radius and work cannot be delayed until the nest has fledged or is no longer active, California Department of Fish and Wildlife will be consulted for appropriate avoidance measures.

7. ***Preconstruction Survey for Special-Status and Nesting Birds/Raptors.*** If work is planned to occur between February 1 and August 31, a qualified biologist shall survey the area for nesting birds within 1 week prior to activity beginning on-site. If nesting birds are located on or near the proposed project

site, they shall be avoided until they have successfully fledged, or the nest is no longer deemed active. A non-disturbance buffer of 50 feet will be placed around non-listed, passerine species, and a 250-foot buffer will be implemented for all non-listed raptor species. All activity will remain outside of the buffer until a qualified biologist has determined that the nest is no longer active (e.g., young have fledged, the nest has failed) or that proposed construction activities would not cause adverse impacts to the nest, adults, eggs, or young. If special-status avian species are identified and nesting within the work area, no work will begin until an appropriate buffer is determined in consultation with the County of Merced, California Department of Fish and Wildlife, and/or U.S. Fish and Wildlife Service.

# V. Cultural Resources

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5? | ☐ | ☐ | ☐ | ☒ |
| (b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5? | ☐ | ☒ | ☐ | ☐ |
| (c) Disturb any human remains, including those interred outside of dedicated cemeteries? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

PRC Section 5024.1 requires that any properties that can be expected to be directly or indirectly affected by a proposed project be evaluated for California Register of Historical Resources (CRHR) eligibility. The purpose of the CRHR is to maintain listings of the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change.

As defined by CEQA, a historical resource includes:

1. A resource listed in or determined to be eligible for listing in the CRHR.
2. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant. The architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural records of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence.

Resources are evaluated for eligibility for the CRHR under the following four criteria:

- **Criterion 1:** The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- **Criterion 2:** The resource is associated with the lives of persons important in our past;
- **Criterion 3:** The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and
- **Criterion 4:** The resource has yielded, or may be likely to yield, information important in prehistory or history.

A records search was previously conducted on May 21, 2008, to determine if any previously recorded cultural resources are present within the project area. Based on the results of the records search, there are no prehistoric or historic resources located within the project area (Michael Brandman Associates 2010).

## *Environmental Evaluation*

### a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

The project site is currently undeveloped and does not contain any built resources that could be eligible for listing as a historical resource; therefore, the project would not have the potential to adversely affect any historical resources, and *no impacts* would occur.

### b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Construction activities would require ground-disturbing activities over the entire 11.91-acre project site. Based on the results of the records search, there are no prehistoric or historic resources located within the project area (Michael Brandman Associates 2010); therefore, the project would not have the potential to adversely affect any known cultural archaeological resources. Further, Mitigation Measure CR-1 has been included in the event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities. With the implementation of Mitigation Measure CR-1, the project would not result in a substantial adverse change to an archaeological resource; therefore, impacts would be *less than significant with mitigation*.

### c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

There are no known human resources located within the project area that could be disturbed during construction activities. Additionally, the project would be required to comply with California Health and Safety Code Section 7050.5, which outlines the protocol for the discovery of human remains. Section 7050.5 states that in the event of an accidental discovery or recognition of any human remains in any location other than a cemetery, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC) within 24 hours. The NAHC shall then determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Based on required compliance with California Health and Safety Code Section 7050.5, impacts related to the disturbance of human remains would be *less than significant*.

## *Conclusion*

The project would not have the potential to adversely affect any historical resources. With the implementation of Mitigation Measure CR-1 and required compliance with California Health and Safety Code 7050.5, the proposed project would not adversely affect archaeological resources or human remains, and impacts related to cultural resources would be less than significant.

## *Mitigation Measures*

**MM CR-1** In the event that cultural resources are encountered during project activities, all ground-disturbing activities within a 25-foot radius of the find shall cease and the County of Merced shall be notified immediately. Work shall not continue until a qualified archaeologist assesses the find and determines the need for further study. If the find includes Native American-affiliated materials, a local Native American tribal representative will be contacted to work in conjunction with the approved archaeologist to determine the need for further study. A standard inadvertent discovery clause shall be included in every grading and construction contract to inform contractors of this requirement.

# VI. Energy

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | ☐ | ☐ | ☒ | ☐ |
| (b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The project site is located in the PG&E service area. The 2022 PG&E electric power mix consists of 38% renewable energy sources and 57% GHG-free energy sources (PG&E 2022).

### *State Building Code Requirements*

The California Building Code (CBC) contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvements to real property. The CBC includes mandatory green building standards for residential and nonresidential structures, the most recent version of which is referred to as the *2023 Building Energy Efficiency Standards.* These standards focus on four key areas: smart residential PV systems, updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa), residential and nonresidential ventilation requirements, and nonresidential lighting requirements. While the CBC has strict energy and green building standards, U-occupancy structures (such as greenhouses used for cultivation activities) are typically not regulated by these standards.

### *Vehicle Fuel Economy Standards*

In October 2012, the USEPA and National Highway Traffic Safety Administration (NHTSA), on behalf of the U.S. Department of Transportation (USDOT), issued final rules to further reduce GHG emissions and improve corporate average fuel economy (I) standards for light-duty vehicles for model years 2017 and beyond. The NHTSA's I standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon (mpg), limiting vehicle emissions to 163 grams of carbon dioxide ($CO_2$) per mile for the fleet of cars and light-duty trucks by the model year 2025.

In January 2017, USEPA Administrator Gina McCarthy signed a Final Determination to maintain the current GHG emissions standards for the model years 2022 through 2025 vehicles. However, on March 15, 2017, USEPA Administrator Scott Pruitt and USDOT Secretary Elaine Chao announced that the USEPA intends to reconsider the Final Determination. On April 2, 2018, USEPA Administrator Pruitt officially withdrew the January 2017 Final Determination, citing information that suggests that these current standards may be too stringent due to changes in key assumptions since the January 2017 Determination. According to the USEPA, these key assumptions include gasoline prices and overly optimistic consumer acceptance of advanced technology vehicles. The April 2 notice is not USEPA's final agency action, and the USEPA intends to initiate rulemaking to adopt new standards. Until that rulemaking has been completed, the current standards remain in effect.

As part of California's overall approach to reducing pollution from all vehicles, the CARB has established standards for clean gasoline and diesel fuels and fuel economies of new vehicles. The CARB has also put in place innovative programs to drive the development of low-carbon, renewable, and alternative fuels, such as their Low Carbon Fuel Standard Program pursuant to California Assembly Bill (AB) 32 and the Governor's Executive Order S-01-07.

In January 2012, the CARB approved the Advanced Clean Cars Program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The new rules strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15% of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The number of stations will grow as vehicle manufacturers sell more fuel-cell vehicles. By 2025, when the rules are fully implemented, the statewide fleet of new cars and light trucks will emit 34% fewer global warming gases and 75% fewer smog-forming emissions than the statewide fleet in 2016 (CARB 2022).

All self-propelled off-road diesel vehicles 25 horsepower (hp) or greater used in California and most two-engine vehicles (except on-road two-engine sweepers) are subject to the CARB's Regulation for In-Use Off-Road Diesel Fueled Fleets (Off-Road regulation). This includes vehicles that are rented or leased (rental or leased fleets). The overall purpose of the Off-Road regulation is to reduce emissions of $NO_X$ and particulate matter from off-road diesel vehicles operating within California through the implementation of standards, including, but not limited to, limits on idling, reporting, and labeling of off-road vehicles, limitations on use of old engines, and performance requirements.

The *2030 Merced County General Plan Natural Resources Element* provides the following goal and policies related to the energy resources that would be applicable to the proposed project:

**Goal NR-2.** Provide adequate and efficient energy supplies by increasing renewable energy production and energy conservation.

**Policy NR-2.1:** **Renewable Energy Use.** Promote the development and use of renewable energy resources to reduce dependency on petroleum-based energy sources.

**Policy NR-2.2:** **Clean Alternative Energy Requirement.** Encourage new electricity providers to use only clean alternative energy sources (e.g., solar, thermal, wind).

## *Environmental Evaluation*

### a) Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

During construction, fossil fuels, electricity, and natural gas would be used by construction vehicles and equipment. The energy consumed during construction would be temporary in nature and typical of other similar construction activities in the county. Federal and state regulations in place require the use of fuel-efficient equipment and vehicles and require wasteful activities, such as diesel idling, to be limited. Construction contractors, in an effort to ensure cost efficiency, would not be expected to engage in wasteful or unnecessary energy and fuel practices.

The project includes the operation of a sand drying plant and precast concrete manufacturing facility and associated equipment. The proposed sand dryer plant and precast concrete operation would operate Monday through Friday between 7:00 a.m. and 5:00 p.m. and would employ six (6) new employees. An existing PG&E natural gas line is present along Ingomar Grade and would provide natural gas to the project once connected. In addition, the project is expected to be provided electricity by a service drop from PG&E, consisting of at least 1,200 amps. It is anticipated that the project would require 9,000,000 Btus and 600 amps of electrical service. The additional service is being installed for potential future truck charging facilities for electric-powered trucks and equipment. Electricity would be provided by PG&E, which consists of 38% renewable energy sources and 57% GHG-free energy sources (PG&E 2022). By using electricity from PG&E, the project would reduce the long-term use of non-renewable energy resources. Further, the Don Chapin Ready Mix Concrete Batch Plant location is currently being permitted to install solar power augmentation, which would add solar power to the existing and projected energy needs and the ready mix concrete batch plant and the proposed sand dryer plant and further reduce the long-term use of non-renewable energy resources. Installation of solar power is not included in the proposed project.

Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. Truck trips would be required to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product. The proposed sand dryer plant would be closed to the public and no visitors or customers are expected. Therefore, the project would result in a marginal increase in vehicle trips and associated fossil fuel consumption. Based on the use of renewable energy sources and limited increase in vehicle trips, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources; therefore, impacts would be *less than significant*.

### b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As evaluated in *Impact Discussion VI(a)*, the energy consumed during the construction and operation of the project would not represent a significant or wasteful demand on available resources, which is consistent with applicable state and local energy efficiency objectives. The County Natural Resources Element identifies goals and policies to increase the use of renewable and clean energy resources in the county. The project would result in the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment, which would require the use of natural gas and electricity provided by PG&E. It is anticipated that the project would require 9,000,000 Btus and 600 amps of electrical service. Electricity would be provided by PG&E, which consists of 38% renewable energy sources and 57% GHG-free energy sources (PG&E 2022). By using electricity from PG&E, the project would reduce the long-term use of non-renewable energy resources. Further, the Don Chapin Ready Mix Concrete Batch Plant location is currently being permitted to install solar power augmentation, which would add solar power to the existing and projected energy needs and the ready mix concrete batch plant and the proposed sand dryer plant and further reduce the long-term use of non-renewable energy resources. Further, the project would be limited to a marginal increase in vehicle trips to and from the project site associated with worker vehicles and trucks and would not increase vehicle trips in a manner that would substantially increase the use of fossil fuels. Therefore, the proposed project would be consistent with the goals and policies of the County General Plan related to the use of renewable and clean energy resources in the county. The project would be consistent with renewable energy goals included in the County Natural Resources Element; therefore, impacts would be *less than significant*.

## *Conclusion*

The project would not result in excessive energy use during construction or operation and would be consistent with applicable energy efficiency plans; therefore, impacts related to energy would be less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# VII. Geology and Soils

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☐ | ☒ |
| (ii) Strong seismic ground shaking? | ☐ | ☐ | ☒ | ☐ |

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| (iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☒ | ☐ |
| (iv) Landslides? | ☐ | ☐ | ☒ | ☐ |
| (b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| (c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | ☐ | ☐ | ☒ | ☐ |
| (d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | ☐ | ☐ | ☒ | ☐ |
| (e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☐ | ☒ |
| (f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

Ground shaking refers to the motion that occurs in response to regional and local earthquakes. Seismic ground shaking is influenced by the proximity of the site to an earthquake fault, the intensity of the seismic event, and the underlying soil composition. Ground shaking can endanger life and safety due to damage or collapse of structures or lifeline facilities. Liquefaction is the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from ground shaking during an earthquake. Landslides and slope instability can occur as a result of wet weather, weak soils, improper grading, improper drainage, steep slopes, adverse geologic structures, earthquakes, or a combination of these factors.

According to the *Merced County Multi-Jurisdictional Hazard Mitigation Plan*, the nearest faults of major significance are the San Andreas Fault, approximately 15 miles west from the western county line; Hayward and Calaveras Faults, approximately 50 miles northwest; White Wolf, Garlock, and Sierra Nevada Faults to the south; and Bear Mountain Fault zone approximately five (5) miles east of the respective county lines (Merced County 2021). According to the CDOC Fault Activity Map of California, the nearest potentially active fault to the project site is the Ortigalita fault approximately six (6) miles southwest of the project site (CDOC 2015). According to the *Final Program Environmental Impact Report for the 2030 Merced County General Plan*, overall seismic-related risk, including the risk of liquefaction and landslide, in the county is low (Merced County 2013b).

Highly erodible soils are those that are easily carried by water and, to a lesser extent, by wind. Surface erosion is more commonly visible, but subsurface erosion can lead to damage to pipes, roads, foundations, and other structural elements. Expansive soils are largely comprised of clays, which expand in volume when water is absorbed and shrink as the soil dries. Expansion is measured by shrink-swell potential, which is the volume change in soil with an increase in moisture. If the shrink-swell potential is rated moderate to high, then damage to buildings, roads, structural foundations, and pipes can occur. In

the northern portion of the county, there are some areas of expansive clay soil that require special construction standards for foundations and infrastructure. Expansive clay problems can be surmounted by appropriate engineering design and construction techniques.

The project site is underlain by Quaternary alluvial gravel and sand and clay deposits of valley areas (Qa) from the Holocene era, which has a low paleontological sensitivity because it is typically too young to yield scientifically significant paleontological resources (U.S. Geological Survey [USGS] 2007).

## *Environmental Evaluation*

### a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

There are no active faults located within or adjacent to the project site (CDOC 2015). Because the project site is not underlain by an Alquist-Priolo or other active fault zone, rupture of a known Alquist-Priolo fault would not occur within the project site; therefore, *no impacts* would occur.

#### *a-ii) Strong seismic ground shaking?*

Overall seismic-related risk, including the risk of seismic ground shaking, in the county is low (Merced County 2013b). The nearest potentially active fault to the project site is the Ortigalita fault approximately six (6) miles southwest of the project site (CDOC 2015). The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment. New occupiable buildings would be required to be constructed in accordance with the most recent CBC to address seismic risk. Based on required compliance with the CBC, the project would not result in the risk of loss, injury, or death as a result of seismic-induced hazards, including seismic ground shaking; therefore, impacts would be *less than significant*.

#### *a-iii) Seismic-related ground failure, including liquefaction?*

According to the *Final Program Environmental Impact Report for the 2030 Merced County General Plan*, the risk of liquefaction in the county is low (Merced County 2013b). The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment. New occupiable buildings would be required to be constructed in accordance with the most recent CBC to address seismic risk. Based on required compliance with the CBC, the project would not result in the risk of loss, injury, or death as a result of seismic-induced hazards, including liquefaction; therefore, impacts would be *less than significant*.

#### *a-iv) Landslides?*

According to the *Final Program Environmental Impact Report for the 2030 Merced County General Plan*, the risk of landslides in the county is low (Merced County 2013b). In addition, the project site consists entirely of flat topography, which further reduces risk of landslides. The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment. New occupiable buildings would be required to be constructed in accordance with the most recent CBC to address seismic risk. Based on required compliance with the CBC, the project

would not result in the risk of loss, injury, or death as a result of seismic-induced hazards, including landslides; therefore, impacts would be *less than significant*.

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

Construction activities would result in approximately 11.91 acres of ground disturbance. Proposed ground-disturbing activities would have the potential to increase erosion or loss of topsoil at the project site. The project would disturb more than one (1) acre of soil and would be required to comply with State Water Resources Control Board (SWRCB) general construction permit requirements to prepare and implement a Stormwater Pollution Prevention Plan (SWPP) with best management practices (BMPs) to address erosion and other pollutant control at the project site. Because the project would disturb more than one (1) acre of soil, the project would also be required to comply with the County's Stormwater Ordinance (Merced County Code Section 9.53.010), which requires preparation and implementation of an Erosion Control Plan (ECP). Following construction activities, the project site would be covered with hardscapes to reduce the potential for erosion or loss of topsoil to occur at the project site. Based on required compliance with SWRCB and County requirements, implementation of the proposed project would not result in substantial soil erosion or the loss of topsoil; therefore, impacts would be *less than significant*.

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

According to the *Final Program Environmental Impact Report for the 2030 Merced County General Plan*, there is a low risk of landslide and liquefaction within the county (Merced County 2013b). The project site is not located in an area with known land subsidence (USGS 2024). New occupiable buildings would be required to be constructed in accordance with the most recent CBC to address geologic risk. Based on required compliance with the CBC, the project would not result in the risk associated with ground failure; therefore, impacts would be *less than significant*.

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

Expansive soils are typically comprised of clay. Soils at the project site consist of loam, clay, and stratified sandy clay loam to clay; therefore, there is a risk of soil expansion at the project site (NRCS 2024). New occupiable buildings would be required to be constructed in accordance with the most recent CBC to address geologic risk. Based on required compliance with the CBC, the project would not result in the risk associated with development on expansive soils; therefore, impacts would be *less than significant*.

### e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The project does not include the installation of septic tanks or alternative wastewater disposal systems; therefore, *no impacts* would occur.

### f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The project site is underlain by Quaternary alluvial gravel and sand and clay deposits of valley areas (Qa) from the Holocene era, which has a low paleontological sensitivity because it is typically too young to yield scientifically significant paleontological resources (USGS 2007). Construction activities would result in approximately 11.91 acres of ground disturbance. Based on the low paleontological sensitivity of the underlying geologic unit, the proposed project would not adversely affect paleontological resources; therefore, impacts would be *less than significant*.

## *Conclusion*

Based on required compliance with the CBC, the project would not result in the risk associated with seismic-related or ground failure events. Based on required compliance with SWRCB and County requirements, implementation of the proposed project would not result in substantial soil erosion or the loss of topsoil. The project does not include the installation of septic tanks or alternative wastewater disposal systems. The project would not adversely affect paleontological resources. Therefore, impacts related to geology and soils would be *less than significant*, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# VIII. Greenhouse Gas Emissions

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ☒ | ☐ |
| (b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

GHGs are any gases that absorb infrared radiation in the atmosphere and are different from the criteria pollutants discussed in Section III, *Air Quality*. The primary GHGs that are emitted into the atmosphere as a result of human activities are $CO_2$, methane ($CH_4$), nitrous oxide ($N_2O$), and fluorinated gases.

### *California Global Warming Solutions Act*

Under the California Global Warming Solutions Act, also known as AB 32, the CARB established statewide GHG emissions cap for 2020, adopted mandatory reporting cards for significant sources of GHG, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016 Senate Bill (SB) 32 was signed into law, amending the California Global Warming Solutions Act. SB 32, and accompanying Executive Order B-30-15, which requires CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030. The CARB updated its Climate Change Scoping Plan in December 2017 to express the 2030 statewide target in terms of million metric tons of $CO_2$ equivalent ($MMTCO_2e$). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 $MMTCO_2e$.

### *Sustainable Communities Strategy and Climate Protection Act*

The Sustainable Communities Strategy and Climate Protection Act (SB 375) was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light-duty truck sectors for 2020 and 2035, as compared to 2005 emissions levels. Regional metropolitan planning organizations (MPOs) will be responsible for preparing a Sustainable Communities Strategy (SCS) with their Regional Transportation Plans (RTPs).

### *Merced County Association of Governments 2022 Regional Transportation Plan/ Sustainable Communities Strategy*

The Merced County Association of Governments (MCAG) *2022 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) includes a long-range plan for transportation and mixed-use planning in the county and identifies goals and objectives to reduce transportation-related GHG emissions, including the creation of bicycle and pedestrian facilities, congestion relief, and mixed-use design (MCAG 2022a).

### *San Joaquin Valley Climate Change Action Plan*

The SJVAPCD released the *San Joaquin Valley Climate Change Action Plan* in December 2009. The Climate Change Action Plan established goals and policies to address reductions in GHGs and improvement to regional air quality. The plan also includes Best Performance Standards (BPSs), which are mitigation measures intended to achieve GHG reductions. BPSs include building design elements that reduce energy consumption, project designs that promote pedestrian access, and land use planning decisions that reduce VMT.

### *2030 Merced County General Plan*

The *2030 Merced County General Plan Air Quality Element* provides the following goals and policy related to the reduction of air pollutants and GHG emissions that would be applicable to the proposed project:

**Goal AQ-1.** Reduce air pollutants and greenhouse gas emissions and anticipate adaptation due to future consequences of global and local climate change.

**Goal AQ-4.** Reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs.

**Policy AQ-4.1.** **Decrease Vehicle Miles Traveled.** Require diverse, higher-density land uses (e.g., mixed-use and infill development) to decrease vehicle miles traveled.

# *Environmental Evaluation*

## a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

### *Construction*

Construction of the project would result in GHG emissions, which are primarily associated with the use of off-road construction equipment, on-road vendor trucks, and worker vehicles. Total GHG emissions from all stages of construction activities were amortized over the estimated 30-year life of the project and added to the annual operational emissions of GHGs and the decommissioning emissions (assumed to be the amortized construction emissions). Project decommissioning emissions were not calculated as the equipment and fuel types that would exist 30 or more years in the future are unknown. Also, as described above, it is anticipated that the decommissioning emissions would be lower than the construction emissions.

Project construction emissions were calculated and compared to the SJVAPCD annual significance thresholds. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described. On-site sources of GHG emissions include off-road equipment and off-site sources, including haul trucks, vendor trucks, and worker vehicles. Table 4 presents total construction emissions for the project from on-site and off-site emission sources for the annual time period.

**Table 4. Estimated Annual Construction Greenhouse Gas Emissions**

| Construction Years | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
|---|---|---|---|---|
| ***Metric Tons per Year*** | | | | |
| 2025 | 373.64 | 0.01 | 0.01 | 376.75 |
| *30-year amortized construction emissions* | | | | *13* |
| SJVAPCD GHG threshold | N/A | N/A | N/A | 1,100 |
| ***Threshold exceeded?*** | ***N/A*** | ***N/A*** | ***N/A*** | ***No*** |

Note: N/A = not applicable. See Appendix A.

As shown in Table 4, the estimated total GHG emissions during construction would be approximately 377 metric tons of $CO_2e$ over the construction period, below the SJVAPCD adopted threshold. Estimated project-generated construction emissions amortized over 30 years would be approximately 13 metric tons of $CO_2e$ per year. As with project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the project would occur only when construction is active, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Federal and state regulations in place require fuel-efficient equipment and vehicles and prohibit wasteful activities, such as diesel idling. Construction contractors, in an effort to ensure cost efficiency, would not be expected to engage in wasteful or unnecessary energy and fuel practices. Further, the project would be required to comply with applicable SJVAPCD Rules and Regulations, including SJVAPCD Standard Regulation IV (Prohibitions), which would further reduce the potential for diesel idling.

Construction activities would not generate GHG emissions that would exceed SJVAPCD thresholds, either directly or indirectly, and compliance with existing state and local regulations would reduce GHG emissions during construction activities. Therefore, short-term construction activities would not generate

substantial GHG emissions that may have a significant impact on the environment, and construction-related impacts would be *less than significant.*

### *Operation*

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section III, *Air Quality*. The estimated operational project-generated GHG annual emissions are shown in Table 5.

**Table 5. Estimated Annual Operational GHG Emissions**

| Sector | GHG Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| Mobile | 100.50 | <0.005 | 0.02 | 104.99 |
| Area | 0.91 | <0.005 | <0.005 | 0.91 |
| Energy | 141.98 | 0.02 | <0.005 | 142.88 |
| Water | 8.80 | 0.46 | 0.01 | 23.68 |
| Waste | 5.88 | 0.59 | 0 | 20.58 |
| Refrigeration | - | - | - | 1.05 |
| Off-Road | 38.54 | <0.005 | <0.005 | 38.67 |
| **Total** | **296.6** | **1.07** | **0.03** | **332.77** |
| | | | *Amortized construction emissions* | *13* |
| | | | **Total annual operational + amortized construction GHGs** | **346** |
| | | | **SJVAPCD annual significance threshold** | **1,100** |
| | | | ***Threshold Exceeded?*** | ***No*** |
| | | | **Total operational (30 years) + amortized construction GHGs + decommissioning GHG (amortized construction GHGs)** | **10,016** |

Notes: N/A = not applicable. See Appendix A. Emissions reflect operational year 2026.

As shown in Table 5, estimated annual project-generated GHG emissions would be approximately 333 metric tons of $CO_2e$ per year as a result of project operations. After summing the amortized project construction emissions and annual operational emissions the total GHGs generated by the project would be approximately 346 metric tons of $CO_2e$ per year, which is far below the SJVAPCD adopted threshold. After summing the amortized project construction emissions, total GHGs generated by the project, and the decommissioning emissions (assumed to equal the amortized project construction emission), the total would be approximately 10,016 metric tons of $CO_2e$ for the life of the project. The project's direct and indirect emissions sources would be under the SJVAPCD adopted threshold. Further, the project would not generate a substantial amount of new GHG emissions associated with a substantial increase in vehicle trips to and from the project site. Additionally, the Don Chapin Ready Mix Concrete Batch Plant location is currently being permitted to install solar power augmentation, which would add solar power to the existing ready mix concrete batch plant and the proposed sand dryer plant. Installation of solar power is not included in the proposed project.

Project operations would not generate GHG emissions that would exceed SJVAPCD thresholds, either directly or indirectly; therefore, the operation of the project would not generate substantial GHG

emissions that may have a significant impact on the environment, and operational impacts would be *less than significant.*

### b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Significance would be based on demonstrating consistency with the 2017 Scoping Plan and 2022 Scoping Plan Update. The 2017 Scoping Plan identifies strategies for meeting the state's 2030 GHG emissions reduction target of 40% below 1990 levels by 2030 as codified in SB 32 and the 2022 Scoping Plan Update assesses progress toward the statutory 2030 target and lays out a path to achieving carbon neutrality no later than 2045. Because the proposed project would be fully operational before 2030, it would be consistent with that guidance. Consequently, the proposed project would have no impact from conflict with the applicable plan for reducing GHG emissions. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. The project is within the jurisdiction of the SJVAPCD and would be subject to the Climate Change Action Plan, which established BPSs to reduce VMT. Therefore, the project would not substantially increase the number of employees or associated vehicle trips, which is consistent with goals and policies related to the reduction of transportation-related GHG emissions.

As previously identified, electricity would be provided by PG&E, which consists of 38% renewable energy sources and 57% GHG-free energy sources (PG&E 2022). Natural gas service would also be provided by PG&E, which is committed to supporting emerging renewable gas technologies to decarbonize the gas system (PG&E 2023). By using electricity and natural gas from PG&E, the project would reduce the long-term use of non-renewable energy resources, which is consistent with the goals and policies of the SJVAPCD Climate Change Action Plan; therefore, the project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. Projects that are consistent with applicable plan, policy, or regulation adopted to reduce GHG emissions are considered less than significant, and impacts would be *less than significant.*

## *Conclusion*

The project would not exceed the SJVAPCD annual GHG threshold and would be consistent with the SJVAPCD Climate Change Action Plan. As such, the project would not result in a conflict with an applicable plan or policy adopted for reducing greenhouse gas emissions. Therefore, the project would not result in impacts related GHG emissions.

## *Mitigation Measures*

Mitigation is not necessary.

# IX. Hazards and Hazardous Materials

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |

| | Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| (b) | Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| (c) | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| (d) | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| (e) | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| (f) | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| (g) | Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The Hazardous Waste and Substances Site (Cortese) List is a planning tool used by the state, local agencies, and developers to comply with CEQA requirements related to the disclosure of information about the location of hazardous materials release sites. California Government Code Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List at least annually. Various state and local government agencies are required to track and document hazardous material release information for the Cortese List. The California Department of Toxic Substance Control (DTSC) EnviroStor database tracks DTSC cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination, such as federal superfund, state response, voluntary cleanup, school cleanup, school investigation, and military evaluation sites (DTSC 2024). The SWRCB GeoTracker database contains records for sites that impact, or have the potential to impact, water in California, such as Leaking Underground Storage Tank (LUST), Department of Defense, and Cleanup Program Sites (SWRCB 2024). The remaining data regarding facilities or sites identified as meeting the "Cortese List" requirements can be located on the California Environmental Protection Agency website.

Based on a query of the DTSC EnviroStor and SWRCB GeoTracker databases, there are no hazardous materials sites located within or adjacent to the project site (DTSC 2024; SWRCB 2024). There is a closed LUST cleanup site located approximately 600 feet northwest of the project site and a school cleanup site located approximately 0.45 mile west of the project site (DTSC 2024; SWRCB 2024).

## *Environmental Evaluation*

### a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed project would require limited quantities of hazardous substances, including gasoline, diesel fuel, hydraulic fluid, solvents, oils, paints, etc. during construction, which has the potential to result in an accidental spill or release. Construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials, including 22 CCR Division 4.5.

The proposed sand dryer plant and precast concrete manufacturing facility and associated equipment would operate Monday through Friday between 7:00 a.m. and 5:00 p.m. and would result in approximately 30 daily vehicle trips, including 18 truck trips. Truck trips would be required to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product. All project operations and associated vehicle and truck trips would also be conducted in accordance with relevant federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials. Therefore, impacts associated with the routine transport, use, or disposal of hazardous materials would be *less than significant.*

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

As previously discussed, temporary construction activities would include the use of construction equipment, vehicles, and commonly used hazardous substances, including, but not limited to, paint, solvents, oils, fuel, and gasoline. Commonly used hazardous substances within the project site would be transported, stored, and used according to regulatory requirements and existing procedures for the handling of hazardous materials.

The project would not require ground-disturbing activities within any heavily traveled roadways (e.g., highways, freeways, etc.); therefore, the project is not expected to disturb aerially deposited lead (ADL). The project site is not located in an area with the potential for naturally occurring asbestos (NOA) to occur and would not require the demolition of existing on-site structures that could release asbestos containing material (ACM) or lead-based paint if present within the building materials (California Geologic Survey [CGS] 2011). Operation of the project would include approximately 30 vehicle trips and 18 truck trips per day for worker travel and to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product, which would be conducted in accordance with relevant federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials. Based on required compliance with CCR Title 22, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment; therefore, impacts would be *less than significant.*

### c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The nearest school is Volta Elementary School located approximately 0.3 mile northwest of the project site. Therefore, the proposed project would not emit hazardous emissions or handle acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school; therefore, *no impacts* would occur.

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

Based on a query of the DTSC EnviroStor and SWRCB GeoTracker databases, there are no hazardous materials sites located within or adjacent to the project site (DTSC 2024; SWRCB 2024). The project site is not located on or adjacent to a site that is on a list of hazardous materials sites pursuant to California Government Code Section 65962.5; therefore, the project would not create a significant hazard to the public or the environment related to disturbance of a known hazardous materials site, and *no impacts* would occur.

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

The nearest airport is the Los Banos Municipal Airport, located approximately three (3) miles southeast of the project site. The project site is not located within an airport land use plan or within two (2) miles of an airport; therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area, and *no impacts* would occur.

### f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

According to the California Department of Forestry and Fire Protection (CAL FIRE) fire hazard severity maps, the project site and surrounding area are located in a local responsibility area (LRA) (CAL FIRE 2024). The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment that would be accessed from an existing road off of Ingomar Grade, which is compliant with the California Fire Code (CFC) and Merced County Department of Public Works Improvement Standards and Specifications for access roads to ensure adequate emergency access to and from the project site. Further, the proposed project activities would be limited to the three (3) existing parcels and would not require any temporary or permanent road closures that could affect emergency response or evacuation efforts in the project area. Based on required compliance with the CFC and Merced County Department of Public Works Improvement Standards and Specifications, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan; therefore, impacts would be *less than significant*.

### g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project site and surrounding area are located in an LRA (CAL FIRE 2024). The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment on an undeveloped project site with relatively flat topography and grassland areas. New occupiable buildings would be required to be constructed in accordance with the CFC to address fire risk. Further, existing above-ground powerlines would be placed underground as part of the proposed project, which would further reduce the potential to exacerbate the risk of wildfire. Based on required compliance with the CFC, the project would not exacerbate the risk of wildfire; therefore, impacts would be *less than significant*.

## *Conclusion*

Based on required compliance with the CCR, the project would not result in significant hazards related to the routine transport, use, or disposal of hazardous materials. The project is not located within 0.25 mile of a school, within two (2) miles of an airport, or within or adjacent to a previously recorded hazardous materials site. The project would not impair the implementation of an adopted emergency response plan or emergency evacuation plan and would not expose people or structures to a significant risk involving wildfires. Therefore, impacts related to hazards and hazardous materials would be less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# X. Hydrology and Water Quality

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | ☐ | ☐ | ☒ | ☐ |
| (b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | ☐ | ☐ | ☒ | ☐ |
| (c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | | |
| (i) Result in substantial erosion or siltation on- or off-site; | ☐ | ☐ | ☒ | ☐ |
| (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; | ☐ | ☐ | ☒ | ☐ |

| | Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| (iii) | Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or | ☐ | ☐ | ☒ | ☐ |
| (iv) | Impede or redirect flood flows? | ☐ | ☐ | ☒ | ☐ |
| (d) | In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | ☐ | ☐ | ☐ | ☒ |
| (e) | Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The project site is located in the Merced Subbasin of the San Joaquin Valley Groundwater Basin. The Merced Subbasin encompasses approximately 801 square miles of Merced County and key municipalities within the subbasin include Merced County and the cities of Merced, Livingston, and Atwater. The subbasin consists of lands south of the Merced River, between the San Joaquin River to the west and the crystalline basement rock of the Sierra Nevada foothills to the east. The southern subbasin boundary extends west along the Chowchilla River (Merced–Madera County boundary) and along the northern edge of the sphere of influence boundary of Chowchilla Water District. Geologic units in the Merced Subbasin consist of consolidated rocks and unconsolidated deposits. The Merced Subbasin is heavily reliant on groundwater, and users recognize the subbasin has been in overdraft for a long period of time. The subbasin is under the jurisdiction of three Groundwater Sustainability Agencies (GSAs), including the Merced Irrigation-Urban Groundwater Sustainability Agency (MIUGSA), the Merced Subbasin Groundwater Sustainability Agency (MSGSA), and the Turner Island Water District Groundwater Sustainability Agency #1 (TIWD GSA-1). The *Merced Groundwater Subbasin Groundwater Sustainability Plan* (GSP) identifies sustainable management goals and practices to achieve sustainable groundwater management on a long-term average basis by increasing recharge and/or reducing groundwater pumping while avoiding undesirable results (Woodard & Curran 2022).

A roadside irrigation canal runs outside of the project south, along the southern edge parallel to Ingomar Grade. In addition to the roadside irrigation canal, the USFWS NWI Wetlands Mapper identified Freshwater Emergent Wetlands within the northern portion of the project site (SWCA 2024).

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) 06047C0825G (effective date 12/2/2008), the project site is within Zone X, an area of minimal flood hazard (FEMA 2024).

## *Environmental Evaluation*

### a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction activities would result in ground disturbance over the entire 11.91-acre project site. The project would disturb more than one (1) acre of soil and would be required to comply with the County's

Stormwater Ordinance (Merced County Code Section 9.53.010), which requires implementation of best management practices (BMPs) during project construction, preparation of an ECP, and implementation of post-construction stormwater control measures. The project would also be required to comply with Central Valley Regional Water Quality Control Board (RWQCB) General Construction Permit requirements to further address stormwater at the project site. In addition, construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials, which would reduce the potential for accidental spill of hazardous substances to occur. The project does not include well drilling, additional groundwater pumping, or other activities that could adversely affect groundwater quality. Based on the required compliance with County and RWQCB requirements, implementation of the proposed project would not violate any water quality standards, and impacts would be *less than significant*.

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

The project includes the construction and operation of a sand dryer plant and precast concrete manufacturing facility and associated equipment. Implementation of the proposed project would result in the installation of new impervious surfaces over most of the 11.91-acre project site. The project would be required to comply with the County's Stormwater Ordinance (Merced County Code Section 9.53.010) and the County's Improvement Standards and Specifications to ensure proper drainage at the project site, which would maintain drainage conditions and stormwater flows in the project area. The project would not require any additional water use for operational activities. During construction, water may be used for dust suppression; however, any water used during construction would be limited in volume and supplied from off-site sources. Therefore, the project would not decrease groundwater supply or interfere with groundwater recharge, and impacts would be *less than significant*.

### c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

#### *c-i) Result in substantial erosion or siltation on- or off-site?*

The project would not result in direct alteration of any drainages or surface water features. The project would require ground-disturbing activities during project construction, which has the potential to result in an increase in erosion that could run off from the site to surrounding areas. Construction of the proposed project would result in approximately 11.91 acres of site disturbance and would be required to comply with the County Stormwater Ordinance (Merced County Code Section 9.53.010), which requires implementation of BMPs during project construction and preparation of an ECP. The project would also be required to comply with Central Valley RWQCB General Construction Permit requirements. Following project construction, the project site would be covered with hardscapes, which would reduce the potential for long-term erosion to occur at the project site. Based on required compliance with RWQCB and County requirements, the project would not result in substantial erosion or siltation, and impacts would be *less than significant*.

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

Implementation of the proposed project would result in the installation of new impervious surfaces over most of the 11.91-acre project site, which could result in an increase in surface flows. The project would

be required to comply with the County's Stormwater Ordinance (Merced County Code Section 9.53.010) and the County's Improvement Standards and Specifications, which requires the implementation of post-construction stormwater control measures to address long-term drainage conditions at the project site. Based on required compliance with County requirements, the project would not increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site, and impacts would be *less than significant*.

### *c-iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

The project includes the construction and operation of a sand dryer plant and precast concrete manufacturing facility and associated equipment. Implementation of the proposed project would result in ground disturbance over the entire 11.91-acre project site and the installation of new impervious surfaces over most of the project site. The project would be required to comply with the County's Stormwater Ordinance (Merced County Code Section 9.53.010), which requires implementation of BMPs during project construction and preparation of an ECP, and Central Valley RWQCB General Construction Permit requirements to address pollutant runoff at the project site. The project would also be required to comply with the County's Stormwater Ordinance and the County's Improvement Standards and Specifications, which require the implementation of post-construction stormwater control measures to address long-term drainage conditions at the project site. Compliance with County and RWQCB requirements would reduce the potential for short- and long-term pollutants to occur at the project site that could run off into surrounding areas. Based on required compliance with RWQCB and County requirements, the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and impacts would be *less than significant*.

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

According to the FEMA FIRM 06047C0825G (effective date 12/2/2008), the project site is within Zone X, an area of minimal flood hazard (FEMA 2024). The project would not result in direct alteration of any drainages or surface water features that could directly impede or redirect flood flows. Further, the project would be required to comply with the County's Stormwater Ordinance and the County's Improvement Standards and Specifications, which require the implementation of post-construction stormwater control measures to address drainage conditions at the project site. Based on existing site conditions and required compliance with County requirements, the project would not impede or redirect flood flows, and impacts would be *less than significant*.

## d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

According to the FEMA FIRM 06047C0825G (effective date 12/2/2008), the project site is within Zone X, an area of minimal flood hazard (FEMA 2024). Additionally, the project site is not located in an area that would be subject to tsunami risk and is not located in proximity to any impounded body of water that would be subject to seiche. The project is not within a flood hazard, tsunami, or seiche zone and would not risk the release of pollutants due to project inundation, and *no impacts* would occur.

### e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project site is in the Merced Subbasin of the San Joaquin Valley Groundwater Basin, which is subject to the sustainable management goals and practices included in the Merced Groundwater Subbasin GSP to achieve long-term sustainable groundwater management. As evaluated in *Impact Discussion X(b)*, the project would not substantially decrease groundwater supply or interfere with groundwater recharge in a manner that would impede sustainable management of the groundwater basin, which is consistent with the sustainable management goals of the Merced Groundwater Subbasin GSP, including increasing recharge and reducing groundwater pumping.

The project site is under the jurisdiction of the Central Valley RWQCB and would be subject to the *Water Quality Control Plan for the Central Valley Region* (RWQCB 2019), which establishes water quality objectives for beneficial uses of water resources within the Sacramento and San Joaquin River Basins. The project would be required to comply with the Central Valley RWQCB General Construction Permit requirements, which are codified in the County Stormwater Ordinance (Merced County Code Section 9.53.010) to address pollutant control and stormwater runoff. Based on the required compliance with County and RWQCB requirements, the project would be consistent with sustainable management of the San Joaquin Valley groundwater basin and the Water Quality Control Plan, and impacts would be *less than significant*.

## *Conclusion*

The project would not result in adverse impacts related to water quality, groundwater quality, or stormwater runoff. The project would not be located in an area that would be subject to inundation. The project would be consistent with the sustainable management practices of the San Joaquin Valley Groundwater Basin and the *Water Quality Control Plan for the Central Valley Region*. Therefore, impacts related to hydrology and water quality would be less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# XI. Land Use and Planning

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| (b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☒ | ☐ | ☐ |

## *Setting*

The *2030 Merced County General Plan* consists of 11 elements that serve as the County's "blueprint" or "constitution" for all future land use, development, preservation, and resource conservation decisions. The County Land Use Element identifies goals, policies, and standards for future land use, development, community design, energy efficiency, and agriculture/resource protection in the county. The Land Use Element also describes standards for land use designations within the county. The project site consists of three (3) undeveloped parcels within the County's Industrial (I) land use designation and Light Manufacturing (M-1) zoning designation. The I land use designation provides for manufacturing, research and development, processing, distribution, storage, or the wholesale trade of various materials and products. The I land use designation is typically applied to areas adjacent to major transportation routes and/or toward the fringe area of Urban Communities and Highway Interchange Centers (Merced County 2013a).

## *Environmental Evaluation*

### a) Would the project physically divide an established community?

Implementation of the project would result in the construction and operation of a sand dryer plant and precast concrete operation. The proposed project would be limited to development on three (3) existing parcels and would not result in the removal or blockage of existing public roadways or other circulation paths and would not otherwise include any features that would physically divide an established community; therefore, *no impacts* would occur.

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

As evaluated throughout this IS/MND, the project would be consistent with standards and policies set forth in the General Plan, 2018 $PM_{2.5}$ Plan, Climate Change Action Plan, and RTP/SCS. The project would be required to implement Mitigation Measures BIO-1 through BIO-4 and CR-1 to mitigate potential impacts associated with biological resources and cultural and tribal cultural resources, which is consistent with the identified plans and policies intended to avoid or mitigate adverse environmental effects. Upon implementation of the identified mitigation, the project would not conflict with other local policies or regulations adopted for the purpose of avoiding or mitigating environmental effects; therefore, impacts would be *less than significant with mitigation*.

## *Conclusion*

The project would not physically divide an established community. Upon implementation of mitigation measures identified throughout this IS/MND, the project would be consistent with the General Plan, 2018 $PM_{2.5}$ Plan, Climate Change Action Plan, and RTP/SCS, and other applicable documents. Therefore, with implementation of Mitigation Measures BIO-1 through BIO-4 and CR-1, impacts related to land use and planning would be less than significant.

## *Mitigation Measures*

Implement Mitigation Measures BIO-1 through BIO-4 and CR-1.

# XII. Mineral Resources

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| (b) Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ☐ | ☐ | ☐ | ☒ |

## *Setting*

The California Surface Mining and Reclamation Act (SMARA) of 1975 requires that the State Geologist classify land into mineral resource zones (MRZs) according to the known or inferred mineral potential of the land (PRC Sections 2710–2796). The five MRZs used in the SMARA classification designation process for Merced County are defined below (CGS 2021):

- **MRZ-1:** Areas where available geologic information indicates that little likelihood exists for the presence of significant concrete aggregate resources.
- **MRZ-2:** Areas where geologic information indicates the presence of significant concrete aggregate resources.
- **MRZ-3 cs:** Areas containing known or inferred concrete aggregate resources of undetermined mineral resource significance (crushed stone).
- **MRZ-3 sg:** Areas containing known or inferred concrete aggregate resources of undetermined mineral resource significance (sand and gravel).
- **MRZ-4:** Areas where available geologic information is inadequate to assign to any other mineral resource zone category.

The project site is located in an MRZ-3 area and is not located near any existing mining operations (CGS 2021).

## *Environmental Evaluation*

### a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The project site is located in an MRZ-3 area and is not located near any existing mining operations (CGS 2021). The project site is not located in an area with known mineral resources; therefore, no permanent loss of mineral resources that would be of value to the region and the residents of the state would occur, and *no impacts* would occur.

### b) Would the project result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The project site is located in an MRZ-3 area and is not located near any existing mining operations (CGS 2021). The project site is not located in an area with known mineral resources; therefore, no permanent loss of locally important mineral resources would occur, and *no impacts* would occur.

## *Conclusion*

No impacts to mineral resources would occur as a result of the project, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# XIII. Noise

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project result in:* | | | | |
| (a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☐ | ☒ | ☐ |
| (b) Generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| (c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

## *Setting*

The *2030 Merced County General Plan Health and Safety Element* identifies the policies to reduce or eliminate existing and future conflicts between land uses and noise. Table 6 outlines the County's noise level standards for noise-sensitive areas affected by non-transportation noise sources in the county.

**Table 6. Non-Transportation Noise Standards**

| | Outdoor Areas Median ($L_{50}$) / Maximum ($L_{max}$)[1] | | Interior Median ($L_{50}$)/ Maximum ($L_{max}$)[1] |
|---|---|---|---|
| Receiving Land Use | Daytime | Nighttime | Day or Night |
| All Residential | 55 / 75 | 50 / 70 | 35 / 55 |

| Receiving Land Use | Outdoor Areas Median ($L_{50}$) / Maximum ($L_{max}$)[1] | | Interior Median ($L_{50}$)/ Maximum ($L_{max}$)[1] |
|---|---|---|---|
| | Daytime | Nighttime | Day or Night |
| Transient Lodging | 55 / 75 | – | 35 / 55 |
| Hospitals & Nursing Homes | 55 / 75 | – | 35 / 55 |
| Theaters and Auditoriums | – | – | 30 / 50 |
| Churches, Meeting Halls, Schools, Libraries, etc. | 55 / 75 | – | 35 / 60 |
| Office Buildings | 60 / 75 | – | 45 /65 |
| Commercial Buildings | 55 / 75 | – | 45 /60 |
| Playgrounds, Parks, etc. | 65 / 75 | – | – |
| Industry | 60 / 80 | – | 50 / 70 |

Source: Merced County (2013a)

[1] These standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards in this table, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

[2] Sensitive Outdoor Areas include primary outdoor activity areas associated with any given land use at which noise sensitivity exists and the location at which the County's exterior noise level standards are applied.

[3] Sensitive Interior Areas includes any interior area associated with any given land use at which noise sensitivity exists and the location at which the County's interior noise level standards are applied. Examples of sensitive interior spaces include, but are not limited to, all habitable rooms of residential and transient lodging facilities, hospital rooms, classrooms, library interiors, offices, worship spaces, theaters. Interior noise level standards are applied within noise-sensitive areas of the various land uses with windows and doors in the closed positions.

Notes:

Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.

Since hospitals are often noise generating uses, the exterior noise level standards are applicable only to clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

The outdoor activity areas of these uses (if any) are not typically used during nighttime hours.

Where median ($L_{50}$) noise level data is not available for a particular noise source, average ($L_{eq}$) values may be substituted for the standards of this table provided the noise source operates for at least 30 minutes. If the source operates for less than 30 minutes, the maximum noise level standards shown shall apply.

In addition to the standards outlined in Table 6, the following noise policies would be applicable to the proposed project:

**Policy HS-7.1.** **Noise Standards for New Land Uses.** Require new development projects to meet the standards shown in Table 6, at the property line of the proposed use, through either project design or other noise mitigation techniques.

**Policy HS-7.3.** **Existing Rural Sources.** Discourage new noise-sensitive land uses in rural areas with authorized existing noise generating land uses.

**Policy HS-7.4.** **New Noise or Groundborne Vibration Generating Uses.** Require new commercial and industrial uses to minimize encroachment on incompatible noise-sensitive land uses. Also consider the potential for encroachment by residential and other sensitive land uses on adjacent lands that could significantly impact the viability of the commercial or industrial areas.

**Policy HS-7.5.** **Noise Generating Activities.** Limit noise generating activities, such as construction, to hours of normal business operation.

**Policy HS-7.12.** **New Project Noise Mitigation Requirements.** Require new projects to include appropriate noise mitigation measures to reduce

noise levels in compliance with the Table 6 standards within sensitive areas. If a project includes the creation of new non-transportation noise sources, require the noise generation of those sources to be mitigated so they do not exceed the interior and exterior noise level standards of Table 6 at existing noise-sensitive areas in the project vicinity. However, if a noise generating use is proposed adjacent to lands zoned for residential uses, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the standards shown in Table 6 at the property line of the generating use in anticipation of the future residential development.

Section 10.60 (Noise Control) and Section 18.40.050 (Noise) of the Merced County Code establish performance standards and regulations to avoid excessive noise in the county. Section 18.40.050 also limits construction hours between 7:00 a.m. and 6:00 p.m. daily and prohibits construction noise between 6:00 p.m. and 7:00 a.m. on weekdays or at any time on a weekend day or legal holiday, except for emergency work.

## *Environmental Evaluation*

### a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Existing ambient noise levels in the project area are primarily dominated by surrounding light industrial land uses and vehicle noise along Ingomar Grade. During project construction, noise from construction activities may intermittently dominate the noise environment in the immediate project area. The project would require the use of typical construction equipment (e.g., dozers, excavators, etc.) during proposed construction activities. According to the Federal Highway Administration, typical noise levels from standard construction equipment generally range from 80 to 85 dBA at 50 feet from the source, as shown in Table 7.

**Table 7. Construction Equipment Noise Emission Levels**

| Equipment Type | Typical Noise Level (dBA) 50 Feet from Source |
|---|---|
| Concrete Mixer, Dozer, Excavator, Jackhammer, Man Lift, Paver, Scraper | 85 |
| Heavy Truck | 84 |
| Pneumatic Tools (i.e., pile driving equipment) | 85 |
| Concrete Pump | 82 |
| Backhoe, Compactor | 80 |

Source: FHWA (2018)

The nearest noise-sensitive receptor is an off-site rural residence located approximately 700 feet northeast of the project site. Noise attenuates at approximately 6 dB per doubling of distance; therefore, noise levels would be approximately 67 dB at 400 feet from the project site and approximately 61 dB at 800 feet from the project site. Therefore, the maximum noise levels from construction equipment at the nearest noise-sensitive land use located approximately 700 feet away would be approximately 65 dB, which is

consistent with the County's noise standards. Further, proposed construction activities would be limited to weekdays during daytime hours (7:00 a.m. through 3:30 p.m.), which is consistent with the provisions of the Merced County Code. Therefore, construction-related noise would not increase ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, and impacts would be *less than significant*.

The project would result in the operation of a sand dryer plant and precast concrete manufacturing facility, which would contribute to a marginal increase in ambient noise levels in the project area. The project site is surrounded by the Don Chapin Ready Mix Concrete Batch Plant to the northwest; a junkyard to the east; undeveloped agricultural land and scattered rural residences to the north; and the Morning Star Packing Facility to the south. As such, the proposed project would be consistent with the level and scale of existing industrial uses in the project area and would not introduce a new incompatible land use that could increase ambient noise levels in the project area. Further, the project would result in a marginal increase of approximately 30 daily vehicle trips, including 18 truck trips; therefore, the project would not result in a doubling of traffic along Ingomar Grade which could result in a noticeable increase in vehicle noise in the project area. Therefore, impacts related to operational noise would be *less than significant*.

### b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

The project does not include pile driving or other high-impact activities that would generate substantial groundborne noise or vibration during construction. Standard construction equipment would generate some groundborne noise and vibration during proposed ground-disturbing activities; however, these activities would be limited in duration and consistent with other standard construction activities. In addition, any groundborne noise or vibration generated by short-term construction activities would be limited to the immediate work area and is not anticipated to disturb surrounding land uses. The operation of the project does not include new features that could generate substantial long-term groundborne noise above existing conditions. Therefore, impacts related to exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels would be *less than significant*.

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

The nearest airport is the Los Banos Municipal Airport, located approximately three (3) miles southeast of the project site. The project site is not located within an airport land use plan or within two (2) miles of an airport; therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area, and *no impacts* would occur.

## *Conclusion*

The project would not generate a substantial increase in temporary or permanent ambient noise levels and would not generate groundborne noise in a manner that would result in disturbance. The project site is not located within an airport land use plan or within two (2) miles of an airport. Therefore, potential impacts related to noise would be less than significant.

## *Mitigation Measures*

Mitigation is not necessary.

# XIV. Population and Housing

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☒ | ☐ |
| (b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

## *Setting*

As of 2023, Merced County had a population of approximately 291,920 residents, which was a 3.8% increase from the 2020 population. The average population per household is approximately 3.34 persons in the county (U.S. Census Bureau 2023). By 2046 Merced County is projected to increase by approximately 82,000 persons (a 29% increase), 34,000 households (a 42% increase), and 27,000 jobs (a 32% increase) (MCAG 2022a). There are no existing residences located on the project site.

## *Environmental Evaluation*

### a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed project would result in the construction and operation of a sand drying plant and precast concrete manufacturing facility. The project does not include the development of new residences, businesses, or other uses that could directly induce population growth within the county. Operation of the project would result in six (6) new full-time employees. The new employees are expected to come from the local employment force and would not require a substantial number of workers to relocate to the project area. Construction activities for the proposed project have the potential to generate short-term employment opportunities; however, project construction is expected to use workers from the local employment force and would not require workers to relocate to the project area. The project would not directly or indirectly induce substantial or unplanned population growth; therefore, impacts would be *less than significant*.

### b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

There are no existing residences located on the project site; therefore, the project does not require the demolition or removal of any existing residences. Therefore, implementation of the proposed project would not necessitate the construction of replacement housing elsewhere, and *no impacts* would occur.

## *Conclusion*

The project would not induce substantial planned or unplanned population growth and would not necessitate the construction of replacement housing elsewhere. Therefore, impacts related to population and housing would be less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# XV. Public Services

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| Fire protection? | ☐ | ☐ | ☒ | ☐ |
| Police protection? | ☐ | ☐ | ☒ | ☐ |
| Schools? | ☐ | ☐ | ☒ | ☐ |
| Parks? | ☐ | ☐ | ☒ | ☐ |
| Other public facilities? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The Merced County Fire Department (MCFD) is responsible for fire protection services within the county. The nearest MCFD station is the Los Banos Station located approximately 4.7 miles southeast of the project site. The Merced County Sheriff's Office is responsible for protecting the life and property of the residents living in the unincorporated areas of Merced County. The nearest Sherriff's Office is located at 445 I Street in Los Banos, approximately 4.6 miles southeast of the project site. There are a total of 20 school districts with 90 schools, one (1) community college district with two (2) campuses, and one (1) public university in Merced County. There are approximately 114,000 acres of parks and recreational

facilities in the county that offer a variety of amenities such as picnicking, swimming, boating, hunting, bird watching, playgrounds, sports fields, and hiking.

## *Environmental Evaluation*

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

#### *Fire protection?*

The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility. The project does not include the construction of new residences or other businesses that could directly induce population growth in the county. Operation of the project would result in six (6) new full-time employees. The new employees are expected to come from the local employment force and would not require a substantial number of workers to relocate to the project area. Therefore, the project would not facilitate substantial planned or unplanned population growth in a manner that would increase demand on existing fire protection services. The project would be constructed in accordance with applicable CFC regulations to avoid the risk of wildfire ignition at the project site that could otherwise increase demand on existing fire protection services. Therefore, the project would not require new or physically altered governmental facilities for fire protection services, and impacts would be *less than significant*.

#### *Police protection?*

The project does not include the construction of new residences or other businesses that could directly induce population growth in the county. The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility. Operation of the project would result in six (6) new full-time employees who are expected to come from the local employment force and would not require a substantial number of workers to relocate to the project area. Therefore, the project would not facilitate substantial planned or unplanned population growth in a manner that would increase demand on existing police protection services. Further, the project site would only be accessible to employees, which would reduce the potential to increase criminal activity. Therefore, the project would not require new or physically altered governmental facilities for fire protection services, and impacts would be *less than significant*.

#### *Schools?*

The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility. Operation of the project would result in six (6) new full-time employees who are expected to come from the local employment force and would not require a substantial number of workers to relocate to the project area. Therefore, the project would not introduce a substantial number of new school-aged children that could increase demand on local school districts within the county. Therefore, the project would not require new or physically altered public school facilities, and impacts would be *less than significant*.

### *Parks?*

The project does not include the construction of new residences, businesses, or other uses. Operation of the project would result in six (6) new full-time employees that are expected to come from the existing employment force. Therefore, the project does not include components that could facilitate population growth in a manner that could increase demand on public park facilities. Therefore, the proposed project would not require the construction of new or physically altered public park facilities, and impacts would be *less than significant*.

### *Other public facilities?*

As discussed in Section XIV, *Population and Housing*, the project would not result in substantial planned or unplanned population growth. The project does not propose features that would significantly increase the demand on public facilities, such as libraries or post offices, or result in the need for new or physically altered governmental facilities; therefore, impacts would be *less than significant*.

## *Conclusion*

The project would not increase demand for fire or police protection services, schools, parks, libraries, or other public facilities. Therefore, impacts related to public services as a result of the project would be less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# XVI. Recreation

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| (a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☒ | ☐ |
| (b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |

## *Setting*

Merced County contains several federal, state, and county parks and recreational areas in addition to public open space areas. There are approximately 114,000 acres of parks and recreational facilities in the county that offer a variety of amenities, such as picnicking, swimming, boating, hunting, bird watching, playgrounds, sports fields, and hiking. The nearest County parks are Hagaman Park, a regional park located approximately 18.7 miles northeast of the project site; South Dos Palos Park, a community park located approximately 17.5 miles southeast of the project site; and O'Banion Park, a community park located approximately 17.7 miles southeast of the project site.

## *Environmental Evaluation*

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

As discussed in Section XIV, *Population and Housing*, the project does not include the development of new residences, businesses, or other uses that could directly induce population growth within the county. Construction and operational activities are expected to be conducted by workers from the local employment force; therefore, construction and operation of the proposed project are not anticipated to require workers to relocate to the project area. Since the project would not directly or indirectly induce population growth in the project area, the proposed project would not increase the use of existing recreational facilities in a manner that would lead to substantial deterioration of existing recreational facilities; therefore, impacts would be *less than significant*.

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

The project does not include the development of new or expanded recreational facilities; therefore, *no impacts* related to adverse physical effects on the environment as a result of the construction or expansion of recreational facilities would occur.

## *Conclusion*

The project would not increase the use of existing recreational facilities in a manner that would lead to substantial deterioration of existing recreational facilities or require the development of new or expanded recreational facilities. Therefore, impacts are less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# XVII. Transportation

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | ☐ | ☐ | ☒ | ☐ |
| (b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | ☐ | ☐ | ☒ | ☐ |
| (c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☒ |

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| (d) Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The RTP/SCS identifies strategies to ensure that the Merced County transportation system will continue to operate efficiently in the future with sufficient capacity to meet demand and that mobility options are available for county residents (MCAG 2022a).

The *2030 Merced County General Plan Transportation and Circulation Element* establishes goals and policies to meet the needs of motorists, bicyclists, and pedestrians in addition to the needs for the movement of farm equipment and agricultural commodities. Since the circulation needs of urban areas are significantly different from the needs of rural areas, the County's functional roadway classification system includes distinct categories for urban and rural areas (Merced County 2013a). Table 8 identifies the desired roadway characteristics for each functional roadway classification.

**Table 8. Functional Classification – Desired Roadway Characteristics**

| Location | Functional Classification | Right-of-Way (feet) [1] | Lanes[2] | LOS Analysis Threshold[3] | Intersecting Roadways[4] | Private Property Access[5] | Mobility / Operating Speed[6] |
|---|---|---|---|---|---|---|---|
| Urban | Freeway | Varies | 4–8 | D | Interchange at 1-mile spacing | None | High |
| | Expressway | 150–180 | 4–6 | D | 1 per ½ mile | None | High |
| | Principal Arterial | 100'-180' | 2–6 | D | 1 per ¼ mile | Very Limited | Medium–High |
| | Minor Arterial | 60'-100' | 2–4 | D | 1 per ¼ mile | Limited | Medium |
| | Collector | 60'-90' | 2 | D | 1 per 1/8 miles | Limited | Low–Medium |
| | Local | 46'-60' | 2 | D | No Limit (100-foot offset min.) | Controlled | Low |
| Rural | Freeway | Varies | 4–8 | D | Interchange at 2-mile spacing | None | High |
| | Principal Arterial | Varies | 2–4 | C | 1 per ½ mile | Very Limited | High |
| | Minor Arterial | 80'-120' | 2–4 | C | 1 per ½ mile | Limited | Medium–High |
| | Major Collector | 60'-90' | 2–3 | C | 1 per ¼ mile | Limited | Medium–High |
| | Minor Collector | 60' | 2 | C | 1 per ¼ mile | Limited | Medium–High |
| | Local | 60' | 2 | C | 1 per ¼ mile | Controlled | Low–High |

Source: Merced County (2013a)

[1] Right-of-Way. The right-of-way widths shown represent typical right-of-way widths needed to accommodate the number of travel lanes necessary to support anticipated traffic volumes, shoulders, roadside ditches (rural roadways), curb, gutter, sidewalk, and bicycle lanes (where appropriate). Additional right-of-way width may be necessary at approaches to intersections to accommodate turn pockets.

[2] Lanes. The number of lanes shown represents the typical number of lanes likely to be necessary for the various types of roadways. In unusual cases, additional lanes may be necessary to accommodate higher traffic volumes.

[3] LOS Analysis Threshold. The LOS thresholds indicated in this table represents the maximum acceptable weekday AM or PM Peak Hour LOS. Whenever a traffic analysis is prepared as part of a project approval, improvements need to be identified to ensure the resulting operating LOS does not exceed these threshold values.

[4] Intersecting Roadways. The values in this column represent the typical maximum number of intersections along the various types of roadways. In some cases, the number of intersections may be greater; however, a traffic analysis will be required indicating that the safety and function of the roadway will not be significantly compromised.

[5] Private Property Access. Private property access to roadways maintained by Merced County is granted through the issuance of an encroachment permit by the Department of Public Works. No access to private property will be permitted on Freeways or Expressways. Access to local roads will generally be approved; however, guidelines for driveways on local roadways in urban areas have been established in the Merced County Improvement Standards and Specifications. Generally, driveways on other roadway types will be permitted; however the number of driveways will be limited to preserve the safety and function of the roadway. In some cases joint driveways serving more than one parcel may be required.

[6] Mobility/Operating Speed. The descriptions in this column represent the perceived level of mobility (usually represented by operating speed) a motorist may anticipate to experience on the various roadway types during non-peak hours.

The project site is located along Ingomar Grade, which is classified as a major collector road in a rural area (Merced County 2013a). A major collector is described as a roadway that serves urban communities that are not directly served by an arterial roadway.

## *Environmental Evaluation*

### a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The project site is located along Ingomar Grade, which is classified as a major collector road in a rural area (Merced County 2013a). The Transportation and Circulation Element establishes Level of Service (LOS) standards for roadways within the county. As shown in Table 8, LOS C is considered an acceptable LOS for major collector roads in rural areas. Truck trips associated with construction activities would be temporary and would not result in a long-term increase in vehicle trips to and from the site in a manner that could permanently increase vehicle congestion along proximate roadways. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. Truck trips would be required to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product. The proposed sand dryer plant would be closed to the public and no visitors or customers are expected; therefore, the project would be limited to a marginal increase in daily vehicle and truck trips and would not reduce existing LOS in the area. In addition, based on the marginal increase of vehicle trips generated by the proposed project, the project would be consistent with applicable VMT-reduction goals included in the RTP/SCS. Based on the marginal increase of vehicle trips generated by the project, the project would be consistent with the Transportation and Circulation Element and RTP/SCS; therefore, impacts would be *less than significant*.

### b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Senate Bill (SB) 743, which became effective July 1, 2020, changes the way transportation impacts are determined in CEQA documents. SB 743 replaces the metric for determining transportation impacts using motor vehicle delay and Level of Service (LOS) to Vehicle Miles Traveled (VMT) in CEQA traffic impact studies. As a result of SB 743, the MCAG prepared the *VMT Thresholds and Implementation Guidelines* (2022) to detail the implementation of the CEQA VMT metric, VMT screening criteria, and VMT analysis thresholds for jurisdictions within the MCAG. According to the *VMT Thresholds and Implementation Guidelines*, projects that are consistent with the jurisdiction's General Plan and generate fewer than 1,000 daily trips may be screened out from the need for a VMT analysis. Additionally, projects that are not consistent with the jurisdiction's General Plan but generate fewer than 500 daily trips may also be screened out from a VMT analysis (MCAG 2022b). Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips; therefore, the average daily combined vehicle and truck trips would be less than 1,000 trips per day. Further, construction activities would require a limited increase in vehicle and truck trips and would result in less than 1,000 trips per day. Based on the limited number of construction and operational vehicle trips, the project would not result in

or exceed 1,000 trips per day and would not generate a significant increase in VMT, and project impacts would be *less than significant*.

### c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

There is an existing driveway located off Ingomar Grade that provides access to the site. No improvements to this driveway would be required for the proposed project; therefore, the proposed project would not introduce new hazardous roadway design features. The project would be consistent with surrounding land uses and would not introduce new incompatible uses (i.e., farm equipment) along nearby roadways. Therefore, the project would not increase roadway hazards, and *no impacts* would occur.

### d) Would the project result in inadequate emergency access?

The project site is accessed from an existing driveway from Ingomar Grade. The existing driveway provides adequate emergency and worker access to the project site and no improvements are necessary; therefore, impacts would be *less than significant*.

## *Conclusion*

The project would not generate a substantial number of new vehicle trips, generate a significant increase in VMT, or conflict with a program plan, ordinance, or policy addressing the circulation system. The proposed project would not introduce new hazardous roadway design features or incompatible land uses or result in inadequate emergency access. Therefore, impacts related to traffic and transportation would be less than significant.

## *Mitigation Measures*

Mitigation is not necessary.

# XVIII. Tribal Cultural Resources

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| (a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | |
| (i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or | ☐ | ☐ | ☐ | ☒ |

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| (ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ☒ | ☐ | ☐ |

## *Setting*

Approved in 2014, AB 52 added tribal cultural resources to the categories of resources that must be evaluated under CEQA. Tribal cultural resources are defined as either of the following:

1. Sites, features, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    a. Included or determined to be eligible for inclusion in the CRHR; or
    b. Included in a local register of historical resources as defined in PRC Section 5020.1(k).
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying these criteria for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Recognizing that tribes have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days of receipt of the notice, the lead agency must consult with the tribe regarding the potential for adverse impacts on tribal cultural resources as a result of a project. Consultation may include discussing the type of environmental review necessary, the presence and/or significance of tribal cultural resources, the level of significance of a project's impacts on the tribal cultural resources, and available project alternatives and mitigation measures recommended by the tribe to avoid or lessen potential impacts on tribal cultural resources.

## *Environmental Evaluation*

**a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

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

The project site is currently undeveloped and the project does not include the demolition or removal of any built resources; therefore, the project would not have the potential to adversely affect any historical resources, and *no impacts* would occur.

***a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.***

Pursuant to AB 52, the County provided notice to local California native tribes with geographic and/or cultural ties to the project region. Referral letters were sent to tribal representatives on October 10, 2023. No tribes requested consultation or provided information regarding significant tribal cultural resources to date.

Construction activities would result in approximately 11.91 acres of ground disturbance, including 5,600 cubic yards of cut and 2,460 cubic yards of fill activity. Based on a records search conducted at the CCIC and of the NAHC Sacred Lands File, there are no previously recorded archaeological resources within the project area; therefore, the project would not have the potential to adversely affect any known cultural archaeological resources. Further, Mitigation Measure CR-1 has been included in the unlikely event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities. In addition, the project would be required to comply with California Health and Safety Code Section 7050.5, which outlines the protocol for unanticipated discovery of human remains. Based on the implementation of Mitigation Measure CR-1 and required compliance with California Health and Safety Code Section 7050.5, the project would not result in adverse impacts to known or unknown cultural resources, and impacts would be *less than significant with mitigation*.

## *Conclusion*

With the implementation of Mitigation Measure CR-1 and required compliance with California Health and Safety Code Section 7050.5, the project would not result in adverse impacts to known or unknown tribal cultural resources. Therefore, with the implementation of Mitigation Measure CR-1, impacts related to tribal cultural resources would be less than significant.

## *Mitigation Measures*

Implement Mitigation Measure CR-1.

# XIX. Utilities and Service Systems

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| (a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | ☐ | ☒ | ☐ | ☐ |
| (b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | ☐ | ☐ | ☒ | ☐ |
| (c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☒ | ☐ |
| (d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | ☐ | ☐ | ☒ | ☐ |
| (e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

The project site is located in the Merced Subbasin of the San Joaquin Valley Groundwater Basin. There is a total of nine (9) water and sewer districts that provide potable water and sewer collection services to residents in the county. The project site would be provided with water and wastewater services by an existing well and septic system located at the Don Chapin Ready Mix Concrete Batch Plant location. There are two (2) active solid waste landfills within the county that are owned and operated by the Merced County Regional Waste Management Authority (MCRWMA). The Highway 59 Landfill is located at 7040 North Highway 59 and accepts mixed municipal waste, green and wood materials, tires, and household hazardous wastes. (California Department of Resources Recycling and Recovery 2005). The Billy Wright Landfill (BWL) is located at 17173 South Billy Wright Road in Los Banos and accepts mixed municipal waste, construction and demolition waste, and agricultural waste (California Department of Resources Recycling and Recovery 2010).

## *Environmental Evaluation*

### a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The project would require the expansion of existing water, wastewater, and electric lines to connect the proposed project to the existing septic systems and well located at the Don Chapin Ready Mix Concrete Batch Plant location and the electric infrastructure located along Ingomar Grade. Proposed utility infrastructure expansion activities would occur within the footprint of the proposed project. As evaluated throughout this IS/MND, the project has the potential to result in adverse impacts related to biological resources and cultural and tribal cultural resources. Mitigation Measures BIO-1 through BIO-4 and CR-1 have been included to avoid and/or minimize adverse impacts to less than significant levels. Therefore, upon implementation of the identified mitigation measures, the expansion of utility infrastructure would not result in adverse impacts to the environment; therefore, impacts would be *less than significant with mitigation*.

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

The project includes the construction and operation of a sand dryer plant and precast concrete manufacturing facility and associated equipment. The project would not require any additional water use for operational activities. During construction, water may be used for dust suppression; however, any water used during construction would be limited in volume and supplied from off-site sources. Therefore, the project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years, and impacts would be *less than significant*.

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

The project would result in approximately 50 gallons per day of additional wastewater flows that would be treated by the existing septic system located at the ready mix concrete batching plant. The project would connect to the existing two (2) septic systems located on the Don Chapin Ready Mix Concrete Batch Plant location. The existing septic systems would have adequate capacity to treat the marginal increase in wastewater flows at the project site and installation of new or improved septic systems would not be required. Therefore, the project would have adequate capacity to serve the project's projected wastewater demand, and impacts would be *less than significant*.

### d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Construction of the project may result in a temporary increase in solid waste, which would be disposed of in accordance with applicable state and local laws and regulations, such as California Green Building Standards Code (CALGreen) Sections 4.408 and 5.408, which require diversion of at least 75% of

construction waste. Based on required compliance with CALGreen regulations, the construction of the project would not generate solid waste in excess of local infrastructure capacity. The project includes the construction and operation of a sand dryer plant and precast concrete manufacturing facility and associated equipment, which would result in a marginal increase in operational solid waste. Solid waste generated during project construction and operation would be disposed of at either the Highway 59 Landfill or Billy Wright Landfill, which have adequate capacity to accept the marginal amount of solid waste generated by the proposed project. The proposed project would not generate waste in excess of state or local standards or in excess of the capacity of local infrastructure, and impacts would be *less than significant*.

### e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

As previously described, the operation of the project would result in a marginal increase in solid waste, and construction-related waste (i.e., demolished materials) would be disposed of according to federal and state regulations, including CALGreen standards for diversion of construction waste. Operational and construction-related solid waste would be disposed of in accordance with applicable federal, state, and local waste requirements, and impacts would be *less than significant*.

## *Conclusion*

Implementation of Mitigation Measures BIO-1 through BIO-4 and CR-1 would reduce potential adverse environmental impacts related to the expansion of utility infrastructure at the project site. There would be adequate water supply and wastewater treatment capacity to serve the project. Further, the proposed project would not generate waste in excess of state or local standards or in excess of the capacity of local infrastructure and would be consistent with applicable federal, state, and local waste requirements. With the implementation of the identified mitigation measures, impacts related to utilities and service systems would be less than significant.

## *Mitigation Measures*

Implement Mitigation Measures BIO-1 through BIO-4 and CR-1.

# XX. Wildfire

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:* | | | | |
| (a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| (b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | ☐ | ☐ | ☒ | ☐ |
| (c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | ☐ | ☐ | ☒ | ☐ |

| Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| (d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | ☐ | ☐ | ☒ | ☐ |

## *Setting*

According to the CAL FIRE Fire Hazard Severity Zone Viewer, the project site and surrounding area are located in an LRA (CAL FIRE 2024). According to the *Merced County Multi-Jurisdictional Hazard Mitigation Plan*, the project site and surrounding area are at low to moderate risk for wildfire occurrence (Merced County 2021).

## *Environmental Evaluation*

### a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The project site and surrounding area are located in an LRA (CAL FIRE 2024). The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment. The project site would be accessed from an existing road off Ingomar Grade, which is compliant with the CFC and Merced County Department of Public Works Improvement Standards and Specifications for access roads to ensure adequate emergency access to and from the project site. Further, proposed project activities would be limited to an existing parcel and would not require any temporary or permanent road closures that could affect emergency response or evacuation efforts in the project area. Based on required compliance with the CFC and Merced County Department of Public Works Improvement Standards and Specifications, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan; therefore, impacts would be *less than significant*.

### b) Due to slope, prevailing winds, and other factors, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The project site and surrounding area are located in an LRA (CAL FIRE 2024). The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment on an undeveloped project site with relatively flat topography and grassland areas. New occupiable buildings would be required to be constructed in accordance with the CFC to address fire risk. Existing above-ground powerlines would be placed underground as part of the proposed project, which would further reduce the potential to exacerbate the risk of wildfire. Based on required compliance with the CFC, the project would not exacerbate the risk of wildfire; therefore, impacts would be *less than significant*.

**c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment. The project would require the extension of existing utility infrastructure. New occupiable buildings would be required to be constructed in accordance with the CFC to address fire risk. Further, existing above-ground powerlines would be placed underground as part of the proposed project, which would further reduce the potential to exacerbate the risk of wildfire. Based on required compliance with the CFC, the project would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment; therefore, impacts would be *less than significant*.

**d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

The project site is not located in an area at risk of ground failure or flood events (Merced County 2013b). The project includes the construction and operation of a sand drying plant and precast concrete manufacturing facility and associated equipment. New occupiable buildings would be required to be constructed in accordance with the most recent CBC and CFC to address fire and associated post-fire risk. Based on required compliance with the most recent CBC and CFC, the project would not result in the risk associated with fire and post-fire risk; therefore, impacts would be *less than significant*.

## *Conclusion*

The project site is located in an area with low risk of wildfire and the proposed project would not exacerbate wildfire or post-wildfire risk. Therefore, impacts would be less than significant, and mitigation is not necessary.

## *Mitigation Measures*

Mitigation is not necessary.

# XXI. Mandatory Findings of Significance

| | Environmental Issues | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|---|
| (a) | Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| (b) | Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | ☐ | ☒ | ☐ | ☐ |
| (c) | Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☐ | ☒ | ☐ |

## *Environmental Evaluation*

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

As discussed in the preceding sections of this IS/MND, the project has the potential to significantly degrade the quality of the environment, including effects on biological and cultural and tribal cultural resources. As discussed in Section IV, *Biological Resources*, of this IS/MND, the project's proposed construction activities have the potential to result in adverse impacts to special-status plant and wildlife species. Mitigation Measures BIO-1 through BIO-4 have been identified to reduce potential impacts to special-status species. In addition, as discussed in Section V, *Cultural Resources*, the proposed ground-disturbing activities would not result in adverse impacts to any known cultural resources and Mitigation Measure CR-1 has been included in the unlikely event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities. Further, the project would be required to comply with California Health and Safety Code Section 7050.5 to address the inadvertent discovery of human remains. Implementation of Mitigation Measures BIO-1 through BIO-4 and CR-1 would reduce potential impacts to a *less than significant with mitigation* level.

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

When project impacts are considered alone or in combination with other impacts, the project-related impacts may be significant. Construction and operation of the project would contribute to cumulative impacts related to biological resources and cultural and tribal cultural resources. Mitigation measures have been incorporated into the project to reduce project-related impacts to a less than significant level. Based on the implementation of Mitigation Measures BIO-1 through BIO-4 and CR-1, the cumulative effects of the proposed project would be *less than significant with mitigation*.

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

There are no potentially significant project-specific impacts related to air emissions, GHG emissions, hazards and hazardous materials, or other impacts that could result in substantial adverse effects on human beings, either directly or indirectly. Therefore, impacts would be *less than significant*.

## *Conclusion*

Based on the implementation of Mitigation Measures BIO-1 through BIO-4 and CR-1, all potential impacts associated with the construction and operation of the proposed project would be mitigated to less than significant levels.

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# APPENDIX A

# AIR QUALITY, GHG, AND ENERGY REPORT

# (INCLUDING CALEEMOD RESULTS)

# Air Quality/Greenhouse Gas Assessment and Energy Utilization Study for the Don Chapin Sand Dryer Plant Project, Volta, Merced County, California

**OCTOBER 2024**

PREPARED FOR

**Don Chapin Company, Inc.**

PREPARED BY

**SWCA Environmental Consultants**

# AIR QUALITY/GREENHOUSE GAS ASSESSMENT AND ENERGY UTILIZATION STUDY FOR THE DON CHAPIN SAND DRYER PLANT PROJECT, VOLTA, MERCED COUNTY, CALIFORNIA

Prepared for

**Merced County**
**Community and Economic Development Department**
2222 “M” Street
Merced, CA 95340
Attn: Tiffany Ho, Deputy Director of Planning

Prepared by

**SWCA Environmental Consultants**
4111 Broad Street, Suite 210
San Luis Obispo, California 93401
(805) 543-7095
www.swca.com

SWCA Project No. 85159

October 2024

# EXECUTIVE SUMMARY

This technical report analyzes potential air quality and climate change impacts related to the Don Chapin Sand Dryer Plant Project (project). All analyses have been conducted to comply with San Joaquin Valley Air Pollution Control District (Valley Air District) requirements for air quality and climate change assessments and satisfy the requirements of the California Environmental Quality Act (CEQA). The findings are as follows:

- The project's unmitigated emissions during construction and operations would not exceed Valley Air District annual significance emissions thresholds.
- The project includes dust control measures to further reduce emissions and comply with Valley Air District rules.
- The project would not result in significant elevated health risks at sensitive receptors due to proximity to nearby pollution sources.
- The project's carbon monoxide (CO) emissions during long-term project operations would not create any new or exacerbate any existing CO hot spots.
- The project would be consistent with rules, regulations, emission control strategies, and air quality plans set forth by Valley Air District.
- The project would be consistent with the California Global Warming Solutions Act of 2006 (also known as Assembly Bill [AB] 32) scoping plan strategies, the California Air Resources Board's (CARB's) emission reduction strategy presented in the Scoping Plans, and the Merced County General Plan.
- The project would not result in a cumulatively considerable air quality or greenhouse gas impact.

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# Acronyms and Abbreviations

| | |
|---|---|
| $\mu g/m^3$ | micrograms per cubic meter |
| °F | degrees Fahrenheit |
| AB | Assembly Bill |
| AC | Alternating current |
| APCO | Air Pollution Control Officer |
| Applicant | Don Chapin Company, Inc. |
| AQMP | Air Quality Management Plan |
| BAAQMD | Bay Area Air Quality Management District |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emission Estimator Model |
| CalEPA | California Environmental Protection Agency |
| CAP | Climate Action Plan |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CAT | California Action Team |
| CCAA | California Clean Air Act |
| CCR | California Code of Regulations |
| CEC | California Energy Commission |
| CEQA | California Environmental Quality Act |
| CFR | Code of Federal Regulations |
| $CH_4$ | methane |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| $CO_2e$ | carbon dioxide equivalent |
| diesel PM | diesel particulate matter |
| EO | Executive Order |
| EPA | U.S. Environmental Protection Agency |
| GHG | greenhouse gas |
| General Plan | 2023 Merced County General Plan |
| gpd | gallons per day |
| GWP | global warming potential |
| $H_2S$ | hydrogen sulfide |

| | |
|---|---|
| HFC | hydrofluorocarbon |
| I-5 | California Interstate 5 |
| IPCC | Intergovernmental Panel on Climate Change |
| LCFS | Low Carbon Fuel Standard |
| MMT | million metric tons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| NAAQS | National Ambient Air Quality Standards |
| NCDC | National Climatic Data Center |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| $NO_2$ | nitrogen dioxide |
| $NO_X$ | nitrogen oxides |
| $O_3$ | ozone |
| OEHHA | California Office of Environmental Health Hazard Assessment |
| OPR | California Governor's Office of Planning and Research |
| PFC | perfluorocarbon |
| $PM_{2.5}$ | particulate matter less than 2.5 microns in diameter |
| $PM_{10}$ | particulate matter less than 10 microns in diameter |
| ppb | parts per billion |
| ppm | parts per million |
| project | Don Chapin Sand Dryer Plant Project |
| RPS | Renewable Portfolio Standard |
| SB | Senate Bill |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCOTUS | Supreme Court of the United States |
| SCS | Sustainable Communities Strategy |
| $SF_6$ | sulfur hexafluoride |
| SIP | State Implementation Plan |
| SJVAB | San Joaquin Valley Air Basin |
| Valley Air District | San Joaquin Valley Air Pollution Control District |
| $SO_2$ | sulfur dioxide |
| $SO_X$ | sulfur oxides |
| SR | California State Route |

| | |
|---|---|
| State | State of California |
| SWCA | SWCA Environmental Consultants |
| TAC | toxic air contaminant |
| TRU | transportation refrigeration unit |
| TSCA | Toxic Substances Control Act |
| VOC | volatile organic compound |
| WRCC | Western Regional Climate Center |
| ZEV | Zero Emission Vehicle |

# 1 INTRODUCTION

Don Chapin Company, Inc. (Applicant) has retained SWCA Environmental Consultants (SWCA) to prepare this air quality and greenhouse gas (GHG) emissions assessment and energy report in support of the proposed Don Chapin Sand Dryer Plant Project (project). The project would be developed by the Applicant. The project site is located in unincorporated Merced County, California, approximately 39 miles from the city of Merced (Figure 1). The purpose of this report is to explain the methodologies used to evaluate the effects of the proposed construction and operation of the sand dryer plant, precast concrete manufacturing facility, and other structures and equipment on ambient air quality and GHG emissions. This technical report provides a summary of the air pollutant and GHG emissions calculation methodologies, including energy utilization, a summary of the control measures assumed, and the results of the air pollutant and GHG emissions calculations.

The project site is located within the San Joaquin Valley Air Basin (SJVAB), under the jurisdiction of the San Joaquin Valley Air Pollution Control District (Valley Air District). The evaluation of project impacts was conducted as recommended by the Valley Air District California Environmental Quality Act (CEQA) *2015 Guidance for Assessing and Mitigating Air Quality Impacts*, dated March 2015 (Valley Air District 2015), which is incorporated into this technical document by reference.

# 2 PROJECT LOCATION AND DESCRIPTION

## 2.1 Project Location

The project site is entirely on private land in the community of Volta, California, approximately 6 miles northwest of the city of Los Banos and 5 miles east of California Interstate 5 (I-5). The project site consists of three parcels, identified as Assessor's Parcel Numbers (APNs) 081-060-086, -087, and -088, with a cumulative acreage of 11.91 located directly adjacent to and east of 23878 Ingomar Grade on the northeast side of South Ingomar Grade, 960 feet east of South Volta Road (see Figure 1).

### *2.1.1 Environmental Setting*

The project site consists of three undeveloped parcels within Merced County that were formerly used as grazing land. Surrounding land uses include the Don Chapin Ready Mix Concrete Batch Plant in the Industrial (I) land use designation and Light Manufacturing (M-1) zoning designation to the northwest; a junkyard in the I land use designation and M-1 zoning designation to the east; undeveloped agricultural land and scattered rural residences in the Agricultural (A) land use designation and General Agriculture (A-1) zoning designation to the north; and the Morning Star Packing Facility in the I and A land use designations and M-1, A-1, and General Manufacturing (M-2) zoning designations to the south.

The 11.91-acre project site is characterized by relatively flat topography with an elevation of approximately 100 feet above mean sea level (msl). The project site consists entirely of nonnative grassland habitat. The project site is mostly undeveloped with the exception of barbed wire fencing along the southern perimeter of the project site and barbed wire fencing located along the northwestern and eastern perimeters of the project site. There are no trees, surface water features, or other unique natural features located on the project site.

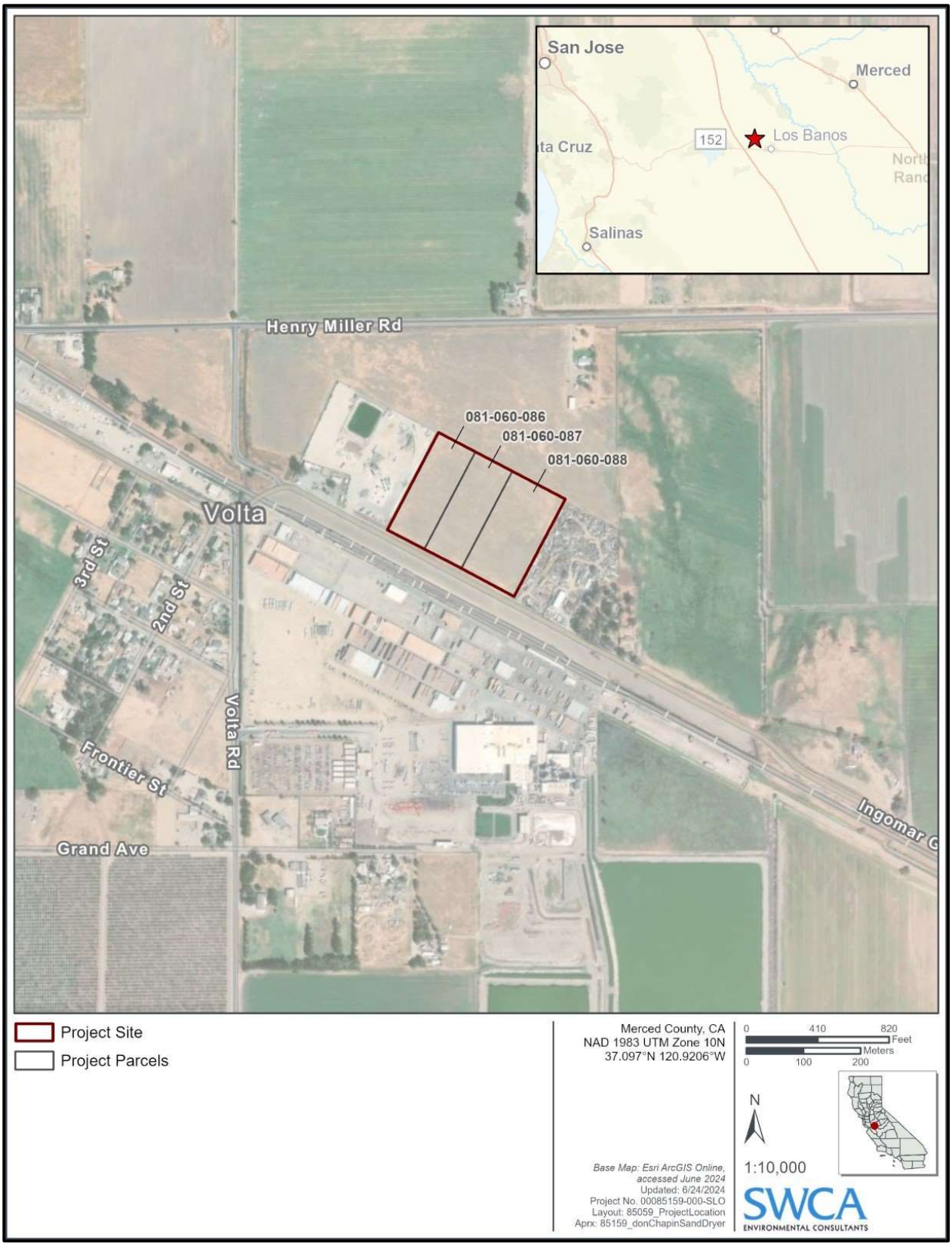


**Figure 1. Project location map.**

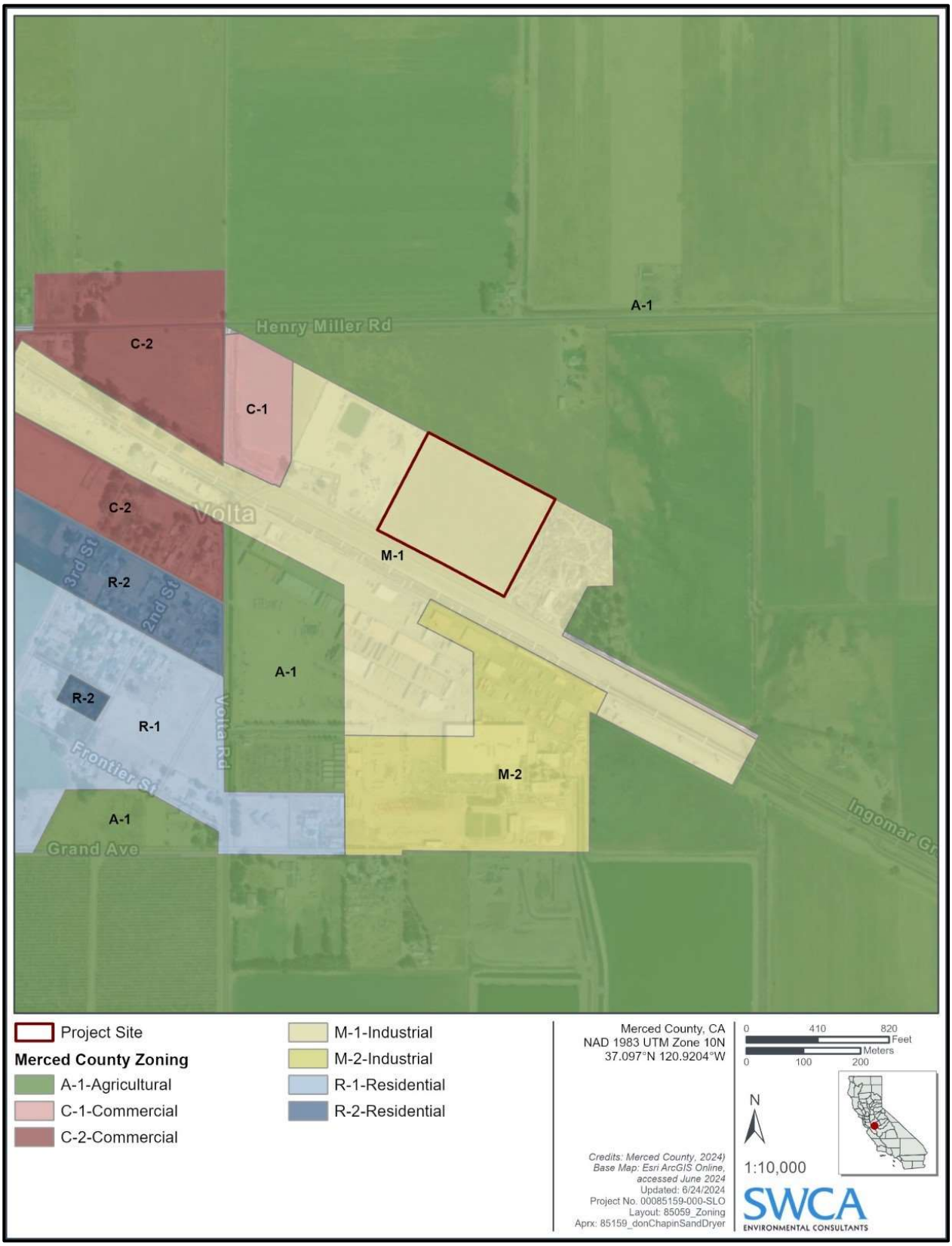


**Figure 2. Zoning map.**

# 2.2 Project Description

The Applicant is proposing the construction and operation of a new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the existing Don Chapin Ready Mix Concrete Batch Plant. The project would include the construction and operation of a sand dryer plant and precast concrete manufacturing facility with an operations building, truck scale, and other associated equipment; three storage buildings; and other associated features, including a precast shop office and breakroom, an employee parking area, concrete storage areas, a catch basin, a lined retention basin, and fencing (Figure 3).

## *2.2.1 Sand Dryer Plant*

The proposed sand dryer plant would be constructed in the western portion of the project site and would encompass a total area of 23,000 square feet. The proposed sand dryer plant would consist of a sand dryer, a load-out belt, a feed ramp, two feed hoppers with feed belt, product storage bunkers, an operations building, and a truck scale. The proposed sand dryer plant would be equipped with a 77-foot-tall elevator, up to eight 36-foot-tall storage silos, and a screening system that is atop the silo system that is an additional 25.5 feet tall, making the silo and screen system a total of 61.5 feet tall. The maximum height of the tallest part of the proposed sand dryer plant would be 77 feet. The plant would sort and dry pre-washed sand products into dried sand products for bagging and bulk use in a value-added processes. Additionally, the precast concrete manufacturing operation would utilize new and return concrete from the on-site ready-mix plant to manufacture concrete products such as highway barrier rails, septic and other tanks, catch basins, and other associated precast concrete products. The products would be stored on-site and picked up by customers or delivered using facility trucks.

## *2.2.2 Storage Buildings*

The project would include the construction of three storage buildings for dried materials located in the northwestern portion of the project site, including a 12,000-square-foot storage building for bulk products, a 10,020-square-foot storage building for sacked products, and a 12,000-square-foot storage building for bagged storage. The storage buildings are planned to be constructed in two or three phases. The 12,000-square-foot storage building for bulk products and the 10,020-square-foot storage building for sacked products would be constructed in the first phase or second of construction. The 12,000-square-foot storage building for bulk products would be constructed in the second or third phase of construction.

## *2.2.3 Other Structures and Equipment*

The project includes the construction and installation of other proposed structures and equipment, including a 4,000-square-foot precast shop office and breakroom, a 20,060-square-foot employee parking area (16 parking stalls), precast concrete storage areas, a catch basin, a lined retention basin, fencing, security lighting, and utility infrastructure. The existing vehicle ingress and egress located at 23878 Ingomar Grade would be maintained and no new points of ingress or egress would be created on the project site. The project would utilize the existing water well at the Don Chapin Ready Mix Concrete Batch Plant and no new water well would be required.

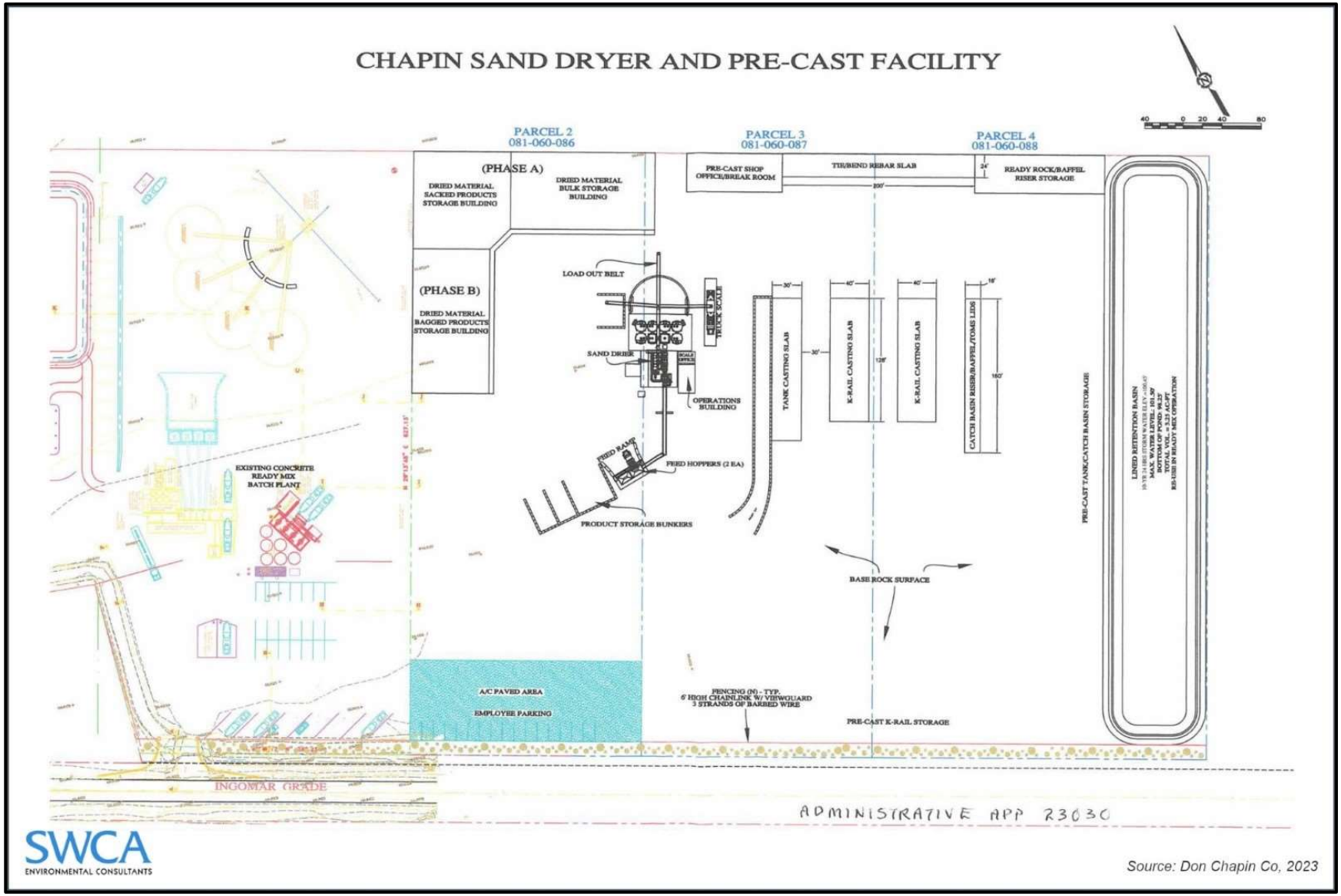


**Figure 3. Site plan.**

### *2.2.4 Operations*

Operation of the sand dryer plant is anticipated to commence in mid-2025 and the operation of other proposed buildings and facilities would commence in 2026 and/or 2027. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. Truck trips would be required to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product. The proposed sand dryer plant would be closed to the public and no visitors or customers are expected. The proposed sand dryer plant and precast concrete operation would operate Monday through Friday between 7:00 a.m. and 5:00 p.m. and would employ six new employees.

The project would result in approximately 50 gallons per day (gpd) of additional wastewater flows that would be treated by the existing septic system located at the ready-mix concrete batching plant. No additional water use for project activities would be necessary. The project would not require any additional water use for plant operations or employee facilities. Additionally, the project would utilize the existing septic system at the Don Chapin Ready Mix Concrete Batch Plant and no new septic system would be required on the project site. The sand dryer plant would require the use of natural gas and electricity provided by the Pacific Gas and Electric Company (PG&E).

## 2.3 Construction Time Frame and Phasing

It is expected that construction will begin in Quarter (Q)1 of 2025 and be completed before the expiration of Q2 2025. The additional dry storage buildings will be phased in as business demands. Construction of the additional phased buildings would occur in mid-2026 or early 2027, all dependent on economic conditions. The entire project should be completed by Q4 2027. With construction occurring intermittently over 36 months, a conservative approach was taken for this report and construction of the project, from mobilization to the project site to final completion, was assumed to occur over a 12-month period, assumed to occur from January 2025 until early December 2025.[1] The project would be constructed in multiple stages that for this assessment has been condensed to five stages: 1) Site Preparation, 2) Grading, 3) Building Construction, 4) Paving, and 5) Architectural Coating.

Construction vehicles would access the project site Ingomar Grade Road via California State Route (SR) 152 or I-5. Most workers would commute to the project site from nearby communities such as the cities of Newman and Los Banos. Typical construction equipment would be used during all stages of project construction, be stored within the staging area, and include an aerial lift, a crane, an excavator, a forklift, a grader, tractors, a paver, a roller, a rubber-tired loader, a scraper, and other similar construction equipment. Grading is expected to occur throughout the entire 11.91-acre project site during the second phase and include 5,600 cubic yards of cut and 2,460 cubic yards of fill with 3,200 cubic yards to be balanced or stored on-site. Water use during construction would be minimal and required primarily for dust control.

Prior to grading, temporary fences would be placed around the project site, which would allow materials and equipment to be securely stored on-site. Construction would generally occur during daylight hours, and for this analysis is assumed to occur from 7:00 a.m. to 3:30 p.m., 5 days per week.

[1] The analysis assumes a construction start date of January 2025, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the conservative-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. Construction will likely be spread out over 2 years and this assessment assumes all construction would occur in 1 year.

# 3 ENVIRONMENTAL SETTING

The project is located in unincorporated Merced County within the SJVAB, which encompasses an approximately 25,000-square-mile area that includes Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings, Tulare, and Kern Counties. The Valley Air District maintains jurisdiction over all eight comprising counties of the SJVAB. The ambient concentrations of air pollutants are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the emissions released by existing air pollutant sources.

## 3.1 Overview of Air Pollution and Potential Health Effects

### *3.1.1 Criteria Air Pollutants*

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of specific pollutants in order to protect public health and welfare. These pollutants are referred to as "criteria air pollutants," and the national and state standards have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly, with a margin of safety, and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment, either directly or in reaction with other pollutants due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in the air quality within the SJVAB. The criteria air pollutants for which national and state standards have been promulgated and which are most relevant to current air quality planning and regulation in the SJVAB and Valley Air District include carbon monoxide (CO), ozone ($O_3$), particulate matter, nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), lead, sulfates, and hydrogen sulfide ($H_2S$). These pollutants, as well as volatile organic compounds (VOCs) and toxic air contaminants (TACs), are discussed in the following paragraphs. The national and state criteria pollutants and the applicable ambient air quality standards are listed in Table 1.

#### 3.1.1.1 OZONE

$O_3$ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and $O_3$ precursors. These precursors are mainly nitrogen oxides ($NO_X$) and VOCs. The maximum effects of precursor emissions on $O_3$ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in $O_3$ formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. $O_3$ exists in the upper atmosphere $O_3$ layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone). The $O_3$ regulated by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level $O_3$ is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" $O_3$. Stratospheric, or "good," $O_3$ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric $O_3$ layer, plant and animal life would be seriously harmed.

$O_3$ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2024a). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

#### 3.1.1.2 NITROGEN DIOXIDE

$NO_2$ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of $NO_2$ in the atmosphere is the oxidation of the primary air pollutant nitrous oxide ($N_2O$), which is a colorless, odorless gas. $NO_X$ plays a major role, together with VOCs, in the atmospheric reactions that produce $O_3$. $NO_X$ is formed from fuel combustion under high temperature or pressure. In addition, $NO_X$ is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

$NO_2$ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2024a).

#### 3.1.1.3 CARBON MONOXIDE

CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircrafts, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions (EPA 2024a).

#### 3.1.1.4 SULFUR DIOXIDE

$SO_2$ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of $SO_2$ are coal and oil used in power plants and industries; as such, the highest levels of $SO_2$ are generally found near large industrial complexes. In recent years, $SO_2$ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of $SO_2$ and limits on the sulfur content of fuels.

$SO_2$ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, $SO_2$ can injure lung tissue and reduce visibility and the level of sunlight. $SO_2$ can also yellow plant leaves and erode iron and steel (EPA 2024a).

### 3.1.1.5 PARTICULATE MATTER

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and particulate matter less than 10 microns in diameter ($PM_{10}$) represent fractions of particulate matter. Coarse particulate matter ($PM_{10}$) is about $^1/_7$ the thickness of a human hair. Major sources of $PM_{10}$ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush and waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is roughly $^1/_{28}$ the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles, power generation, industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides ($SO_X$), $NO_X$, and VOCs.

$PM_{2.5}$ and $PM_{10}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and $PM_{10}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas $PM_{10}$ tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in $PM_{2.5}$ and $PM_{10}$ (EPA 2024a).

### 3.1.1.6 LEAD

Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient (IQ) performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead (EPA 2024a).

### 3.1.1.7 OTHERS

**Sulfates.** Sulfates are the fully oxidized form of sulfur that typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of $SO_2$ in the atmosphere. Sulfates can result in respiratory impairment, as well as reduced visibility.

**Vinyl Chloride.** Vinyl chloride is a colorless gas with a mild, sweet odor that has been detected near landfills, sewage plants, and hazardous waste sites due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in the air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

**Hydrogen Sulfide.** $H_2S$ is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of $H_2S$ include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to $H_2S$ can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

**Table 1. Federal and State Ambient Air Quality Standards**

| | | | National Standards | |
|---|---|---|---|---|
| **Pollutant** | **Averaging Time** | **California Standards** | **Primary** | **Secondary** |
| Ozone ($O_3$) | 1 hour | 0.09 ppm (180 µg/m³) | – | Same as Primary |
| | 8 hour | 0.070 ppm (137 µg/m³) | 0.070 ppm (137µg/m³) | |
| Respirable particulate matter ($PM_{10}$) | 24 hour | 50 µg/m³ | 150 µg/m³ | Same as Primary |
| | Annual mean | 20 µg/m³ | – | |
| Fine particulatematter ($PM_{2.5}$) | 24 hour | – | 35 µg/m³ | Same as Primary |
| | Annual mean | 12 µg/m³ | 9.0 µg/m³ | 15 µg/m³ |
| Carbon monoxide (CO) | 1 hour | 20 ppm (23 µg/m³) | 35 ppm (40 mg/m³) | – |
| | 8 hour | 9.0 ppm (10 mg/m³) | 9 ppm (10 mg/m³) | – |
| Nitrogen dioxide($NO_2$) | 1 hour | 0.18 ppm (339 µg/m³) | 100 ppb (188 µg/m³) | – |
| | Annual mean | 0.030 ppm (57 µg/m³) | 0.053 ppm (100 µg/m³) | Same as Primary |
| Sulfur dioxide ($SO_2$) | 1 hour | 0.25 ppm (655 µg/m³) | 75 ppb (196 µg/m³) | – |
| | 3 hour | – | – | 0.5 ppm (1,300 µg/m³) |
| | 24 hour | 0.04 ppm (105 µg/m³) | 0.14 ppm | – |
| | Annual mean | – | 0.030 ppm | – |
| Lead | 30-day average | 1.5 µg/m³ | – | – |
| | Calendarquarter | – | 1.5 µg/m³ | Same as Primary |
| | Rolling 3-month average | – | 0.15 µg/m³ | Same as Primary |
| Visibility reducing particles | 8 hour | 10-mile visibility standard, extinction of 0.23 per kilometer | No National Standards | |
| Sulfates | 24 hour | 25 µg/m³ | | |
| Hydrogen sulfide ($H_2S$) | 1 hour | 0.03 ppm (42 µg/m³) | | |
| Vinyl chloride | 24 hour | 0.01 ppm (265 µg/m³) | | |

Source: CARB (2016), EPA (2024b)

Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; – = no standard.

### 3.1.2 Volatile Organic Compounds

VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids. Some VOCs are also classified by the State of California (State) as TACs. Although there are no specific VOC ambient air quality standards, VOC is a prime component (along with $NO_X$) of the photochemical processes by which such criteria pollutants as $O_3$, $NO_2$, and certain fine particles are formed. They are, thus, regulated as "precursors" to the formation of those criteria pollutants.

### 3.1.3 Toxic Air Contaminants

TACs refer to a diverse group of "non-criteria" air pollutants that can affect human health but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above but because their effects tend to be local rather than regional. TACs are identified by federal and state agencies based on a review of available scientific evidence. In California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the State legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

The federal TACs are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health, although there are no ambient standards established for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the CARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TAC that is relevant to the implementation of the project is diesel particulate matter (diesel PM).

Diesel PM was identified as a TAC by CARB in August 1998 (CARB 1998). Diesel PM is emitted from both mobile and stationary sources. In California, on-road, diesel-fueled vehicles contribute approximately 40% of the statewide total, with an additional 57% attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units (TRUs). Stationary sources, contributing about 3% of emissions, include shipyards, warehouses, heavy-equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report diesel PM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities.

Exposure to diesel PM can have immediate health effects. Diesel PM can have a range of health effects, including irritation of eyes, throat, and lungs, causing headaches, lightheadedness, and nausea. Exposure

to diesel PM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Children, the elderly, and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. In California, diesel PM has been identified as a carcinogen.

CARB has adopted and implemented a number of regulations to reduce emissions of diesel PM from stationary and mobile sources. Several of these regulatory programs affect medium- and heavy-duty diesel trucks that represent the bulk of diesel PM emissions from California highways. These regulations include the solid waste collection vehicle rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008 CARB approved a new regulation to reduce emissions of diesel PM and $NO_X$ from existing on-road, heavy-duty, diesel-fueled vehicles, including those used at construction sites. The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. Therefore, as of January 1, 2023, all trucks and buses are 2010 or newer model year engines.

Naturally occurring asbestos areas are identified based on the type of rock found in the area. Asbestos-containing rocks found in California are ultramafic rocks, including serpentine rocks. Asbestos has been designated a TAC by CARB and is a known carcinogen. When this material is disturbed in connection with construction, grading, quarrying, or surface mining operations, asbestos-containing dust can be generated. Exposure to asbestos can result in adverse health effects such as lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues that results in constricted breathing) (Van Gosen and Clinkenbeard 2011).

Naturally occurring asbestos is prevalent in at least 44 of California's 58 counties. Asbestos is the name for a group of naturally occurring silicate minerals. Asbestos may be found in serpentine, other ultramafic, and volcanic rock. When rock containing naturally occurring asbestos is broken or crushed, asbestos may be released and become airborne, causing a potential health hazard. To reduce exposure to asbestos when these soils are disturbed, the CARB adopted the Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations. This statewide regulation is applicable to grading or any other projects disturbing soil in areas of California where asbestos may exist, as determined by the California Geological Survey. The Airborne Toxic Control Measure applies to any size construction project, although there are additional notification requirements for projects that exceed 1 acre. The project is not located in a geologic setting with a potential for asbestos to occur; therefore, asbestos will not be an issue for this project (CARB 2000a).

### *3.1.4 Odors*

A qualitative assessment should be made as to whether a project has the potential to generate odorous emissions of a type or quantity that could meet the statutory definition for nuisance, i.e., odors "which cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property" (Health and Safety Code 41700). Although offensive odors usually do not cause any physical harm, they can be unpleasant enough to lead to considerable distress among the public and generate citizen complaints to local governments and Valley Air District. Valley Air District's Rule 4102 (Nuisance) also prohibits any person or source from emitting air contaminants that cause injury, detriment, nuisance, or annoyance to a considerable number of persons or the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. The occurrence and severity of odor impacts depend

on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

# 3.2 Existing Air Quality Conditions at the Project Site

## *3.2.1 Regional Air Quality*

The CARB divides the state into air basins that share similar meteorological and topographical features. The project is located in the SJVAB, under the jurisdiction of Valley Air District. The SJVAB includes the entirety of Merced County. The SJVAB is separated from the Mojave Desert Air Basin to the southeast by the Tehachapi Mountains and the south end of the Sierra Nevada.

Merced County is predominately affected by the SJVAB, which is considered to have a Mediterranean climate area. Mediterranean climate zones are characterized by sparse rainfall, which occurs mainly in winter, and hot dry summers (Valley Air District 2015). The SJVAB in particular is characterized by hot, dry summers and cool, rainy winters. The climate is a result of the topography and the strength and location of a semi-permanent, subtropical high-pressure cell.

Winds in the San Joaquin Valley typically blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the San Joaquin Valley (Valley Air District 2015). This effect moderates air temperatures in the region, with average minimum winter temperatures ranging from the high-30s degrees Fahrenheit (°F) to the low-40s°F and average maximum summer temperatures ranging from the low to high 90s°F (Western Regional Climate Center [WRCC] 2023). Wind speeds are light in this area, with annual average wind speeds of approximately 5 miles per hour (Weather Underground 2023). The local meteorology of the project site and surrounding area is represented by measurements recorded at the National Climatic Data Center (NCDC) Los Banos Station meteorological station. The normal annual precipitation is approximately 9.48 inches. December temperatures range from a normal minimum of 38.4°F to a normal maximum of 55.8°F. July temperatures range from a normal minimum of 63.8°F to a normal maximum of 94.6°F (NCDC 2023). The prevailing wind direction is from the west-northwest (WRCC 2023).

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the San Joaquin Valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500–3,000 feet). Winter-time high-pressure events can often last many weeks with surface temperatures often lowering into the 30s°F. During these events, fog can be present, and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (Valley Air District 2015).

## *3.2.2 Regional Attainment Status*

Depending on whether the applicable ambient air quality standards are met or exceeded, the Valley Air District is classified on a federal and state level as being in "attainment" or "nonattainment." The EPA and CARB determine the air quality attainment status of designated areas by comparing ambient air quality measurements from state and local ambient air monitoring stations with the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable or unclassified designation is treated as an attainment designation. As shown in Table 2, the state attainment status for the project area, located in Merced County within the SJVAB, is currently

nonattainment for 1-hour and 8-hour $O_3$ standards, nonattainment for annual arithmetic mean for $PM_{2.5}$ standards, and nonattainment for 24-hour $PM_{10}$ standards. The national attainment status for the project area is currently nonattainment/extreme for 8-hour $O_3$ standards and nonattainment/serious for 24-hour and annual arithmetic mean for $PM_{2.5}$ standards. Therefore, as shown in Table 2, the region is considered an "attainment/unclassified" area for all other pollutants (EPA 2024c). Thus, the General Conformity Rule, which is designed to protect ambient air quality within nonattainment and maintenance areas against further degradation, applies, and the associated de minimis thresholds are outlined in 40 Code of Federal Regulations (CFR) 93.153(b)(1).

**Table 2. Federal and State Ambient Air Quality Attainment Status**

| Pollutant | Federal | State |
|---|---|---|
| $O_3$ (1 hour) | Revoked t | Nonattainment |
| $O_3$ (8 hour) | Nonattainment/Extreme | Nonattainment |
| $NO_2$ | Unclassified/Attainment | Attainment |
| CO | Unclassified/Attainment | Unclassified/Attainment |
| $SO_2$ | Unclassified/Attainment | Attainment |
| $PM_{10}$ | Attainment* | Nonattainment |
| $PM_{2.5}$ (24 hour) | Nonattainment/Serious | n/a |
| $PM_{2.5}$ (Annual) | Nonattainment/Serious | Nonattainment |

Source: EPA (2024c); Valley Air District (2024).

* On September 25, 2008, the EPA redesignated the SJVAB to attainment for the $PM_{10}$ NAAQS and approved the 2007 $PM_{10}$ Maintenance Plan.

## *3.2.3 Local Air Quality*

Air pollutant emissions are generated in the local vicinity by mobile sources primarily consisting of automobile traffic. Area-wide sources are the primary source of pollutants in the local vicinity.

### 3.2.3.1 EXISTING CRITERIA POLLUTANT LEVELS AT NEARBY MONITORING STATIONS

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site have been documented and measured at 32 air quality monitoring stations throughout the Valley Air District area, with two of these located in Merced County. The Valley Air District monitors and collects information 24 hours per day, 7 days per week on ambient levels of pollutants. The nearest stations are the two Merced, California, stations, which monitor $O_3$, $PM_{2.5}$, and $PM_{10}$. Data from these monitoring stations are summarized in Table 3. The data show violations of the state $PM_{10}$ standard, federal and state $PM_{2.5}$ standards, and federal and state $O_3$. The air quality data collected by CARB in Table 3 include exceptional events, including wind and wildfires. The GHG inventory for California for years 2017 through 2021 is presented in Table 4. The national and state criteria pollutants and the applicable ambient air quality standards are listed above in Table 1.

**Table 3. Summary of Ambient Air Quality Monitoring Summary**

| Criteria Pollutant | Measurement Description | Year | | |
|---|---|---|---|---|
| | | 2021 | 2022 | 2023 |
| $O_3$ | Maximum 1-hour concentration (ppm) | 0.099 | 0.096 | 0.096 |
| | Days exceeding CAAQS (0.09 ppm) | 2 | 2 | 1 |
| | Maximum 8-hour concentration (ppm) | 0.089 | 0.083 | 0.079 |
| | Days exceeding NAAQS (0.07 ppm) | 21 | 9 | 13 |
| | Days exceeding CAAQS (0.07 ppm) | 21 | 9 | 13 |
| PM10 | Maximum 24-hour concentration (µg/m$^3$) | 86.9 | 46.4 | 109.3 |
| | Days exceeding NAAQS (150 µg/m$^3$) | * | * | 0 |
| | Days exceeding CAAQS (50 µg/m$^3$) | * | * | 50 |
| PM2.5 | Maximum 24-hour concentration (µg/m$^3$) | 77.3 | 39.6 | 35.7 |
| | Days exceeding NAAQS (35 µg/m$^3$) | 13 | 1 | 1 |
| | Maximum Annual concentration (µg/m$^3$) | 11.2 | 9.8 | 8.4 |
| | Days exceeding NAAQS (9 µg/m$^3$) | * | * | * |
| | Days exceeding CAAQS (12 µg/m$^3$) | * | * | * |

Source: CARB (2023a).

Notes: ppm = parts per million; µg/m3 = micrograms per cubic meter.
Data for $O_3$ and $PM_{2.5}$ was obtained from the S Coffee Street Monitoring Station and for $PM_{10}$ was obtained from the Merced 2334 M Street Monitoring Station.

*Insufficient data

**Table 4. California Greenhouse Gas Inventory**

| Parameter | Unit* | Year | | | | |
|---|---|---|---|---|---|---|
| | | 2017 | 2018 | 2019 | 2020 | 2021 |
| Transportation | MMT $CO_2e$ | 166.4 | 165.2 | 162.3 | 135.6 | 145.6 |
| | Percentage | 40.53% | 40.23% | 40.12% | 36.78% | 38.20% |
| Electric power | MMT $CO_2e$ | 64.4 | 65 | 60.2 | 59.5 | 62.4 |
| | Percentage | 15.7% | 15.8% | 14.9% | 16.1% | 16.4% |
| Industrial | MMT $CO_2e$ | 81.4 | 82 | 80.8 | 73.3 | 73.9 |
| | Percentage | 19.8% | 20.0% | 20.0% | 19.9% | 19.4% |
| Commercial and residential | MMT $CO_2e$ | 38.3 | 37.5 | 40.6 | 38.9 | 38.8 |
| | Percentage | 9.3% | 9.1% | 10.0% | 10.5% | 10.2% |
| Agriculture | MMT $CO_2e$ | 31.6 | 32.1 | 31.3 | 31.5 | 30.9 |
| | Percentage | 7.7% | 7.8% | 7.7% | 8.6% | 8.1% |
| Recycling and Waste | MMT $CO_2e$ | 8.2 | 8.3 | 8.4 | 8.6 | 8.4 |
| | Percentage | 2.0% | 2.0% | 2.1% | 2.3% | 2.2% |
| High global warming potential (GWP) | MMT $CO_2e$ | 20.1 | 20.5 | 20.7 | 20.7 | 21.3 |
| | Percentage | 4.9% | 5.0% | 5.1% | 5.1% | 5.8% |
| **Total Net Emissions** | MMT $CO_2e$ | **410.41** | **410.7** | **404.38** | **368.7** | **381.29** |

Source: CARB (2023b).

* MMT CO2e = million metric tons carbon dioxide equivalent.

### 3.2.3.2 EXISTING HEALTH RISK IN THE PROJECT VICINITY

OEHHA, on behalf of the California Environmental Protection Agency (CalEPA), provides a screening tool called CalEnviroScreen that can be used to help identify California communities disproportionately burdened by multiple sources of pollution. The project is located in Census Tract 6047002100, which has 4,246 people. To determine the existing level of TACs in the area, the CalEnviroScreen indicator that represents modeled air concentration of chemical releases from large facility emissions in and nearby the census tract was identified. This indicator takes the air concentration and toxicity of the chemical to determine the toxic release score. The data are averaged over 2017 to 2019, and the toxic release indicator scores range from 0 to 96,985. The score for this census tract is 1.85, which means the toxic release percentile for this census tract is 6, or higher than 6% of the census tracts in California (OEHHA 2021).

The CalEnviroScreen for diesel PM was determined, as diesel PM is also a TAC. This indicator represents how much diesel PM is emitted into the air within and near the populated parts of the census tracts. The data from 2016 indicate that sources of diesel PM within and nearby the populated parts of this census tract emit 0.053 tons per year. The diesel PM percentile for this census tract is 19, meaning it is higher than 19% of the census tracts in California. Diesel emissions in California counties range between 0 and 15 tons per year. These indicators show that health risk in the project vicinity is low for diesel PM and toxic releases. Similarly, for $O_3$, the indicator is the mean of summer months (May–October) of the daily maximum 8-hour $O_3$ concentration (parts per million [ppm]). This measurement is used to represent short-term $O_3$ health impacts. The census tract has a summed concentration of 0.048 ppm. $O_3$ concentrations in California range between 0.03 and 0.07 ppm. Overall, according to CalEnviroScreen, the project is located in the 55th percentile for $O_3$, which means the project site has levels of $O_3$ that are higher than 55% of the census tracts in California (OEHHA 2021). Overall, according to CalEnviroScreen, the project is located in the 85th percentile, which means that the project area is higher than average in comparison to other communities within California (OEHHA 2021).

### 3.2.3.3 SENSITIVE USES

Some population groups, including children, elderly, and acutely and chronically ill persons (especially those with cardiorespiratory diseases), are considered more sensitive to air pollution than others. A sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. The following are land uses where sensitive receptors are typically located:

- Schools, playgrounds, and childcare centers
- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences

Surrounding land uses include the Don Chapin Ready Mix Concrete Batch Plant to the northwest, a junkyard to the east, undeveloped agricultural land and scattered rural residences to the north, residences to the southwest, and the Morning Star Packing Facility and General Manufacturing to the south. The closest sensitive receptor is located approximately 700 feet north of the project site. All other air quality sensitive receptors are located at greater distances from the project and would be less impacted by project emissions. Implementation of the proposed project would only result in the long-term operation of

permitted emission sources that would not adversely affect nearby sensitive receptors. Short-term (36 months on and off) construction activities could result in temporary increases in pollutant concentrations.

# 3.3 Greenhouse Gas Setting

Global climate change refers to the changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of GHGs that keep the Earth's surface warm by trapping heat in the Earth's atmosphere, in much the same way as glass traps heat in a greenhouse. The Earth's climate is changing because human activities, primarily the combustion of fossil fuels, are altering the chemical composition of the atmosphere through the buildup of GHGs. GHGs are released by the combustion of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect. Although climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy.

Regarding the adverse effects of global warming, as reported by AB 2538: "Global warming poses a serious threat to the economic well-being, public health, natural resources and the environment of California." Over the past few decades, the energy intensity of the national and state economy has been declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the states in carbon dioxide ($CO_2$) emissions from fossil fuel consumption per unit of gross state product. However, in terms of total $CO_2$ emissions California is second only to Texas in the nation and is the 16$^{th}$ largest source of climate change emissions in the world, exceeding most nations.

## *3.3.1 Greenhouse Gas Background*

GHGs include $CO_2$, methane ($CH_4$), $N_2O$, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$). Carbon is the most abundant GHG. Other GHGs are less abundant but have higher global warming potential (GWP) than $CO_2$. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of $CO_2$, denoted as carbon dioxide equivalent ($CO_2e$). Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. The primary GHGs attributed to global climate change are described below.

### 3.3.1.1 CARBON DIOXIDE

In the atmosphere, carbon generally exists in its oxidized form, as $CO_2$. Natural sources of $CO_2$ include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Anthropogenic sources of $CO_2$ include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Anthropogenic sources of $CO_2$ amount to over 30 billion tons per year, globally (Friedlingstein et al. 2022). Natural sources release substantially larger amounts of $CO_2$. However, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of human-made $CO_2$. Consequently, the gas is building up in the atmosphere.

#### 3.3.1.1.1 Methane

$CH_4$ is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated $CH_4$ emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation in livestock, manure management, and rice cultivation are also significant sources of $CH_4$ in California.

#### 3.3.1.1.2 Nitrous Oxide

$N_2O$ is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. $N_2O$ is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion produce $N_2O$, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated $N_2O$ emissions in California.

#### 3.3.1.1.3 Hydrofluorocarbons, Perfluorocarbons, Sulfur Hexafluoride

HFCs are used primarily as substitutes for $O_3$-depleting substances regulated under the Montreal Protocol (1987), an international treaty that was approved on January 1, 1989, and was designated to protect the $O_3$ layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for $O_3$ depletion. PFCs and $SF_6$ are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no primary aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs.

The magnitude of the impact on global warming differs among the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions and its GWP. GWPs are one type of simplified index based upon radiative properties used to estimate the potential future impacts of emissions of different gases upon the climate system, expressed as a function of how much warming would be caused by the same mass of $CO_2$. Thus, GHG emissions are typically measured in terms of pounds or tons of $CO_2e$. GWP are based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of $CO_2$, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of $CO_2$. The larger GWP, the more that a given gas warms the Earth compared to $CO_2$ over that time period. HFCs, PFCs, and $SF_6$ have a greater GWP than $CO_2$. In other words, these other GHGs have a greater contribution to global warming than $CO_2$ on a per-mass basis. However, $CO_2$ has the greatest impact on global warming because of the relatively large quantities of $CO_2$ emitted into the atmosphere.

A summary of the atmospheric lifetime and GWP of selected gases is presented in Table 5. As indicated in this table, GWPs range from 1 to 23,500 based on IPCC assessment reports. The IPCC has released three assessment reports (AR4, AR5, and AR6) with updated GWPs; however, the CARB reports the statewide GHG inventory using the AR4 GWPs, which is consistent with international reporting standards. By applying the GWP ratios, project-related equivalent mass of $CO_2$, denoted as $CO_2e$ emissions, can be tabulated in metric tons per year.

**Table 5. Global Warming Potentials**

| Greenhouse Gas | GWP Values for 100-Year Time Horizon | | |
|---|---|---|---|
| | AR4* | AR5 | AR6 |
| Carbon dioxide ($CO_2$) | 1 | 1 | 1 |
| Methane ($CH_4$) | 25 | 28 | Fossil origin: 29.8<br>Non-fossil origin: 27.2 |
| Nitrous oxide ($N_2O$) | 298 | 265 | 273 |
| Select hydrofluorocarbons (HFCs) | 124–14,800 | 4–12,400 | – |
| Sulfur hexafluoride ($SF_6$) | 22,800 | 23,500 | – |

Sources: IPCC (2007, 2013, 2021).

* For consistency with EPA and its Inventory of Greenhouse Gas Reporting, we have represented values from AR4 of the IPCC report in this report.

## *3.3.2 Greenhouse Gas Emissions Inventories*

### 3.3.2.1 U. S. GREENHOUSE GAS EMISSIONS

According to EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022* (EPA 2024d), U.S. total emissions of $CO_2$ decreased by 2 %, $CH_4$ decreased by 19%, and $N_2O$ decreased by 5% from 1990 to 2022, with a peak in 2005 where emissions were 15.8% above 1990 levels (EPA 2024d). Transportation activities accounted for the largest portion (28%) of total U.S. GHG emissions in 2022. Emissions from electric power accounted for the second largest portion (25%), while emissions from industry accounted for the third largest portion (23%). The latest national GHG emissions are for calendar year 2022, in which total gross U.S. GHG emissions were reported at 6,343.2 million metric tons (MMT) $CO_2e$. Emissions increased from 2021 to 2022 by 70.8 MMT $CO_2e$ and net emissions (including sinks) were 5,489 MMT $CO_2e$ (EPA 2024d).

### 3.3.2.2 STATEWIDE GHG EMISSIONS

According to California's 2000 through 2021 GHG emissions inventory, California emitted 381.3 MMT $CO_2e$ in 20210 (CARB 2023b). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories (as defined in CARB's 2008 Scoping Plan [CARB 2008]) and their relative contributions in 2021 are presented in Table 4. Total GHG emissions in 2021 were approximately 32.9 MMT $CO_2e$ less than 2016 emissions. Based on data presented, the 2016 statewide GHG inventory fell below 1990 levels, consistent with AB 32. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California will continue to reduce emissions below the 2020 target of 431 MMT $CO_2e$ (CARB 2022a) and towards the 2050 target (80% below 1990 levels by 2050, consistent with Executive Order [EO] S-3-05).

# 4 REGULATORY SETTING

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

# 4.1 Federal

## *4.1.1 Federal Clean Air Act*

### 4.1.1.1 AIR QUALITY

The federal Clean Air Act (CAA), which was passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The CAA delegates primary responsibility for clean air to the EPA, which develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the CAA, the EPA has established the NAAQS for six criteria air pollutants that are pervasive in urban environments and for which national and state health-based ambient air quality standards have been established. The six criteria air pollutants are $O_3$, CO, $NO_2$, $SO_2$, lead, and particulate matter ($PM_{10}$ and $PM_{2.5}$). $O_3$ is a secondary pollutant, and $NO_X$ and VOCs are of particular interest as they are precursors to $O_3$ formation. The NAAQS are divided into primary and secondary standards; the primary standards are set to protect human health within an adequate margin of safety, and the secondary standards are set to protect environmental values, such as plant and animal life. The standards for all criteria pollutants are presented in Table 1.

The CAA requires the EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The act also mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met.

### 4.1.1.2 GREENHOUSE GAS EMISSIONS

The Supreme Court of the United States (SCOTUS) ruled in Massachusetts v. Environmental Protection Agency, 127 S.Ct. 1438 (2007), that $CO_2$ and other GHGs are pollutants under the federal CAA, which the EPA must regulate if it determines they pose an endangerment to public health or welfare. SCOTUS did not mandate that the EPA enact regulations to reduce GHG emissions. Instead, SCOTUS found that the EPA could avoid taking action if it found that GHGs do not contribute to climate change or if it offered a "reasonable explanation" for not determining that GHGs contribute to climate change.

On April 17, 2009, the EPA issued a proposed finding that GHGs contribute to air pollution that may endanger public health or welfare. On April 24, 2009, the proposed rule was published in the *Federal Register* under Docket ID No. EPA-HQ-OAR-2009~0171. The EPA stated that high atmospheric levels of GHGs "are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes." The EPA further found that "atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act." The findings were signed by the EPA Administrator on December 7, 2009. The final findings were published in the *Federal Register* on December 15, 2009, and the final rule was effective on January 14, 2010. Although these findings alone do not impose any requirements on industry or other entities, this action is a prerequisite to regulatory actions by the EPA, including, but not limited to, GHG emissions standards for light-duty vehicles.

On July 20, 2011, the EPA published its final rule deferring GHG permitting requirements for $CO_2$ emissions from biomass-fired and other biogenic sources until July 21, 2014. Environmental groups challenged the deferral. In September 2011, the EPA released *Accounting Framework for Biogenic $CO_2$ Emissions from Stationary Sources*, which analyzes accounting methodologies and suggests implementation for biogenic $CO_2$ emitted from stationary sources (EPA 2011).

On April 4, 2012, the EPA published a proposed rule to establish, for the first time, a new source performance standard for GHG emissions. Under the proposed rule, new fossil fuel–fired generating units larger than 25 megawatts are required to limit emissions to 1,000 pounds of $CO_2$ per megawatt-hour on an average annual basis, subject to certain exceptions.

### *4.1.2 Toxic Substance Control Act*

The Toxic Substances Control Act (TSCA) provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The TSCA became law on October 11, 1976, and became effective on January 1, 1977. The TSCA authorized the EPA to secure information on all new and existing chemical substances, as well as to control any of the substances that were determined to cause unreasonable risk to public health or the environment. Congress later added additional titles to the TSCA, with this original part designated at Title I – Control of Hazardous Substances. TSCA regulatory authority and program implementation rests predominantly with the federal government (i.e., the EPA). However, the EPA can authorize states to operate their own EPA-authorized programs for some portions of the statute. TSCA Title IV allows states the flexibility to develop accreditation and certification programs and work practice standards for lead-related inspection, risk assessment, renovation, and abatement that are at least as protective as existing federal standards.

### *4.1.3 National Emission Standards for Hazardous Air Pollutants (Asbestos)*

The EPA's air toxics regulation for asbestos is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. Asbestos was one of the first hazardous air pollutants regulated under the air toxics program, as there are major health effects associated with asbestos exposure (lung cancer, mesothelioma, and asbestosis). On March 31, 1971, the EPA identified asbestos as a hazardous pollutant, and on April 6, 1973, the EPA promulgated the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), currently found in 40 CFR Part 61(M). The Asbestos NESHAP has been amended several times, most comprehensively in November 1990. In 1995 the rule was amended to correct cross-reference citations to the Occupational Safety and Health Administration, the Department of Transportation, and other EPA rules governing asbestos. Air toxics regulations under the CAA have guidance on reducing asbestos in renovation and demolition of buildings; institutional, commercial, and industrial building; large-scale residential demolition; exceptions to the asbestos removal requirements; asbestos control methods; waste disposal and transportation; and milling, manufacturing, and fabrication.

## 4.2 State

### *4.2.1 California Clean Air Act*

The California Clean Air Act (CCAA) was adopted by CARB in 1988. The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for $O_3$, CO, $SO_2$, and $NO_2$ by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the CCAA provides districts with authority to regulate indirect sources. The CARB and local air districts are responsible for achieving the CAAQS, which are to be achieved through district-level Air Quality Management Plans (AQMPs) that would be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to the CARB, which in turn, has delegated that authority to individual air districts. Each district plan is required to either 1) achieve a 5% annual reduction, averaged over consecutive 3-year periods, in districtwide emissions of each nonattainment pollutant or its precursors, or 2) to provide for implementation of all feasible measures to

reduce emissions. Any planning effort for air quality attainment would thus need to consider both federal and state planning requirements.

The State began to set its ambient air quality standards (i.e., the CAAQS) in 1969, under the mandate of the Mulford-Carrell Act. The CCAA requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date Table 1 shows the CAAQS currently in effect for each of the criteria pollutants, as well as the other pollutants recognized by the State. As shown in Table 1Table 1, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, $H_2S$, vinyl chloride, and visibility-reducing particles.

The State has also adopted a host of other regulations that reduce criteria pollutant emissions, including the following:

- 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- 24 CCR 6: Building Energy Efficiency Standards
- 24 CCR 11: Green Building Standards Code (CALGreen)

### *4.2.2 California Code of Regulations*

The CCR is the official compilation and publication of regulations adopted, amended, or repealed by the State agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, 13 CCR 2485 states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to 5 minutes at any location. In addition, 17 CCR 93115 states that operation of any stationary, diesel-fueled, compression-ignition engine shall meet specified fuel and fuel additive requirements and emission standards.

### *4.2.3 Toxic Air Contaminants Regulations*

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807, also known as the Tanner Air Toxics Act) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588 – Connelly). In the early 1980s, the CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Air Toxics Act (AB 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (CARB 2011).

In August 1998, the CARB identified diesel PM emissions from diesel-fueled engines as a TAC. In September 2000, the CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles (CARB 2000b). The goal of the plan is to reduce diesel $PM_{10}$ (inhalable particulate matter) emissions and the associated health risk by 75% in 2010, and by 85% by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., standby power generators, etc.). During the control measure phase, specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles were evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions. The project would be required to comply with applicable diesel control measures.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded to communicate the results to the public through notices and public meetings.

The CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled TRUs and TRU Generator Sets and Facilities Where TRUs Operate

The proposed project would be required to comply with the applicable diesel control measures.

### *4.2.4 Executive Orders S-3-05, B-30-15, and B-55-18*

In 2005 the governor issued EO S-3-05, establishing statewide GHG emissions reduction targets and a process to ensure the targets are met. The order directed the Secretary of the CalEPA to report every 2 years on the state's progress toward meeting the governor's GHG emission reduction targets. The statewide GHG targets established by EO S-3-05 are as follows:

- By 2010, reduce to 2000 emission levels.
- By 2020, reduce to 1990 emission levels.
- By 2050, reduce to 80% below 1990 levels.

EO B-30-15, issued by Governor Brown in April 2015, established an additional statewide policy goal to reduce GHG emissions 40% below their 1990 levels by 2030. Reducing GHG emissions by 40% below 1990 levels in 2030 and by 80% below 1990 levels by 2050 (consistent with EO S-3-05) aligns with scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius.

The State legislature adopted equivalent 2020 and 2030 statewide targets in the California Global Warming Solutions Act of 2006 (also known as AB 32) and Senate Bill (SB) 32, respectively, both of which are discussed below. However, the legislature has not yet adopted a target for the 2050 horizon year. As a result of EO S-3-05, the California Action Team (CAT), led by the Secretary of CalEPA, was formed. The CAT is made of representatives from a number of State agencies and was formed to implement global warming emission reduction programs and to report on the progress made toward meeting statewide targets established under the EO. The CAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the EO.

The CAT stated that "smart" land use is an umbrella term for strategies that integrate transportation and land use decisions. Such strategies generally encourage jobs and housing proximity, promote transit-oriented development, and encourage high-density residential and commercial development along transit corridors. These strategies develop more efficient land use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. "Intelligent transportation systems" is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and the movement of people, goods, and services.

EO B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this EO, the CARB would work with relevant State agencies to develop a framework for implementation and accounting that tracks progress toward this goal, as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

### 4.2.5 Assembly Bill 32: California Global Warming Solution Act

The California Global Warming Solutions Act of 2006 (also known as AB 32) commits the state to achieving the following:

- By 2010, reduce to 2000 GHG emission levels.
- By 2020, reduce to 1990 levels.

To achieve these goals, which are consistent with the California CAT GHG targets for 2010 and 2020, AB 32 mandates that the CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. In order to achieve the reductions, AB 32 requires the CARB to adopt rules and regulations in an open, public process that achieves the maximum technologically feasible and cost-effective GHG reductions.

SB 32, signed on September 8, 2016, updates AB 32 to include an emissions reduction goal for the year 2030. Specifically, SB 32 requires the CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

### 4.2.6 Climate Change Scoping Plan

In 2008 the CARB approved a Climate Change Scoping Plan, as required by AB 32. Subsequently, CARB approved updates of the Climate Change Scoping Plan in 2014 (First Update) and 2017 (2017 Update), with the 2017 Update considering SB 32 (adopted in 2016) in addition to AB 32 (CARB 2014, 2017). The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals (to the level of 427 MMT $CO_2e$) defined in the original Scoping Plan. It also evaluates how to align the state's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use. In November 2022, the final *2022 Scoping Plan Update and Appendices* (2022 Scoping Plan Update) was released. This 2022 Scoping Plan Update assesses progress toward the statutory 2030 target and lays out a path to achieving carbon neutrality no later than 2045 (CARB 2022b). The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

### 4.2.7 Assembly Bill 197

AB 197, signed on September 8, 2016, is a bill linked to SB 32 that prioritizes efforts to reduce GHG emissions in low-income and minority communities. AB 197 requires the CARB to make available, and update at least annually on its website, the emissions of GHGs, criteria pollutants, and TACs for each facility that reports to the CARB and air districts. In addition, AB 197 adds two members of the

legislature to the CARB board as ex officio, non-voting members, and also creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the legislature concerning the State's programs, policies, and investments related to climate change.

### 4.2.8 Cap-and-Trade Program

The 2008 Climate Change Scoping Plan identified a cap-and-trade program as one of the strategies for California to reduce GHG emissions. The cap-and-trade program is a key element in California's climate plan. It sets a statewide limit on sources responsible for 85% of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013, and they apply to large electric power plants and large industrial plants. In 2015 fuel distributors, including distributors of heating and transportation fuels, also became subject to the cap-and-trade rules. At that stage, the program will encompass approximately 360 businesses throughout California and nearly 85% of the state's total GHG emissions. Covered entities subject to the cap-and-trade program are sources that emit more than 25,000 metric tons (MT) $CO_2e$ per year. Triggering of the 25,000 MT $CO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.

Under the cap-and-trade regulation, companies must hold enough emission allowances to cover their emissions and are free to buy and sell allowances on the open market. California held its first auction of GHG allowances on November 14, 2012. California's GHG cap-and-trade system has reduced GHG emissions to 1990 levels by the year 2020 and would achieve an approximate 80% reduction from 1990 levels by 2050.

### 4.2.9 Senate Bill 1078 (California Renewables Portfolio Standard)

SB 1078 established California's Renewable Portfolio Standard (RPS) program in 2002. The RPS program requires electrical corporations and electric service providers to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources. The bill requires the California Energy Commission (CEC) to certify eligible renewable energy resources, to design and implement an accounting system to verify compliance with the RPS by retail sellers, and to allocate and award supplemental energy payments to cover above-market costs of renewable energy. Under SB 1078, each electrical corporation was required to increase its total procurement of eligible renewable energy resources by at least 1% per year so that 20% of its retail sales were procured from eligible renewable energy resources.

In 2006 SB 107 accelerated the RPS program by establishing a deadline of December 31, 2010, for achieving the goal of having 20% of total electricity sold to retail customers in California per year generated from eligible renewable energy resources.

The RPS goal was increased to 33% when Governor Schwarzenegger signed EO S-14-08 in November 2008. EO S-14-08 was later superseded by EO S-21-09 on September 15, 2009. EO S-21-09 directed the CARB to adopt regulations requiring 33% of electricity sold in the state to come from renewable energy by 2020. This EO was superseded by Statute SB X1-2 in 2011, which modified the California RPS program to require that both public- and investor-owned utilities in California receive at least 33% of their electricity from renewable sources by the year 2020. SB 2X also requires regulated sellers of electricity to meet an interim milestone of procuring 25% of their energy supply from certified renewable sources by 2016.

### 4.2.10 Assembly Bill 1493 (Pavley I)

AB 1493, passed in 2002, requires the development and adoption of regulations to achieve the maximum feasible reduction in GHGs emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state. The CARB originally approved regulations to reduce GHGs from passenger vehicles in September 2004, which took effect in 2009. On September 24, 2009, the CARB adopted amendments to these regulations that reduce GHG emissions and new passenger vehicles from 2009 through 2016. Although setting emission standards on automobiles is solely the responsibility of the EPA, the federal CAA allows California to set state-specific emission standards on automobiles, and the State first obtains a waiver from the EPA. The EPA granted California that waiver until July 1, 2009. The comparison between the AB 1493 standards and the federal Corporate Average Fuel Economy standards was completed by the CARB, and the analysis determined that the California emission standards were 16% more stringent through the 2016 model year and 18% more stringent for the 2020 model year. The CARB is also committed to further strengthening these standards beginning with 2020 model year vehicles, to obtain a 45% GHG reduction in comparison to 2009 model years.

In March 2020, the EPA issued the Safer Affordable Fuel-Efficient Vehicles Rule, which would roll back fuel economy standards and revoke California's waiver. Under this rule, the EPA would amend certain average fuel economy and GHG standards for passenger cars covering model years 2021 through 2026. In September 2019, the EPA withdrew the waiver it had previously provided in California for the state's GHG and Zero Emission Vehicle (ZEV) programs under Section 209 of the CAA. The withdrawal of the waiver went into effect on November 26, 2019. In response, several states, including California, have filed a lawsuit challenging the withdrawal of the EPA waiver. These actions continue to be challenged in court. As noted above, on January 20, 2021, President Biden issued an EO directing all executive departments and agencies to take action, as appropriate, to address federal regulations and other actions taken during the last 4 years that conflict with the administration's climate and environmental justice goals, which include the Safer Affordable Fuel-Efficient Vehicles Rule.

### 4.2.11 Executive Order S-01-07 (California Low Carbon Fuel Standard)

EO S-01-07, the Low Carbon Fuel Standard (LCFS) (issued January 18, 2007), requires a reduction of at least 10% in the carbon intensity of California transportation fuels by 2020. Regulatory proceedings and implementation of the LCFS were directed to CARB. CARB released a draft version of the LCFS in October 2008. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of the State on January 12, 2010; the LCFS became effective on the same day.

The 2017 Update has identified LCFS as a regulatory measure to reduce GHG emissions to meet the 2030 emissions target. In calculating statewide emissions and targets, the 2017 Update has assumed the LCFS be extended to an 18% reduction in carbon intensity beyond 2020. On September 27, 2018, the CARB approved a rulemaking package that amended the LCFS to relax the 2020 carbon intensity reduction from 10% to 7.5%, and to require a carbon intensity reduction of 20% by 2030.

### 4.2.12 Advanced Clean Car Regulations

In 2012 the CARB approved the Advanced Clean Cars program, a new emissions control program for model years 2015 through 2025. The components of the advance clean car standards include the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the ZEV regulation, which requires manufacturers to produce an increasing number of

pure ZEVs, with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years period. In March 2017, the CARB voted unanimously to continue with the vehicle GHG emission standards and the ZEV programs for cars and light trucks sold in California through 2025.

### 4.2.13 Senate Bill 375

SB 375 requires the CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a Sustainable Communities Strategy (SCS) that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region. If the SCS is unable to achieve the regional GHG emissions reductions targets, the Metropolitan Planning Organization is required to prepare an alternative planning strategy that shows how the GHG emissions reduction target can be achieved through alternative development patterns, infrastructure, and/or transportation measures.

As required under SB 375, the CARB is required to update regional GHG emission targets every 8 years, with the last update formally adopted in March 2018. As part of the 2018 update, the CARB adopted a passenger vehicle–related GHG reduction target of 19% by 2035 for the Southern California Association of Governments (SCAG) region, which is more stringent than the previous reduction target of 13% for 2035.

### 4.2.14 Senate Bill 97

SB 97, enacted in 2007, required the California Governor's Office of Planning and Research (OPR) to develop, and the California Natural Resources Agency to adopt, amendments to the State CEQA Guidelines addressing the analysis and mitigation of GHG emissions (OPR 2008, 2018). Those State CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects and must reach a conclusion regarding the significance of those emissions.
- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions.
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change.
- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria.
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives.

As part of the administrative rulemaking process, the California Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the State CEQA Guidelines amendments. The amendments to the State CEQA Guidelines implementing SB 97 became effective on March 18, 2010. SB 97 applies to any Environmental Impact Report (EIR), Negative Declaration, Mitigated Negative Declaration, or other document required by CEQA, which has not been finalized.

# 4.3 Local

## *4.3.1 San Joaquin Valley Air Pollution Control District*

The Valley Air District maintains a set of rules and regulations to improve and maintain healthy air quality for the entire population within its jurisdiction. When developing new regulations, the Valley Air District must comply with complex procedures established by statutes in federal and state codes. The following are some of the rules and regulations that would apply to the project:

- *Rule 2010.3 Authority to Construct:* Any person building, altering, or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, shall first obtain authorization for such construction from the Air Pollution Control Officer (APCO). An Authority to Construct shall remain in effect until the Permit to Operate the source operation for which the application was filed is granted or denied, or the application is canceled as described in Rule 2050 (Cancellation of Application).
- *Rule 2010.4 Permit to Operate:* Before any new or modified source operation, or any existing source operation so described may be operated, a written permit shall be obtained from the APCO. No Permit to Operate shall be granted either by the APCO or the Hearing Board for any source operation constructed or installed without authorization as required, until the information required is presented to the APCO and such source operation is altered, if necessary, and made to conform to the standards set forth in Rule 2070 (Standards for Granting Applications) and elsewhere in these rules and regulations.
- *Rule 2070.7 Operation According to the Permit to Operate Conditions:* A person shall not operate any source operation contrary to conditions specified on the Permit to Operate issued in accordance with the provisions of this rule.
- *Regulation IV (Prohibitions)*
    - *Rule 4101 Visible Emissions:* The purpose of this rule is to prohibit the emissions of visible air contaminants to the atmosphere.
    - *Rule 4102 Nuisance:* A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
    - *Rule 4601 Architectural Coatings*. The purpose of this rule is to limit VOC emissions from architectural coatings.
- *Regulation VIII:* The purpose of Regulation VIII (Fugitive $PM_{10}$ Prohibitions) is to reduce ambient concentrations of fine particulate matter ($PM_{10}$) by requiring actions to prevent, reduce, or mitigate anthropogenic fugitive dust emissions and includes Rule 8011 (General Requirements), Rule 8021 (Construction, Demolition Excavation, Extraction and other Earthmoving Activities), Rule 8031 (Bulk Materials), Rule 8041 (Carryout and Track out), Rule 8051 (Open Areas), Rule 8061 (Paved and Unpaved Roads), and 8071 (Unpaved Vehicle/Equipment Traffic Areas).

Currently, the NAAQS and CAAQS are exceeded in most parts of SJVAB. In response, the Valley Air District has adopted a series of AQMPs to meet the federal and state ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy. The Valley Air District's

most recently adopted AQMPs are the 2016 Ozone Plan for 2008 8-Hour Ozone Standard and the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards (CARB 2024). Currently under review are the 2022 Ozone Plan for 2015 8-Hour Ozone Standard and the 2024 Plan for the 2012 $PM_{2.5}$ Standards (CARB 2024).

In addition, there are other Valley Air District rules and regulations, not detailed here, that may apply to the project but are administrative or descriptive in nature. These include rules associated with fees, enforcement and penalty actions, and variance procedures.

### 4.3.2 San Joaquin Valley Climate Action Plan

The SJVAPCD released the San Joaquin Valley Climate Change Action Plan in December 2009. The Climate Change Action Plan established goals and policies to address reductions in GHGs and improvement to regional air quality. The plan also includes Best Performance Standards (BPSs), which are mitigation measures intended to achieve GHG reductions. BPSs include building design elements that reduce energy consumption, project designs that promote pedestrian access, and land use planning decisions that reduce VMT.

### 4.3.3 Merced County Code of Ordinances

The Merced County Code of Ordinances contains general standards for air emissions in Section 18.40.030. These air quality general performance standards include the following:

A. Air Emissions, Fumes, Vapors, Gases, and other Forms of Pollutants. Any emissions shall comply with the Valley Air District standards, and designated burn days.

B. Dust. No urban land use shall create dust, dirt, or mud, which leaves the boundaries of the project site. Implementation of the following measures shall help to reduce generation of dust, dirt, or mud:
    1. Schedule all grading activities to ensure that repeated grading will not be necessary.
    2. If a construction site has been disturbed (cleared, graded, or excavated) and is to remain inactive for a period of three or more months, it shall be seeded with an annual grass and watered until growth is evident. If after disturbing, the site is inactive for three or more months during the dry period (June–October), as an alternative to seeding, a soil binding dust palliative, such as Hemicellulose extract (wood molasses) solution, may be applied. If seeded, grass shall be mowed (not disked under) to a maximum height of four inches for fire control. Grasses do not need to be maintained in a green/growing condition. Mowing should occur before the grass dries out to avoid fires that may result from blades striking rocks.
    3. During clearing, grading, earth moving, and other site preparation activities and all construction:
        a. Exposed earth surfaces shall be watered as needed, whenever needed, in order to prevent dust from leaving the project site on that phase of the project presently under development.
        b. Mud and dirt carried from the development onto adjacent roadways shall be cleaned up daily.
        c. Litter and debris shall be cleaned up daily to prevent it from leaving the project site and littering adjacent properties.

### 4.3.4 Merced County General Plan

The *2030 Merced County General Plan* (General Plan) guides economic development, land use, agriculture, transportation and circulation, public facilities and services, natural resource, recreation and cultural resources, health and safety, air quality, water, and other matters of public interest and concern. The General Plan is intended to provide for orderly growth, and to convey the community's values and expectations for the future. An EIR for the General Plan was certified and the General Plan was adopted by the County of Merced (County) in December 2013. A Draft Background Report of existing environmental conditions within Merced County was finalized in December 2013 with certification of the General Plan EIR. The Background Report functions as the existing setting section for the General Plan EIR. The EIR, including the Background Report as updated, is used in this report, along with other resources, to establish the existing setting for the proposed project.

The General Plan EIR will serve as the first tier of environmental analysis for the proposed project, including the evaluation of countywide and cumulative impacts. The General Plan EIR, including the Background Report, is hereby incorporated by reference pursuant to State CEQA Guidelines Section 15150 as though fully set forth herein. A copy of the General Plan, General Plan EIR, and Background Report can be obtained at the County Department of Community and Economic Development, 2222 'M' Street, Merced, CA 95340. These documents are also available for download from the General Plan website at: https://www.countyofmerced.com/100/General-Plan.

The General Plan contains the long-term goals and policies that will guide County decisions, investments, and improvements toward achieving the countywide vision. The General Plan represents a unique approach to county planning. It serves as the County's General Plan for the unincorporated areas, which is mandated by State law, but it also includes policy direction for adult and child supportive services, healthcare, public safety, and other regional services the County administers in both incorporated and unincorporated areas. Applicable General Plan components are those that set policies regarding air quality and GHG elements.

Goal AQ-1 seeks to reduce air pollutants and GHG emissions and anticipate adaptation due to future consequences of global and local climate change. The County is currently developing their Climate Action Plan (CAP) that includes an inventory of 1990 and 2010 GHG emissions, determines project air quality impacts using analysis methods and significance thresholds recommended by the Valley Air District, and identifies strategies to achieve State emission reduction targets (Policy AQ-1.5). Goal AQ-6 aims to improve air quality in Merced County by reducing emissions of $PM_{10}$, $PM_{2.5}$, and other particulates from mobile and non-mobile sources. The General Plan calls for support of the Valley Air District's efforts to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible and consistent with federal and state regulations (Policy AQ-6.1).

### 4.3.5 Merced County Climate Action Plan

The General Plan calls for the development of a long-range CAP to outline specific strategies to reduce GHG emissions. The County remains in the development stage of their CAP and energy plans. While completion of the CAP was previously anticipated in 2021, the process has been delayed with no projected completion date. When completed, the CAP will set a baseline for past and current GHG emissions, include forecasts of future emissions, and establish targets to help California reduce future emissions. The CAP will help achieve community goals of lowering energy costs, reducing air pollution, supporting economic development, and improving public health and quality of life.

# 5 THRESHOLDS OF SIGNIFICANCE

## 5.1 Air Quality

Based on the environmental checklist presented in Appendix G of the State CEQA Guidelines, the project would have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

A discussion of applicable thresholds of significance and significance determination follows.

Valley Air District's *2015 Guidance for Assessing and Mitigating Air Quality Impacts* was prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the project site (Valley Air District 2015). The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, control measures, and background air quality information. Valley Air District's air quality thresholds of significance are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health. Valley Air District's *2015 Guidance for Assessing and Mitigating Air Quality Impacts* (March 2015) indicate that any projects in the Valley Air District with regional emissions that exceed any of the indicated thresholds in Table 6 should be considered as having an individually and cumulatively significant air quality impacts.

**Table 6. Valley Air District Air Quality Significance Thresholds**

| | Construction Phase | Operational Phase | |
|---|---|---|---|
| Pollutant | Annual Emissions (tons/year) | Permitted Equipment and Activities (tons/year) | Non-Permitted Equipment and Activities (tons/year) |
| Carbon monoxide (CO) | 100 | 100 | 100 |
| Nitrogen oxides ($NO_X$) | 10 | 10 | 10 |
| Reactive organic gases (ROG) | 10 | 10 | 10 |
| Sulfur oxides ($SO_X$) | 27 | 27 | 27 |
| Particulate matter 10 microns in diameter or smaller ($PM_{10}$) | 15 | 15 | 15 |
| Particulate matter 2.5 microns in diameter of smaller ($PM_{2.5}$) | 15 | 15 | 15 |
| $CO_2e$ | 1,100* | 1,100* | |

Source: Valley Air District (2009, 2015).

* metric tons per year

In any case, regardless of the size of the project, the standard control measures for construction equipment and fugitive $PM_{10}$ must be implemented at all construction sites. Additional measures are required by Valley Air District Regulation VIII. The list of control measures that would be implemented for the project (derived from Valley Air District Regulation VIII ) is provided in Section 7.3, *Control Measures*.

Projects that do not exceed the thresholds above would not cumulatively contribute to health effects in the Valley Air District. If projects exceed the thresholds above, emissions would contribute cumulatively to the nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to $O_3$ include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

Impacts related to odors were also assessed qualitatively, based on proposed construction activities, equipment types and duration of use, overall construction schedule, proposed operational activities, and distance to nearby sensitive receptors.

### *5.1.1 Carbon Monoxide Hot Spots*

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hot spots are caused by vehicular emissions, primarily when idling at congested intersections.

However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SJVAB is designated as in attainment. Detailed modeling of project-specific CO hot spots is not necessary, and thus this potential impact is addressed qualitatively.

A CO hot spot would occur if an exceedance of the state 1-hour standard of 20 ppm or the 8-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District (SCAQMD) 1992 Federal Attainment Plan for Carbon Monoxide in Los Angeles County and a Modeling and Attainment Demonstration prepared by SCAQMD as part of the 2003 AQMP can be used to demonstrate the potential for CO exceedances of these standards. SCAQMD is the air pollution control officer for much of Southern California (SCAQMD 2003). SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). In

order to establish a more accurate record of baseline CO concentrations affecting Los Angeles, a CO hot spot analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods which is the most recent analysis conducted that addresses CO concentrations. This hot spot analysis did not predict any violation of CO standards. The highest 1-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest 8-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are employed by other air districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD), the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix in order to generate a significant CO impact.

Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips required to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product. Thus, the project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day), and there is no likelihood of the project traffic exceeding CO values.

### *5.1.2 Toxic Air Contaminants*

The Valley Air District's thresholds of significance for TAC emissions from the operation of both permitted and non-permitted sources are as follows:

- Carcinogens
    - Maximally Exposed Individual risk equals or exceeds 20 in one million.
- Non-Carcinogens
    - Acute: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual.
    - Chronic: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual

Information regarding the project's construction emissions and diesel PM has been provided in Appendix A. Furthermore, implementation of the CEQA rules to limit TAC emissions described in Section 4.2.3, *Toxic Air Contaminants Regulations*, would result in the reduction of diesel PM exhaust emissions in addition to criteria pollutant emissions, particularly the measures to minimize engine idling time and maintain construction equipment in proper working condition and according to manufacturer's specifications.

## 5.2 Greenhouse Gas Emissions

Consistent with Appendix G of the State CEQA Guidelines, a project would have a significant GHG impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

State CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions projects and consider several other factors that may be used in the determination of significance of project-related GHG emissions, including the extent to which the project may increase or reduce GHG emissions, whether the project exceeds an applicable significant threshold, and the extent to which the project complies with the regulations or requirements adopted to implement a reduction or mitigation of GHG.

State CEQA Guidelines Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look at thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), as long as any threshold chosen is supported by substantial evidence (State CEQA Guidelines Section 15064.7(c)). The State CEQA Guidelines also clarify that the events of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (State CEQA Guidelines Section 15130(f)). It is noted that the State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with the GHG emissions reduction plan renders a cumulative impact less than significant.

Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions" (14 CCR 15064(h)(3)). Put another way, State CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory strategies to reduce GHG emissions.

Per State CEQA Guidelines Section 15064.4(b), "in determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions." When determining the significance of GHG impacts, lead agencies should consider the project's impact compared with the existing environmental setting, whether the project exceeds a threshold of significance, and compliance with relevant GHG-related plans (e.g., State CEQA Guidelines Section 15064.4(b)). Regarding the latter criterion, lead agencies should consider "the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (e.g., State CEQA Guidelines Section 15183.5(b))." Per State CEQA Guidelines Section 15064.4(b)(3), such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

The Valley Air District has not yet adopted updated significance thresholds for project-generated GHG emissions, an relied on the BAAQMD threshold of 1,100 MT of $CO_2e$ per year (Valley Air District 2009), which is presented in Table 6. If a project's emissions exceed the thresholds of significance, the project emissions may have a cumulatively considerable contribution to a significant cumulative environmental impact, answering Appendix G of the State CEQA Guidelines first GHG-related question on whether the project would generate GHG emissions, either directly or indirectly, that may have a significant impact on

the environment. The second GHG-related question in Appendix G of the State CEQA Guidelines asks if the project will conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. In order to answer this question, project emissions should be evaluated with respect to consistency with the plans and policies, if applicable, that have been adopted to reduce GHG emissions.

# 6 METHODOLOGY

This analysis focuses on the potential change in the air quality environment due to implementation of the project. Air pollution emissions would result from both construction and operation of the project. Specific methodologies used to evaluate these emissions are discussed below.

The analysis is based on project specifics and default values in the latest versions of California Emission Estimator Model (CalEEMod; CAPCOA 2023). Accordingly, this analysis has been conducted with the most recent available tools prepared and accepted by the regulatory agencies.

## 6.1 Construction Emissions

The project's emissions will be evaluated based on significance thresholds and CEQA guidance established by the Valley Air District, as discussed above. Daily and annual emissions during construction are estimated by assuming a conservative construction schedule and applying the multiple source and fugitive dust emission factors derived from Valley Air District-recommended CalEEMod version 2022.1.1.26. Details of the modeling assumptions and emission factors are provided in Appendix A. The calculations of the emissions generated during project construction activities reflect the types and quantities of construction equipment that would be used to complete the project.

### *6.1.1 Construction Assumptions*

Construction emissions associated with the project, including emissions associated with the operation of off-road equipment, haul-truck trips, on-road worker vehicle trips, vehicle travel on paved and unpaved surfaces, and fugitive dust from material handling activities, were calculated using CalEEMod version 2022.1.1.26 (CAPCOA 2023). 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 GHG emissions associated with both construction and operation of a variety of land use projects. The model uses widely accepted federal and state models for emission estimates and default data from sources such as EPA AP-42 emission factors, CARB vehicle emission models, and studies from California agencies such as the CEC. The model quantifies direct emissions from construction and operations, as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model was developed in collaboration with the air districts in California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

Emissions modeling including emissions generated during the project have been grouped into five stages in CalEEMod based on the types of equipment and workload: 1) Site Preparation, 2) Grading, 3) Building Construction, 4) Paving, and 5) Architectural Coating.

The following CalEEMod land uses were used to represent the project:

- General Light Industry: user defined for the 11.906 acres (which represents the total project area) with the 24,380-square-foot sand dryer plant.
- Unrefrigerated Warehouse-No Rail: user defined for the 11.906 acres with 34,020 square feet of buildings, which includes the three storage buildings.
- General Office Building: user defined for the 11.906 acres with a 4,000-square-foot office buildings.
- Parking Lot: 16 parking spaces, which totals 0.461 acres.

Modeling input data were based on this anticipated construction schedule and phasing. Construction equipment and usage required for each stage were obtained using CalEEMod defaults for the land use types that make up the project site, information provided by the applicant, and default parameters contained in the model for the project site (Merced County) and land uses.

With construction occurring intermittently over 36 months, a conservative approach was taken for this report and construction of the project, from mobilization to the site to final completion, was assumed to occur over a 12-month period, assumed to occur from January 2025 until early December 2025. Project construction would consist of different activities undertaken in stages, through to the operation of the project. Typical construction equipment would be used during all stages of project construction and would be stored within the staging area, potentially including aerial lift, a crane, an excavator, a forklift, a grader, tractors, a paver, a roller, a rubber-tired loader, a scraper, and other similar construction equipment. Table 7 shows the project's anticipated construction schedule, presents an estimate of the maximum number of pieces of equipment for each construction stage, and conservatively assumes that equipment would be operating 8 hours per day, 5 days per week for the duration of the construction stage. Table 7 also shows the project's anticipated work and haul truck trips necessary during construction. Haul truck trips include all hauling associated with the project such as materials, equipment and water deliveries. The proposed paved parking lot would occur at the end of construction and was assumed to be 16 parking spaces (0.46 acre of asphalt). The unmitigated construction emissions include dust control measures to comply with any Valley Air District fugitive dust control rules or client-committed control measures, discussed further in Section 7.3, *Control Measures*. In CalEEMod, the following control measures were included in the unmitigated model to reflect these standard fugitive dust controls: water exposed areas two times per day, and water the unpaved roads traveled to the project a minimum of two times per day.

**Table 7. Construction Anticipated Schedule, Trips, and Equipment**

| Stage (Dates and Duration) | Equipment Used | | | Daily Vehicle Trips |
|---|---|---|---|---|
| | Type | Number | Hours/ Day | |
| 1. Site Preparation (January 1–14, 2025; 10 working days) | Rubber Tired Dozers | 3 | 8 | Assumed 18 one-way worker trips<br>No one-way vendor trips<br>No one-way on-site haul truck trips<br>No assumed on-site truck travel |
| | Tractors/Loaders/Backhoes | 4 | 8 | |
| 2. Grading January 15–28, 2025; 10 working days) | Graders | 1 | 8 | Assumed 20 one-way worker trips<br>No one-way vendor trips<br>40 one-way on-site haul truck trips<br>No assumed on-site truck travel |
| | Tractors/Loaders/Backhoes | 2 | 8 | |
| | Rubber Tired Dozers | 1 | 8 | |
| | Excavators | 2 | 8 | |
| | Scrapers | 2 | 8 | |

| Stage (Dates and Duration) | Equipment Used | | | Daily Vehicle Trips |
|---|---|---|---|---|
| | Type | Number | Hours/ Day | |
| 3. Building Construction (January 29–November 4, 2025; 200 working days) | Cranes | 1 | 7 | Assumed 26 one-way worker trips<br>10 one-way vendor trips<br>No one-way on-site haul truck trips<br>No assumed on-site truck travel |
| | Forklifts | 3 | 8 | |
| | Generator Sets | 1 | 8 | |
| | Tractors/Loaders/Backhoes | 3 | 7 | |
| | Welders | 1 | 8 | |
| | Aerial Lifts | 1 | 4 | |
| | Rubber Tired Loaders | 1 | 2 | |
| | Off-Highway Tractors | 2 | 5 | |
| 4. Paving (November 5–18, 2025; 10 working days) | Pavers | 2 | 8 | Assumed 15 one-way worker trips<br>No one-way vendor trips<br>No one-way on-site haul truck trips<br>No assumed on-site truck travel |
| | Paving Equipment | 2 | 8 | |
| | Rollers | 2 | 8 | |
| 5. Architectural Coating (November 19–December 2, 2025; 10 working days) | Air Compressors | 1 | 6 | Assumed 5 one-way worker trips<br>No one-way vendor trips<br>No one-way on-site haul truck trips<br>No assumed on-site truck travel |

Notes: For the parameters that are not provided in the table (e.g., equipment horsepower and load factor), CalEEMod defaults were used.

In addition to Valley Air District Rules 8011 and 8021 detailed in Section 7.3 of this report, California regulations also limit idling from both on-road and off-road diesel-powered equipment.

## 6.2 Operational Emissions

When construction is completed, the project would be an operational new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the existing Don Chapin Ready Mix Concrete Batch Plant. Criteria pollutant and GHG emissions from the operation of the project were estimated using CalEEMod version 2022.1.1.26. Year 2026 was assumed as the first full year of operations. The operational emissions were calculated based on CalEEMod defaults associated with the project's land use types. Analysis of the project's likely impact on regional air quality during project operation takes into consideration the following sources associated with project operations: 1) mobile, 2) area, 3) energy, 4) water, 5) waste, 6) refrigeration, 7) stationary, and 8) offroad.

### *6.2.1 Energy Sources, Waste, Water, and Refrigeration*

As represented in CalEEMod, energy sources include emissions associated with building electricity. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off-site. Electricity use is calculated using CalEEMod defaults for the 4,000-square-foot office buildings, the 24,380-square-foot sand dryer plant, and the 34,020 square feet for the three storage buildings. Default emissions from water (indoor), waste, and refrigeration and air conditioning equipment are also conservatively calculated for each building. Electricity has also been calculated for the parking lot lighting, Area source emissions come from the default assumed architectural coating and landscaping equipment.

### 6.2.2 Mobile Sources

The project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of project operations. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. Truck trips would be required to haul sand and other materials to the sand dryer plant from Los Banos and to haul/ship the finished product. The proposed sand dryer plant would be closed to the public and no visitors or customers are expected. Passenger cars and heavy-duty trucks were chosen to represent the worker vehicles and the trucks, and trip purpose was designated as 100% primary trips.

### 6.2.3 Stationary Sources

The project would include stationary permitted source emissions associated with the sand drying plant. Detailed emission estimates will be finalized later as part of the permitting process and would comply with all set Valley Air District permit conditions.

### 6.2.4 Off-Road Sources

There will be one rubber-tired wheel loader that is currently at the project site working at the ready mix plant, that will be utilized in the sand dryer operation. The precasting operation will add one forklift. Therefore, two off-road, diesel, Tier 4-certified sources are included: one rubber-tired loader and one forklift. No other equipment is anticipated.

## 6.3 Greenhouse Gas Emissions

This analysis quantifies the project's total annual GHG emissions from construction. This analysis evaluates the significance of the project's GHG emissions by assessing the project's consistency with CEQA guidance.

### 6.3.1 Toxic Air Contaminants Impacts (Construction and Operations)

Potential TAC impacts were evaluated in this analysis by conducting a qualitative analysis. The TAC that is the focus of this analysis is diesel PM because it is known that diesel PM would be emitted during project construction and operation. Construction-related activities that would result in temporary, intermittent emissions of diesel PM would be from the exhaust of off-road equipment and on-road heavy-duty trucks. On-road diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions. The project is consistent with TAC-related rules and regulations, and the CalEEMod modeling shows the low-exhaust diesel PM during construction and operation (see Appendix A). Furthermore, implementation of Valley Air District and applicant-committed control measures, as discussed in Section 7.3, would result in the reduction of diesel PM exhaust emissions in addition to criteria pollutant emissions, particularly the measures to minimize engine idling time and maintain construction equipment in proper working condition and according to manufacturer's specifications.

# 7 IMPACT ANALYSIS

## 7.1 Environmental Impacts

### *Impact AQ-1. Would the project conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant)*

A project would conform with applicable adopted plans if it complies with the rules, regulations, and emission control strategies in the applicable air quality attainment plans. The project would comply with the applicable rules and regulations, including the use of standard control measures for construction equipment and fugitive $PM_{10}$.

Consistency with air quality plans is typically conducted based on a comparison of project-generated growth in employment, population, and vehicle miles traveled within the region, which is used for development of the emissions inventories contained in the air quality plans. The region's SIP comprises the Valley Air District air quality plans: 2016 Ozone Plan for 2008 8-Hour Ozone Standard, 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards, 2016 Plan for the 2012 $PM_{2.5}$ Standard, 2015 Plan for the 1997 $PM_{2.5}$ Standard, 2013 1-hour Ozone Plan, and several other older SIPs. Currently under review are the 2022 Ozone Plan for 2015 8-Hour Ozone Standard and the 2024 Plan for the 2012 $PM_{2.5}$ Standards (CARB 2024). Project compliance with all Valley Air District rules and regulations results in conformance with Valley Air District air quality plans. These air quality attainment plans are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These SIPs and associated control measures are based on information derived from projected growth in the air district in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by the counties and incorporated cities in each county.

The project would not significantly increase employment, population, or growth within the region. The project does not include residential development or large local or regional employment centers, and thus would not result in significant population or employment growth

The thresholds of significance, adopted by the Valley Air District, determine compliance with the goals of attainment plans in the region. As such, emissions below Valley Air District annual significance thresholds would not conflict with or obstruct implementation of the applicable air quality plans. The project implementation would generate emissions of criteria air pollutants during construction and operation. The emissions from project construction (Table 8) and operation (Table 9) are below the thresholds of significance; therefore, the project does not conflict with implementation of Valley Air District applicable air quality plans. The detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A. Therefore, the project would have less-than-significant impacts and no mitigation measures are required.

**Table 8. Unmitigated Construction Emissions Summary**

| | Unmitigated Construction Emissions | | | | | |
|---|---|---|---|---|---|---|
| **Construction Year** | **VOC** | **$NO_X$** | **CO** | **$PM_{10}$** | **$PM_{2.5}$** | **$SO_2$** |
| ***Pollutant Emission (short tons per year)*** | | | | | | |
| 2025 annual emissions | 0.20 | 1.67 | 2.10 | 0.24 | 0.14 | 0.004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Valley Air District annual significance thresholds | 10 | 10 | 100 | 15 | 15 | 27 |
| ***Threshold exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

Source: Emissions were quantified using CalEEMod version 2022.1.1.26 (CAPCOA 2023).

Note: Model results (summer, winter, and annual) and assumptions are provided in Appendix A of this report.

**Table 9. Unmitigated Operational Emissions Summary**

| | **Unmitigated Operational Emissions Summary** | | | | | |
|---|---|---|---|---|---|---|
| **Operation Year 2025** | **VOC** | **$NO_X$** | **CO** | **$PM_{10}$** | **$PM_{2.5}$** | **$SO_2$** |
| ***Pollutant Emission (short tons per year)*** | | | | | | |
| Mobile | 0.008 | 0.15 | 0.09 | 0.07 | 0.02 | <0.005 |
| Area | 0.30 | <0.01 | 0.24 | <0.005 | <0.005 | <0.005 |
| Energy | <0.01 | 0.07 | 0.06 | 0.005 | 0.005 | <0.005 |
| Water* | - | - | - | - | - | - |
| Waste* | - | - | - | - | - | - |
| Refrigeration* | - | - | - | - | - | - |
| Off-Road | 0.01 | 0.17 | 0.29 | <0.005 | <0.005 | <0.005 |
| **Total** | **0.32** | **0.39** | **0.69** | **0.05** | **0.02** | **<0.005** |
| Valley Air District annual significance thresholds | 10 | 10 | 100 | 15 | 15 | 27 |
| ***Threshold exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

Source: Emissions were quantified using CalEEMod version 2022.1.1.26 (CAPCOA 2023).

Note: Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

*Only $CO_2e$ emissions

### *Impact AQ-2. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard? (Less than Significant)*

Valley Air District's thresholds of significance represent the allowable emissions a project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed Valley Air District's thresholds of significance on a project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. The area is currently nonattainment for 1-hour and 8-hour ozone standards, nonattainment for annual arithmetic mean for $PM_{2.5}$ standards, and nonattainment for 24-hour $PM_{10}$ standards. The national attainment status for the project area is currently nonattainment/extreme for 8-hour ozone standards and nonattainment/serious for 24-hour and annual arithmetic mean for $PM_{2.5}$ standards. Impacts related to construction and operation of the project are addressed separately below.

#### CONSTRUCTION

Project implementation would generate emissions of criteria air pollutants during construction. The estimated unmitigated emissions from construction of the project are summarized in Table 8, which include the standard fugitive control measures. In CalEEMod, the following measures were included to reflect standard measures for fugitive dust control: water exposed areas two times per day, and water the unpaved roads traveled to the project a minimum of two times per day. The detailed assumptions and calculations, as well as CalEEMod outputs, are provided in Appendix A of this report.

As shown in Table 8, even without incorporation of mitigation measures, estimated unmitigated construction emissions for all pollutants are below Valley Air District annual significance thresholds. The combined construction emissions from all components of the project are below the recommended Valley Air District thresholds of significance. As presented above, the project would not violate any air quality significance thresholds or contribute considerably to an existing or projected air quality violation. However, for all proposed projects, the Valley Air District requires the use of standard control measures for construction equipment and fugitive $PM_{10}$, whether or not construction-related emissions exceed applicable thresholds of significance (see Section 7.3, *Control Measures*). Therefore, project construction would have a less-than-significant impact.

### OPERATIONS

When construction is completed, the project would be an operational new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the existing Don Chapin Ready Mix Concrete Batch Plant. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. Project operations would generate VOC, $NO_X$, CO, $SO_X$, $PM_{10}$, and $PM_{2.5}$ emissions. The estimated emissions from operation of the project are summarized in Table 9. Complete details of the emissions calculations are provided in Appendix A.

For this report, the life of the project is considered to be 30 years, after which decommissioning and removal would be considered. The emissions associated with decommissioning of the project are not quantitatively estimated, as the extent of activities and emissions factors for equipment and vehicles at the time of decommissioning are unknown. The overall activity would be anticipated to be somewhat less than project construction, and the emissions from off- and on-road equipment are expected to be much lower than those for the project construction. However, without changes in fugitive dust control methods, it is likely that fugitive dust emissions would be closer to those estimated for construction. Overall, similar to construction, emissions associated with decommissioning would be less than significant.

As Table 9 shows, estimated unmitigated operational emissions for all pollutants are below Valley Air District significance thresholds; however, per requirements of Valley Air District, dust control would be implemented during construction and operation of the project. The Valley Air District dust control measures are listed in Section 7.3. Also, project operations would not affect traffic volumes at any affected intersection. Therefore, the project would not exceed the CO screening criteria or the General Conformity de minimis thresholds and the project would have a less-than-significant impact related to CO hot spots.

The combined construction emissions and combined operational emissions from all components of the project are below the recommended Valley Air District thresholds of significance. Therefore, the project would not be anticipated to exceed any significance thresholds and would have a less-than-significant contribution to cumulative impacts.

### *Impact AQ-3. Would the project expose sensitive receptors to substantial pollutant concentrations? (Less than Significant Impact)*

Some population groups, such as children, the elderly, and acutely and chronically ill persons are considered more sensitive to air pollution than others. Sensitive receptor locations typically include residential areas, hospitals, elder-care facilities, rehabilitation centers, daycare centers, and parks. Surrounding land uses include the existing Don Chapin Ready Mix Concrete Batch Plant to the northwest, a junkyard to the east, undeveloped agricultural land and scattered rural residences to the north, residences to the southwest, and the Morning Star Packing Facility and General Manufacturing to the south. The closest sensitive receptor is located approximately 700 feet north of the project site. All other air quality sensitive receptors are located at greater distances from the project and would be less

impacted by project emissions. Implementation of the proposed project would only result in the long-term operation of permitted emission sources that would not adversely affect nearby sensitive receptors. Short-term (36 months on and off) construction activities could result in temporary increases in pollutant concentrations.

The project would not produce high doses of any TACs during construction or operation. Implementation of the project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Short-term construction activities (36 months on and off) could result in temporary increases in pollutant concentrations. Emissions of all criteria pollutants are below the Valley Air District thresholds and would not have any significant impact. The project's emissions of TACs would be minimal and would consist of diesel PM emissions during construction activities. Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations and the project would not include any industrial sources of other TACs.

Construction-related activities that would result in temporary, intermittent emissions of diesel PM would be from the exhaust of off-road equipment and on-road, heavy-duty trucks. On-road, diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions.

Based on the construction-related emissions modeling conducted (see Appendix A), maximum daily emissions of exhaust $PM_{10}$ (used as a surrogate for diesel PM since exhaust emission contain any diesel particulates) would be 1.37 pounds during peak construction. A portion of these emissions would be related to haul trucks traveling to and from the project site. In addition, studies show that diesel PM is highly dispersive and that concentrations of diesel PM decline with distance from the source (e.g., 500 feet from a freeway, the concentration of diesel PM decreases by 70%) (Roorda-Knape et al. 1999; Zhu et al. 2002, cited in CARB 2005:9). Construction would not be limited to only one portion of the project site but would occur throughout the project site in stages. Construction-related TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk greater than 10 in 1 million or a hazard index greater than 1.0 because the low exposure level reflects the 1) relatively low mass of diesel PM emissions that would be generated by construction activity on the project site (i.e., less than 5 pounds per day of exhaust $PM_{10}$), 2) the relatively short duration of diesel PM-emitting construction activity at the project site (26 months), and 3) the highly dispersive properties of diesel PM.

Operation-related TAC emissions would be negligible, and the project worker and truck trips would total 30 trips per day. Also, any on-road, diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions. No other TAC emission sources will occur during operations. The Valley Air District would monitor and control and potential TACs from permitted stationary sources. Therefore, construction- and operation-generated emissions of TACs would be less than significant.

## FUGITIVE DUST

During construction and operations activities, the project would implement dust control measures as necessary, including placing water on active inter-haul routes to mitigate fugitive dust.

### NATURALLY OCCURRING ASBESTOS

Airborne asbestos is classified as a known human carcinogen; the CARB identified asbestos as a TAC in 1986. The project is not located in a geologic setting with a potential to host asbestos; therefore, the project would not expose sensitive receptors to asbestos (CARB 2000a).

### *Impact AQ-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)*

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The project would not be a source of any odors during operations. Construction of the project could result in emission of odors from construction equipment and vehicles. During construction, a limited number of diesel engines would be operated on the project site for limited durations. Diesel exhaust and VOCs from these diesel engines would be emitted; however, the short duration of construction activities is expected to last approximately 36 months intermittently, limited in extent at any given time, and distributed through the project site. In addition, emissions would disperse rapidly from the project site and diesel exhaust odors would be consistent with existing vehicle odors in the area.

The project does not include any uses identified as being associated with odors. Existing surrounding land uses include the Don Chapin Ready Mix Concrete Batch Plant to the northwest, a junkyard to the east, undeveloped agricultural land and scattered rural residences to the north, residences to the southwest, and the Morning Star Packing Facility and General Manufacturing to the south. Beyond the scattered residences adjacent to the project site (the closest being approximately 700 feet north of the proposed project), there are not substantial numbers of people within the vicinity. Implementation of the proposed project would only result in the long-term operation of permitted emission sources that would not be odorous. Therefore, construction and operation of the project would not create other emissions or odors adversely affecting a substantial number of people; impacts would be less than significant.

### *Impact GHG-1. Would the project generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment? (Less than Significant Impact)*

### CONSTRUCTION

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. Total GHG emissions from all stages of construction activities were amortized over the estimated 30-year life of the project and added to the annual operational emissions of GHGs and the decommissioning emissions (assumed to be the amortized construction emissions). Project decommissioning emissions were not calculated as the equipment and fuel types that would exist 30 or more years in the future are unknown. Also, as described above, it is anticipated that the decommissioning emissions would be lower than the construction emissions.

Project construction emissions were calculated and compared to the Valley Air District annual significance thresholds. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described. Construction of the project is anticipated to last approximately 36 months, and with construction occurring intermittently over 36 months, a conservative approach was taken for this report, and construction of the project, from mobilization to the site to final completion, was assumed to occur over a 12-month period, assumed to occur from January 2025 until early December 2025. On-site sources of GHG emissions include off-road equipment and off-site sources, including haul

trucks, vendor trucks, and worker vehicles. Table 10 presents total construction emissions for the project from on-site and off-site emission sources for the annual time period.

**Table 10. Estimated Annual Construction Greenhouse Gas Emissions**

| Construction Years | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
|---|---|---|---|---|
| ***Metric Tons per Year*** | | | | |
| 2025 | 373.64 | 0.01 | 0.01 | 376.75 |
| *30-year amortized construction emissions* | | | | *13* |
| Valley Air District GHG threshold | N/A | N/A | N/A | 1,100 |
| ***Threshold exceeded?*** | ***N/A*** | ***N/A*** | ***N/A*** | ***No*** |

Note: N/A = not applicable. See Appendix A.

As shown in Table 10, the estimated total GHG emissions during construction would be approximately 377 metric tons of $CO_2e$ over the construction period, below the Valley Air District adopted threshold. Estimated project-generated construction emissions amortized over 30 years would be approximately 13 metric tons of $CO_2e$ per year. As with project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the project would occur only when construction is active, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Federal and state regulations in place require fuel-efficient equipment and vehicles and prohibit wasteful activities, such as diesel idling. Construction contractors, in an effort to ensure cost efficiency, would not be expected to engage in wasteful or unnecessary energy and fuel practices. Further, the project would be required to comply with applicable SJVAPCD Rules and Regulations, including SJVAPCD Standard Regulation IV (Prohibitions), which would further reduce the potential for diesel idling. The construction activities would not generate GHG emissions that would exceed Valley Air District thresholds, either directly or indirectly and compliance with existing state and local regulations would reduce GHG emissions during construction activities; therefore, short-term construction activities would not generate substantial GHG emissions that may have a significant impact on the environment, and construction-related impacts would be less than significant.

## OPERATION

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 6.2, *Operational Emissions*. The estimated operational project-generated GHG annual emissions are shown in Table 11.

**Table 11. Estimated Annual Operational GHG Emissions**

| Sector | GHG Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| Mobile | 100.50 | <0.005 | 0.02 | 104.99 |
| Area | 0.91 | <0.005 | <0.005 | 0.91 |
| Energy | 141.98 | 0.02 | <0.005 | 142.88 |
| Water | 8.80 | 0.46 | 0.01 | 23.68 |
| Waste | 5.88 | 0.59 | 0 | 20.58 |

| | | | | |
|---|---|---|---|---|
| Refrigeration | - | - | - | 1.05 |
| Off-Road | 38.54 | <0.005 | <0.005 | 38.67 |
| **Total** | **296.6** | **1.07** | **0.03** | **332.77** |
| | | | *Amortized construction emissions* | *13* |
| | | | **Total annual operational + amortized construction GHGs** | **346** |
| | | | **Valley Air District annual significance threshold** | **1,100** |
| | | | ***Threshold Exceeded?*** | ***No*** |
| | | | **Total operational (30 years) + amortized construction GHGs + decommissioning GHG (amortized construction GHGs)** | **10,016** |

Notes: N/A = not applicable. See Appendix A. Emissions reflect operational year 2026.

As shown in Table 11, estimated annual project-generated GHG emissions would be approximately 333 metric tons of $CO_2e$ per year as a result of project operations. After summing the amortized project construction emissions and annual operational emissions the total GHGs generated by the project would be approximately 346 metric tons of $CO_2e$ per year, which is far below the Valley Air District adopted threshold. After summing the amortized project construction emissions, total GHGs generated by the project, and the decommissioning emissions (assumed to equal the amortized project construction emission), the total would be approximately 10,016 metric tons of $CO_2e$ for the life of the project. The project's direct and indirect emissions sources would be under the Valley Air District adopted threshold. Further, the project would not generate a substantial amount of new GHG emissions associated with a substantial increase in vehicle trips to and from the project site. An existing Pacific Gas and Electric Company (PG&E) natural gas line is present along Ingomar Grade and would provide natural gas to the project once connected. In addition, the project is expected to be provided electricity by a service drop from PG&E, consisting of at least 1,200 amps. It is anticipated that the project would require 9,000,000 British thermal units (Btus) and 600 amps of electrical service. The additional service is being installed for potential future truck charging facilities for electric powered trucks and equipment. The Don Chapin Ready Mix Concrete Batch Plant location is currently being permitted to install solar power augmentation, which would add solar power to the existing ready mix concrete batch plant and the proposed sand dryer plant. Installation of solar power is not included in the proposed project. By using natural gas from PG&E, the project would promote the use of low-carbon-emitting energy sources. Therefore, operation of the project would not generate substantial GHG emissions that may have a significant impact on the environment, and operational impacts would be less than significant.

### *Impact GHG-2. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs? (Less than Significant Impact)*

Significance would be based on demonstrating consistency with the 2017 Scoping Plan and 2022 Scoping Plan Update. The 2017 Scoping Plan identifies strategies for meeting the state's 2030 GHG emissions reduction target of 40% below 1990 levels by 2030 as codified in SB 32 and the 2022 Scoping Plan Update assesses progress toward the statutory 2030 target and lays out a path to achieving carbon neutrality no later than 2045. Because the proposed project would be fully operational before 2030, it would be consistent with that guidance. Consequently, the proposed project would have no impact from conflict with the applicable plan for reducing GHG emissions. Operation of the project would result in approximately 30 daily vehicle trips, including 18 truck trips. The project is within the jurisdiction of the SJVAPCD and would be subject to the Climate Change Action Plan, which established BPSs to reduce VMT. Therefore, the project would not substantially increase the number of employees or associated vehicle trips, which is consistent with goals and policies related to the reduction of transportation-related GHG emissions. As previously identified, natural gas service would be provided by PG&E, which is

committed to supporting emerging renewable gas technologies to decarbonize the gas system (PG&E 2023). By using natural gas from PG&E, the project would reduce the long-term use of non-renewable energy resources, which is consistent with the goals and policies of the SJVAPCD Climate Change Action Plan; therefore, the project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. Projects that are consistent with applicable plan, policy, or regulation adopted to reduce GHG emissions are considered less than significant, and impacts would be less than significant.

### *Impact ENERGY-1. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (Less than Significant Impact)*

CONSTRUCTION

Project construction would consume energy in two general forms: fuel energy consumed by construction vehicles and equipment, and bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials, such as lumber and glass.

Construction of the project would involve on-site energy demand and consumption related to the use of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. Project construction methods would be typical of current construction practices and would not require the use of more energy intensive machinery or higher than normal volumes of trucks and worker vehicle trips.

Construction of the project would occur on and off over a 36-month duration, and would include site preparation, grading, building construction, paving, and architectural coating. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation administered by the CARB. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to the CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. As another benefit of these restrictions, off-road diesel-powered vehicles would consume less fuel and combust fuel more efficiently.

In addition, technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction in California, over the next few years. Therefore, temporary energy use during construction of the project would not result in a significant increase in peak or base demands on regional energy supplies or require additional capacity from local or regional energy supplies, and project construction activities would not result in a wasteful, inefficient, or unnecessary consumption of energy resources.

Further, substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials.

OPERATIONS

Operations would involve the use of electrical or gas-powered equipment. In addition to on-site energy use, the project would result in the consumption of oil-based fuels associated with vehicle trips generated by the employees and maintenance workers and electric and natural gas use as part of the permitted sand drying plant. Due to the CARB's increasing vehicle efficiency standards, it is assumed the long-term transportation fuel consumption from project operations would steadily decline over time and ensure that vehicle fuel consumption is not wasteful or inefficient.

The project would be subject to all relevant provisions of the most recent current standards of the Building Energy Efficiency Standards (Title 24) and CALGreen. Compliance with these standards would ensure that the building energy use associated with the project would not be wasteful, inefficient, or unnecessary. Thus, project impacts would be less than significant.

***Impact ENERGY-2. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)***

The County has not adopted a CAP or energy plan. The County is in the process of preparing a CAP, with a currently unknown anticipated completion date. Development of a CAP would outline specific strategies to reduce GHG emissions and is required by the General Plan. At this time, there are no regulations at the state or local level that would mandate that the proposed project include on-site renewable energy sources. The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the project would not conflict with implementation of a local plan for renewable energy or energy efficiency, and there would be no impact.

# 7.2 Cumulative Impacts

## *7.2.1 Air Quality*

The cumulative setting for air quality includes the county of Merced and the SJVAB. The SJVAB is currently nonattainment for 1-hour and 8-hour ozone standards, nonattainment for annual arithmetic mean for $PM_{2.5}$ standards, and nonattainment for 24-hour $PM_{10}$ standards. The national attainment status for the project area is currently nonattainment/extreme for 8-hour ozone standards and nonattainment/serious for 24-hour and annual arithmetic mean for $PM_{2.5}$ standards. Therefore, the region is considered an "attainment/unclassified" area for all other pollutants (EPA 2024c). Cumulative growth in population and vehicle use could inhibit efforts to improve regional air quality and attain the ambient air quality standards. The Valley Air District CEQA guidance does not include separate significance thresholds for cumulative construction and operational emissions. However, with respect to regional air pollution, the development of the project would not result in population growth. Therefore, the project would not affect the 2017 Clean Air Plan population forecasts. As described in threshold discussion above, the project would also be consistent with the appropriate 2017 Clean Air Plan control measures, which are provided to reduce air quality emissions for the entire region. Additionally, the threshold discussion addresses cumulative impacts and demonstrates that the project would not exceed the applicable Valley Air District thresholds for construction or operations. The nature of air emissions is largely a cumulative impact. Individual projects that do not generate operational or construction emissions that exceed the Valley Air District's recommended annual thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the SJVAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. The project would also not exceed the General Conformity de minimis thresholds for any pollutants in nonattainment. As such, project construction and operational-source emissions are considered less than significant.

### *7.2.2 Greenhouse Gas Emissions*

The analysis of a project's GHG emissions is inherently a cumulative impacts analysis because climate change is a global problem and the emissions from any single project alone would be negligible. Accordingly, the analysis above considers the potential for the project to contribute to the cumulative impact of a global climate change. Table 10 and Table 11 show the estimated annual project-generated GHG emissions as a result of project construction and operation. Given that the project would not conflict with applicable reduction plans and policies, and given that GHG emission impacts are cumulative in nature, the project's incremental contribution to cumulatively significant GHG emissions would be less than significant.

## 7.3 Control Measures

In compliance with Valley Air District Regulation VIII (which includes Rules 8011, 8021, 8031, 8041, 8051, 8061, and 8071) requirements, the following measures would be implemented during construction of the project:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, using chemical stabilizer/suppressant, or by covering with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

Valley Air District Rule 8021 requires the owner or operator to obtain approval of a Dust Control Plan prior to commencing construction activities at any project that meets any of these thresholds:

- Non-residential projects that include 5 acres or more of disturbed surface area.
- Residential projects that include 10 or more acres of disturbed surface area.

- Projects that involve the movement of 2,500 cubic yards or more of bulk material on any 3 days of the project—consecutive or otherwise—regardless of disturbed surface area.

The project would disturb more than 5 acres and therefore would obtain a Dust Control Plan and comply with all recordkeeping requirements.

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# APPENDIX A

# CalEEMod Results:
# Air Pollutant and GHG Emission Calculations

# Don Chapin - Sand Dryer Facility Custom Report

## Table of Contents

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | Don Chapin - Sand Dryer Facility |
| Construction Start Date | 1/1/2025 |
| Operational Year | 2025 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.80 |
| Precipitation (days) | 25.0 |
| Location | 23878 Ingomar Grade, Los Banos, CA 93635, USA |
| County | Merced |
| City | Unincorporated |
| Air District | San Joaquin Valley APCD |
| Air Basin | San Joaquin Valley |
| TAZ | 2312 |
| EDFZ | 5 |
| 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 |
|---|---|---|---|---|---|---|---|---|
| General Light Industry | 24.4 | 1000sqft | 11.9 | 24,380 | 0.00 | 0.00 | — | Sand Dryer Plant |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 34.0 | 1000sqft | 11.9 | 34,020 | 0.00 | 0.00 | — | Three Storage Buildings |
| General Office Building | 4.00 | 1000sqft | 11.9 | 4,000 | 0.00 | 0.00 | — | Office |
| Parking Lot | 20.1 | 1000sqft | 0.46 | 0.00 | 0.00 | 0.00 | — | 16 parking employee spaces |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.83 | 1.55 | 13.0 | 17.7 | 0.03 | 0.51 | 0.27 | 0.78 | 0.47 | 0.07 | 0.54 | — | 3,298 | 3,298 | 0.13 | 0.07 | 1.60 | 3,324 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 4.03 | 3.40 | 33.3 | 31.0 | 0.08 | 1.37 | 19.8 | 21.2 | 1.26 | 10.1 | 11.4 | — | 9,515 | 9,515 | 0.30 | 0.50 | 0.19 | 9,670 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.27 | 1.07 | 9.14 | 11.5 | 0.02 | 0.36 | 0.97 | 1.33 | 0.33 | 0.42 | 0.75 | — | 2,257 | 2,257 | 0.09 | 0.05 | 0.48 | 2,276 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.23 | 0.20 | 1.67 | 2.10 | < 0.005 | 0.07 | 0.18 | 0.24 | 0.06 | 0.08 | 0.14 | — | 374 | 374 | 0.01 | 0.01 | 0.08 | 377 |

### 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 | 1.83 | 1.55 | 13.0 | 17.7 | 0.03 | 0.51 | 0.27 | 0.78 | 0.47 | 0.07 | 0.54 | — | 3,298 | 3,298 | 0.13 | 0.07 | 1.60 | 3,324 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 4.03 | 3.40 | 33.3 | 31.0 | 0.08 | 1.37 | 19.8 | 21.2 | 1.26 | 10.1 | 11.4 | — | 9,515 | 9,515 | 0.30 | 0.50 | 0.19 | 9,670 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 1.27 | 1.07 | 9.14 | 11.5 | 0.02 | 0.36 | 0.97 | 1.33 | 0.33 | 0.42 | 0.75 | — | 2,257 | 2,257 | 0.09 | 0.05 | 0.48 | 2,276 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 0.23 | 0.20 | 1.67 | 2.10 | < 0.005 | 0.07 | 0.18 | 0.24 | 0.06 | 0.08 | 0.14 | — | 374 | 374 | 0.01 | 0.01 | 0.08 | 377 |

## 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. | 2.05 | 1.98 | 2.52 | 5.87 | 0.01 | 0.05 | 0.21 | 0.26 | 0.05 | 0.06 | 0.10 | 62.8 | 1,834 | 1,897 | 6.48 | 0.17 | 7.95 | 2,116 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.56 | 1.53 | 2.55 | 3.10 | 0.01 | 0.04 | 0.21 | 0.25 | 0.04 | 0.06 | 0.10 | 62.8 | 1,816 | 1,879 | 6.48 | 0.17 | 6.40 | 2,097 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.79 | 1.74 | 2.16 | 3.78 | 0.01 | 0.04 | 0.21 | 0.25 | 0.04 | 0.05 | 0.10 | 62.8 | 1,729 | 1,792 | 6.47 | 0.17 | 7.04 | 2,010 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unmit. | 0.33 | 0.32 | 0.39 | 0.69 | < 0.005 | 0.01 | 0.04 | 0.05 | 0.01 | 0.01 | 0.02 | 10.4 | 286 | 297 | 1.07 | 0.03 | 1.17 | 333 |

## 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 | 0.06 | 0.05 | 0.80 | 0.56 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 612 | 612 | 0.01 | 0.09 | 1.59 | 640 |
| Area | 1.90 | 1.86 | 0.02 | 2.71 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 11.2 | 11.2 | < 0.005 | < 0.005 | — | 11.2 |
| Energy | 0.04 | 0.02 | 0.36 | 0.30 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 858 | 858 | 0.11 | 0.01 | — | 863 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 27.2 | 25.9 | 53.1 | 2.80 | 0.07 | — | 143 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 35.5 | 0.00 | 35.5 | 3.55 | 0.00 | — | 124 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.36 | 6.36 |
| Off-Road | 0.05 | 0.05 | 1.33 | 2.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 327 | 327 | 0.01 | < 0.005 | — | 328 |
| Total | 2.05 | 1.98 | 2.52 | 5.87 | 0.01 | 0.05 | 0.21 | 0.26 | 0.05 | 0.06 | 0.10 | 62.8 | 1,834 | 1,897 | 6.48 | 0.17 | 7.95 | 2,116 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.05 | 0.04 | 0.86 | 0.50 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 606 | 606 | 0.01 | 0.09 | 0.04 | 632 |
| Area | 1.42 | 1.42 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.04 | 0.02 | 0.36 | 0.30 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 858 | 858 | 0.11 | 0.01 | — | 863 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 27.2 | 25.9 | 53.1 | 2.80 | 0.07 | — | 143 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 35.5 | 0.00 | 35.5 | 3.55 | 0.00 | — | 124 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.36 | 6.36 |
| Off-Road | 0.05 | 0.05 | 1.33 | 2.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 327 | 327 | 0.01 | < 0.005 | — | 328 |
| Total | 1.56 | 1.53 | 2.55 | 3.10 | 0.01 | 0.04 | 0.21 | 0.25 | 0.04 | 0.06 | 0.10 | 62.8 | 1,816 | 1,879 | 6.48 | 0.17 | 6.40 | 2,097 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mobile | 0.06 | 0.05 | 0.84 | 0.50 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.05 | 0.06 | — | 607 | 607 | 0.01 | 0.09 | 0.69 | 634 |
| Area | 1.66 | 1.64 | 0.01 | 1.34 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.50 | 5.50 | < 0.005 | < 0.005 | — | 5.52 |
| Energy | 0.04 | 0.02 | 0.36 | 0.30 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 858 | 858 | 0.11 | 0.01 | — | 863 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 27.2 | 25.9 | 53.1 | 2.80 | 0.07 | — | 143 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 35.5 | 0.00 | 35.5 | 3.55 | 0.00 | — | 124 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.36 | 6.36 |
| Off-Road | 0.04 | 0.04 | 0.95 | 1.64 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 233 | 233 | 0.01 | < 0.005 | — | 234 |
| Total | 1.79 | 1.74 | 2.16 | 3.78 | 0.01 | 0.04 | 0.21 | 0.25 | 0.04 | 0.05 | 0.10 | 62.8 | 1,729 | 1,792 | 6.47 | 0.17 | 7.04 | 2,010 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.01 | 0.01 | 0.15 | 0.09 | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 100 | 100 | < 0.005 | 0.01 | 0.11 | 105 |
| Area | 0.30 | 0.30 | < 0.005 | 0.24 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.91 | 0.91 | < 0.005 | < 0.005 | — | 0.91 |
| Energy | 0.01 | < 0.005 | 0.07 | 0.06 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 142 | 142 | 0.02 | < 0.005 | — | 143 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 4.51 | 4.29 | 8.80 | 0.46 | 0.01 | — | 23.7 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 5.88 | 0.00 | 5.88 | 0.59 | 0.00 | — | 20.6 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.05 | 1.05 |
| Off-Road | 0.01 | 0.01 | 0.17 | 0.30 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 38.5 | 38.5 | < 0.005 | < 0.005 | — | 38.7 |
| Total | 0.33 | 0.32 | 0.39 | 0.69 | < 0.005 | 0.01 | 0.04 | 0.05 | 0.01 | 0.01 | 0.02 | 10.4 | 286 | 297 | 1.07 | 0.03 | 1.17 | 333 |

# 3. Construction Emissions Details

## 3.1. Site 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.94 | 3.31 | 31.6 | 30.2 | 0.05 | 1.37 | — | 1.37 | 1.26 | — | 1.26 | — | 5,295 | 5,295 | 0.21 | 0.04 | — | 5,314 |
| Dust From Material Movement | — | — | — | — | — | — | 19.7 | 19.7 | — | 10.1 | 10.1 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.11 | 0.09 | 0.87 | 0.83 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 145 | 145 | 0.01 | < 0.005 | — | 146 |
| Dust From Material Movement | — | — | — | — | — | — | 0.54 | 0.54 | — | 0.28 | 0.28 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.16 | 0.15 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 24.0 | 24.0 | < 0.005 | < 0.005 | — | 24.1 |
| Dust From Material Movement | — | — | — | — | — | — | 0.10 | 0.10 | — | 0.05 | 0.05 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.09 | 0.09 | 0.84 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.03 | 0.03 | — | 133 | 133 | 0.01 | 0.01 | 0.02 | 135 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.76 | 3.76 | < 0.005 | < 0.005 | 0.01 | 3.82 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.62 | 0.62 | < 0.005 | < 0.005 | < 0.005 | 0.63 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 3.80 | 3.20 | 29.7 | 28.3 | 0.06 | 1.23 | — | 1.23 | 1.14 | — | 1.14 | — | 6,599 | 6,599 | 0.27 | 0.05 | — | 6,622 |
| Dust From Material Movement | — | — | — | — | — | — | 9.22 | 9.22 | — | 3.66 | 3.66 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.09 | 0.81 | 0.78 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 181 | 181 | 0.01 | < 0.005 | — | 181 |
| Dust From Material Movement | — | — | — | — | — | — | 0.25 | 0.25 | — | 0.10 | 0.10 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.15 | 0.14 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 29.9 | 29.9 | < 0.005 | < 0.005 | — | 30.0 |
| Dust From Material Movement | — | — | — | — | — | — | 0.05 | 0.05 | — | 0.02 | 0.02 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.10 | 0.96 | 0.00 | 0.00 | 0.15 | 0.15 | 0.00 | 0.04 | 0.04 | — | 152 | 152 | 0.01 | 0.01 | 0.02 | 154 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.09 | 0.05 | 3.52 | 0.73 | 0.02 | 0.05 | 0.74 | 0.79 | 0.05 | 0.20 | 0.26 | — | 2,764 | 2,764 | 0.02 | 0.44 | 0.18 | 2,895 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.30 | 4.30 | < 0.005 | < 0.005 | 0.01 | 4.37 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | < 0.005 | 0.09 | 0.02 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.01 | 0.01 | — | 75.7 | 75.7 | < 0.005 | 0.01 | 0.08 | 79.3 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.71 | 0.71 | < 0.005 | < 0.005 | < 0.005 | 0.72 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 12.5 | 12.5 | < 0.005 | < 0.005 | 0.01 | 13.1 |

## 3.5. Building Construction (2025) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.66 | 1.39 | 12.5 | 15.9 | 0.03 | 0.51 | — | 0.51 | 0.47 | — | 0.47 | — | 2,813 | 2,813 | 0.11 | 0.02 | — | 2,822 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Roa Equipment | 1.66 | 1.39 | 12.5 | 15.9 | 0.03 | 0.51 | — | 0.51 | 0.47 | — | 0.47 | — | 2,813 | 2,813 | 0.11 | 0.02 | — | 2,822 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Roa d Equipm ent | 0.91 | 0.76 | 6.87 | 8.72 | 0.01 | 0.28 | — | 0.28 | 0.26 | — | 0.26 | — | 1,541 | 1,541 | 0.06 | 0.01 | — | 1,547 |
| 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-Roa d Equipm ent | 0.17 | 0.14 | 1.25 | 1.59 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 255 | 255 | 0.01 | < 0.005 | — | 256 |
| 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 | 0.15 | 0.14 | 0.10 | 1.63 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 220 | 220 | 0.01 | 0.01 | 0.88 | 224 |
| Vendor | 0.02 | 0.01 | 0.35 | 0.13 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 266 | 266 | < 0.005 | 0.04 | 0.72 | 278 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.14 | 0.13 | 0.13 | 1.24 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 196 | 196 | 0.01 | 0.01 | 0.02 | 199 |
| Vendor | 0.01 | 0.01 | 0.37 | 0.14 | < 0.005 | < 0.005 | 0.07 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 266 | 266 | < 0.005 | 0.04 | 0.02 | 278 |
| 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 | 0.08 | 0.07 | 0.06 | 0.71 | 0.00 | 0.00 | 0.11 | 0.11 | 0.00 | 0.02 | 0.02 | — | 111 | 111 | 0.01 | < 0.005 | 0.21 | 113 |
| Vendor | 0.01 | 0.01 | 0.20 | 0.07 | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 146 | 146 | < 0.005 | 0.02 | 0.17 | 152 |
| 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 | 0.13 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 18.4 | 18.4 | < 0.005 | < 0.005 | 0.03 | 18.7 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 24.1 | 24.1 | < 0.005 | < 0.005 | 0.03 | 25.2 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.95 | 0.80 | 7.45 | 9.98 | 0.01 | 0.35 | — | 0.35 | 0.32 | — | 0.32 | — | 1,511 | 1,511 | 0.06 | 0.01 | — | 1,517 |
| Paving | 0.12 | 0.12 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.20 | 0.27 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 41.4 | 41.4 | < 0.005 | < 0.005 | — | 41.6 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.04 | 0.05 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 6.86 | 6.86 | < 0.005 | < 0.005 | — | 6.88 |
| Paving | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.07 | 0.72 | 0.00 | 0.00 | 0.11 | 0.11 | 0.00 | 0.03 | 0.03 | — | 114 | 114 | 0.01 | < 0.005 | 0.01 | 116 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.22 | 3.22 | < 0.005 | < 0.005 | 0.01 | 3.27 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.53 | 0.53 | < 0.005 | < 0.005 | < 0.005 | 0.54 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.15 | 0.13 | 0.88 | 1.14 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | 0.56 | 0.56 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.02 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 3.66 | 3.66 | < 0.005 | < 0.005 | — | 3.67 |
| Architectural Coatings | 0.02 | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | < 0.005 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.61 | 0.61 | < 0.005 | < 0.005 | — | 0.61 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architectural Coating | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.03 | 0.25 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 39.3 | 39.3 | < 0.005 | < 0.005 | < 0.005 | 39.8 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.11 | 1.11 | < 0.005 | < 0.005 | < 0.005 | 1.13 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.18 | 0.18 | < 0.005 | < 0.005 | < 0.005 | 0.19 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | 0.06 | 0.05 | 0.80 | 0.56 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 612 | 612 | 0.01 | 0.09 | 1.59 | 640 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Office Building | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.06 | 0.05 | 0.80 | 0.56 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 612 | 612 | 0.01 | 0.09 | 1.59 | 640 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | 0.05 | 0.04 | 0.86 | 0.50 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 606 | 606 | 0.01 | 0.09 | 0.04 | 632 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Office Building | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.05 | 0.04 | 0.86 | 0.50 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 606 | 606 | 0.01 | 0.09 | 0.04 | 632 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Light Industry | 0.01 | 0.01 | 0.15 | 0.09 | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 100 | 100 | < 0.005 | 0.01 | 0.11 | 105 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Office Building | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.01 | 0.01 | 0.15 | 0.09 | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 100 | 100 | < 0.005 | 0.01 | 0.11 | 105 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | — | 162 | 162 | 0.03 | < 0.005 | — | 163 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 204 | 204 | 0.03 | < 0.005 | — | 206 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 52.4 | 52.4 | 0.01 | < 0.005 | — | 52.9 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 9.82 | 9.82 | < 0.005 | < 0.005 | — | 9.92 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 428 | 428 | 0.07 | 0.01 | — | 432 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | — | 162 | 162 | 0.03 | < 0.005 | — | 163 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 204 | 204 | 0.03 | < 0.005 | — | 206 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 52.4 | 52.4 | 0.01 | < 0.005 | — | 52.9 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 9.82 | 9.82 | < 0.005 | < 0.005 | — | 9.92 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 428 | 428 | 0.07 | 0.01 | — | 432 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | — | 26.8 | 26.8 | < 0.005 | < 0.005 | — | 27.0 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 33.8 | 33.8 | 0.01 | < 0.005 | — | 34.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 8.68 | 8.68 | < 0.005 | < 0.005 | — | 8.76 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 1.63 | 1.63 | < 0.005 | < 0.005 | — | 1.64 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 70.9 | 70.9 | 0.01 | < 0.005 | — | 71.6 |

## 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | 0.03 | 0.01 | 0.27 | 0.23 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 320 | 320 | 0.03 | < 0.005 | — | 321 |
| Unrefrigerated Warehouse-No Rail | 0.01 | < 0.005 | 0.05 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 58.2 | 58.2 | 0.01 | < 0.005 | — | 58.3 |
| General Office Building | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 51.2 | 51.2 | < 0.005 | < 0.005 | — | 51.3 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.04 | 0.02 | 0.36 | 0.30 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 429 | 429 | 0.04 | < 0.005 | — | 431 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | 0.03 | 0.01 | 0.27 | 0.23 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 320 | 320 | 0.03 | < 0.005 | — | 321 |
| Unrefrigerated Warehouse-No Rail | 0.01 | < 0.005 | 0.05 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 58.2 | 58.2 | 0.01 | < 0.005 | — | 58.3 |
| General Office Building | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 51.2 | 51.2 | < 0.005 | < 0.005 | — | 51.3 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.04 | 0.02 | 0.36 | 0.30 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 429 | 429 | 0.04 | < 0.005 | — | 431 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | 0.01 | < 0.005 | 0.05 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 53.0 | 53.0 | < 0.005 | < 0.005 | — | 53.1 |
| Unrefrigerated Warehouse-No Rail | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 9.63 | 9.63 | < 0.005 | < 0.005 | — | 9.66 |
| General Office Building | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.48 | 8.48 | < 0.005 | < 0.005 | — | 8.50 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.01 | < 0.005 | 0.07 | 0.06 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 71.1 | 71.1 | 0.01 | < 0.005 | — | 71.3 |

## 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 | 1.34 | 1.34 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.08 | 0.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Landsca Equipment | 0.48 | 0.45 | 0.02 | 2.71 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 11.2 | 11.2 | < 0.005 | < 0.005 | — | 11.2 |
| Total | 1.90 | 1.86 | 0.02 | 2.71 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 11.2 | 11.2 | < 0.005 | < 0.005 | — | 11.2 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 1.34 | 1.34 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.08 | 0.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 1.42 | 1.42 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 0.24 | 0.24 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.01 | 0.01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.04 | 0.04 | < 0.005 | 0.24 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.91 | 0.91 | < 0.005 | < 0.005 | — | 0.91 |
| Total | 0.30 | 0.30 | < 0.005 | 0.24 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.91 | 0.91 | < 0.005 | < 0.005 | — | 0.91 |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | 10.8 | 10.3 | 21.1 | 1.11 | 0.03 | — | 56.7 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 15.1 | 14.3 | 29.4 | 1.55 | 0.04 | — | 79.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 1.36 | 1.30 | 2.66 | 0.14 | < 0.005 | — | 7.15 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 27.2 | 25.9 | 53.1 | 2.80 | 0.07 | — | 143 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | 10.8 | 10.3 | 21.1 | 1.11 | 0.03 | — | 56.7 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 15.1 | 14.3 | 29.4 | 1.55 | 0.04 | — | 79.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 1.36 | 1.30 | 2.66 | 0.14 | < 0.005 | — | 7.15 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 27.2 | 25.9 | 53.1 | 2.80 | 0.07 | — | 143 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | 1.79 | 1.70 | 3.49 | 0.18 | < 0.005 | — | 9.39 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 2.50 | 2.37 | 4.87 | 0.26 | 0.01 | — | 13.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.23 | 0.21 | 0.44 | 0.02 | < 0.005 | — | 1.18 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 4.51 | 4.29 | 8.80 | 0.46 | 0.01 | — | 23.7 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | 16.3 | 0.00 | 16.3 | 1.63 | 0.00 | — | 57.0 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 17.2 | 0.00 | 17.2 | 1.72 | 0.00 | — | 60.3 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.00 | 0.00 | 2.00 | 0.20 | 0.00 | — | 7.01 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 35.5 | 0.00 | 35.5 | 3.55 | 0.00 | — | 124 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | 16.3 | 0.00 | 16.3 | 1.63 | 0.00 | — | 57.0 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 17.2 | 0.00 | 17.2 | 1.72 | 0.00 | — | 60.3 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.00 | 0.00 | 2.00 | 0.20 | 0.00 | — | 7.01 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 35.5 | 0.00 | 35.5 | 3.55 | 0.00 | — | 124 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | 2.70 | 0.00 | 2.70 | 0.27 | 0.00 | — | 9.44 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 2.85 | 0.00 | 2.85 | 0.29 | 0.00 | — | 9.98 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.33 | 0.00 | 0.33 | 0.03 | 0.00 | — | 1.16 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 5.88 | 0.00 | 5.88 | 0.59 | 0.00 | — | 20.6 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.35 | 6.35 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.01 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.36 | 6.36 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.35 | 6.35 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.01 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.36 | 6.36 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Light Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.05 | 1.05 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.05 | 1.05 |

## 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) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Rubber Tired Loaders | 0.04 | 0.04 | 1.02 | 1.76 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 251 | 251 | 0.01 | < 0.005 | — | 251 |
| Forklifts | 0.01 | 0.01 | 0.31 | 0.54 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 76.2 | 76.2 | < 0.005 | < 0.005 | — | 76.5 |
| Total | 0.05 | 0.05 | 1.33 | 2.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 327 | 327 | 0.01 | < 0.005 | — | 328 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Rubber Tired Loaders | 0.04 | 0.04 | 1.02 | 1.76 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 251 | 251 | 0.01 | < 0.005 | — | 251 |
| Forklifts | 0.01 | 0.01 | 0.31 | 0.54 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 76.2 | 76.2 | < 0.005 | < 0.005 | — | 76.5 |
| Total | 0.05 | 0.05 | 1.33 | 2.30 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 327 | 327 | 0.01 | < 0.005 | — | 328 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Rubber Tired Loaders | < 0.005 | < 0.005 | 0.13 | 0.23 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 29.5 | 29.5 | < 0.005 | < 0.005 | — | 29.7 |
| Forklifts | < 0.005 | < 0.005 | 0.04 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.99 | 8.99 | < 0.005 | < 0.005 | — | 9.02 |
| Total | 0.01 | 0.01 | 0.17 | 0.30 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 38.5 | 38.5 | < 0.005 | < 0.005 | — | 38.7 |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Site Preparation | Site Preparation | 1/1/2025 | 1/14/2025 | 5.00 | 10.0 | — |
| Grading | Grading | 1/15/2025 | 1/28/2025 | 5.00 | 10.0 | — |
| Building Construction | Building Construction | 1/29/2025 | 11/4/2025 | 5.00 | 200 | — |
| Paving | Paving | 11/5/2025 | 11/18/2025 | 5.00 | 10.0 | — |
| Architectural Coating | Architectural Coating | 11/19/2025 | 12/2/2025 | 5.00 | 10.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | Diesel | Average | 3.00 | 8.00 | 367 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Grading | Excavators | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 7.00 | 84.0 | 0.37 |
| Building Construction | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Building Construction | Aerial Lifts | Diesel | Average | 1.00 | 4.00 | 46.0 | 0.31 |
| Building Construction | Rubber Tired Loaders | Diesel | Average | 1.00 | 2.00 | 150 | 0.36 |
| Building Construction | Off-Highway Tractors | Diesel | Average | 2.00 | 5.00 | 38.0 | 0.44 |
| Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |
| Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 17.5 | 10.9 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 8.27 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 20.0 | 10.9 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 8.27 | HHDT,MHDT |
| Grading | Hauling | 40.0 | 20.0 | HHDT |

| | | | | |
|---|---|---|---|---|
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 25.8 | 10.9 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 10.2 | 8.27 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 15.0 | 10.9 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 8.27 | HHDT,MHDT |
| Paving | Hauling | 0.00 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 5.16 | 10.9 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 8.27 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

| Control Strategies Applied | PM10 Reduction | PM2.5 Reduction |
|---|---|---|
| Water unpaved roads twice daily | 55% | 55% |

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 1,204 |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Site Preparation | — | — | 11.9 | 0.00 | — |
| Grading | — | 3,200 | 11.9 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 0.46 |

### 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 |
|---|---|---|
| General Light Industry | 0.00 | 0% |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0% |
| General Office Building | 0.00 | 0% |
| Parking Lot | 0.46 | 100% |

## 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 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| General Light Industry | 30.1 | 30.1 | 30.1 | 10,972 | 254 | 254 | 254 | 92,867 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Office Building | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|
| 0 | 0.00 | 93,600 | 31,200 | 1,204 |

### 5.10.3. Landscape Equipment

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

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

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

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| General Light Industry | 289,248 | 204 | 0.0330 | 0.0040 | 998,905 |

| | | | | | |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 365,369 | 204 | 0.0330 | 0.0040 | 181,468 |
| General Office Building | 93,786 | 204 | 0.0330 | 0.0040 | 159,756 |
| Parking Lot | 17,577 | 204 | 0.0330 | 0.0040 | 0.00 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| General Light Industry | 5,637,875 | 0.00 |
| Unrefrigerated Warehouse-No Rail | 7,867,125 | 0.00 |
| General Office Building | 710,935 | 0.00 |
| Parking Lot | 0.00 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| General Light Industry | 30.2 | — |
| Unrefrigerated Warehouse-No Rail | 32.0 | — |
| General Office Building | 3.72 | — |
| Parking Lot | 0.00 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| General Light Industry | Other commercial A/C and heat pumps | R-410A | 2,088 | 0.30 | 4.00 | 4.00 | 18.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| General Office Building | Household refrigerators and/or freezers | R-134a | 1,430 | 0.02 | 0.60 | 0.00 | 1.00 |
| General Office Building | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |

## 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 |
|---|---|---|---|---|---|---|
| Rubber Tired Loaders | Diesel | Tier 4 Interim | 1.00 | 4.00 | 150 | 0.36 |
| Forklifts | Diesel | Tier 4 Interim | 1.00 | 4.00 | 82.0 | 0.20 |

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|---|---|---|---|---|---|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|---|---|

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

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

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 55.4 |
| AQ-PM | 12.0 |
| AQ-DPM | 19.2 |
| Drinking Water | 99.0 |
| Lead Risk Housing | 48.2 |
| Pesticides | 80.8 |
| Toxic Releases | 5.71 |
| Traffic | 54.8 |
| Effect Indicators | — |
| CleanUp Sites | 59.0 |

| | |
|---|---|
| Groundwater | 97.3 |
| Haz Waste Facilities/Generators | 7.35 |
| Impaired Water Bodies | 96.3 |
| Solid Waste | 93.2 |
| Sensitive Population | — |
| Asthma | 93.0 |
| Cardio-vascular | 67.6 |
| Low Birth Weights | 23.7 |
| Socioeconomic Factor Indicators | — |
| Education | 85.2 |
| Housing | 46.5 |
| Linguistic | 84.5 |
| Poverty | 69.3 |
| Unemployment | 95.7 |

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Land Use | 11.906-acre site |
| Construction: Construction Phases | No demo. All other phases left as default. |
| Construction: Dust From Material Movement | 3200 CY of stripping, may be off-hauled or stored on site. |
| Operations: Vehicle Data | 30 total daily trips. 18 truck trips and 12 employee trips. |
| Operations: Fleet Mix | 30 total daily trips. 18 truck trips and 12 employee trips. |
| Operations: Off-Road Equipment | Rubber tired loader and forklift are Tier 4 Certified. |
| Construction: Off-Road Equipment | Based on provided construction information. |
| Construction: Architectural Coatings | Architectural coating for parking lot only. |

# APPENDIX B

# Biological Resource Assessment

# Biological Resources Assessment for the Don Chapin Sand Dryer Plant Project, Volta, Merced County, California

**NOVEMBER 2024**

PREPARED FOR

**Merced County**

**Community and Economic Development Department**

PREPARED BY

**SWCA Environmental Consultants**

# BIOLOGICAL RESOURCES ASSESSMENT FOR THE DON CHAPIN SAND DRYER PLANT PROJECT, VOLTA, MERCED COUNTY, CALIFORNIA

Prepared for

**Merced County**
**Community and Economic Development Department**
2222 “M” Street
Merced, California 95340
Attn: Tiffany Ho, Deputy Director of Planning

Prepared by

Sara Snyder, M.S., and Kyle Suchy, B.S.

**SWCA Environmental Consultants**
4111 Broad Street, Suite 210
San Luis Obispo, California 93401
(805) 543-7095
www.swca.com

SWCA Project No. 85159

November 2024

# EXECUTIVE SUMMARY

SWCA Environmental Consultants (SWCA) has prepared this Biological Resources Assessment (BRA) at the request of the County of Merced for the Don Chapin Company, Inc. (applicant) in support of the proposed Don Chapin Sand Dryer Plant Project (project), located on three parcels in Volta in Merced County, California. The proposed project consists of constructing and operating a new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the Don Chapin Ready Mix Concrete Batch Plant.

SWCA staff conducted a field survey of the 11.91-acre project site on July 30, 2024. The survey consisted of a habitat assessment and vegetation community classification, a botanical and wildlife species inventory, a jurisdictional analysis, and an analysis of the potential for special-status botanical and wildlife species to occur on-site.

Suitable and/or Marginally Suitable habitat for 12 special-status plant species, eight special-status wildlife species, and nesting birds were observed within the biological survey area (BSA), which included the proposed project site and a 100-foot buffer. Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*), a California Rare Plant Rank (CRPR) 4.2, was observed within the BSA. Two California Department of Fish and Wildlife (CDFW) Sensitive Natural Communities, Parish's glasswort (*Arthrocnemum subterminale*) patches and Alkali weed – Salt grass (*Cressa truxillensis – Distichlis spicata*) flats, were mapped within the BSA. Parish's glasswort was observed outside of the project site and will not be affected by the project development and therefore does not require mitigation. Parry's rough tarplant and Alkali weed – Salt grass were observed within the project site and, therefore, require mitigation for impacts to the species. Avoidance, minimization, and mitigation measures for Parry's rough tarplant and Alkali weed – Salt grass are provided in Section 5.4, *Avoidance and Mitigation Measures*, of this BRA. No special-status wildlife species were observed during the survey.

As the project is currently designed, the potential for impacts to biological resources is expected to be less than significant. Direct impacts to special-status plants and CDFW Sensitive Natural Communities could result from the removal of individuals and communities or seed banks during construction. Direct and indirect impacts to special-status wildlife species and migratory nesting birds could result from construction-related disturbances such as trampling or crushing from equipment and removal of habitat. Avoidance, minimization, and mitigation measures for these resources are provided in Section 5.4, *Avoidance and Mitigation Measures*, of this BRA.

Past surveys that analyzed the project site are referenced with regard to wetland determinations, including the 2008 survey completed for the *Initial Study for Administrative Permit No. AA08-033 and Minor Subdivision No. MS07-027 Don Chapin Company Concrete Batch Plant Project Volta, California* (Michael Brandman Associates [MBA] 2010) and the *Simmons Parcel, Merced County, California (200000760): Wetland Evaluation* completed in 2001 (Moore Biological Consultants 2001).

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# CONTENTS

# Appendices



# Figures

# 1 INTRODUCTION

SWCA Environmental Consultants (SWCA) has prepared this Biological Resources Assessment (BRA) at the request of the County of Merced (County) for the Don Chapin Company, Inc. (applicant) in support of the proposed Don Chapin Sand Dryer Plant Project (project). The proposed project site is located on three parcels (Assessor's Parcel Numbers [APNs] 081-060-086, -087, and -088) with a cumulative area of 11.91 acres in the community of Volta, Merced County, California (Figure 1). The proposed project consists of constructing and operating a new sand drying plant and precast concrete manufacturing facility as an addition/expansion to the Don Chapin Ready Mix Concrete Batch Plant.

## 1.1 Purpose of Biological Resources Assessment

The purpose of this BRA is to identify sensitive biological resources that occur, or have the potential to occur, within the proposed project site and surrounding areas. Sensitive resources are defined herein as wildlife, plants, aquatic features, or habitats that are of management concern to federal, state, county, and/or local resource agencies. Recommended avoidance, minimization, and mitigation measures, which are included in Section 5.4, *Avoidance and Mitigation Measures*, will reduce potential impacts to sensitive resources to the extent feasible. As necessary, this BRA may be used to support the County environmental review process and future project permitting.

## 1.2 Project Location and Setting

The project site is located within the Volta, California, U.S. Geological Survey (USGS) 7.5-minute quadrangle, in the San Joaquin Basin within the Central Valley. The project site is located north of Ingomar Grade within Volta, a census-designated place within Merced County. Elevations within the biological survey area (BSA), which included the proposed project site and a 100-foot buffer, range from approximately 98 to 102 feet (30–31 meters) (Figure 2).

## 1.3 Project Description

Project activities include the construction and operation of a sand dryer plant and precast concrete manufacturing facility with an operations building, truck scale, and other associated equipment; three storage buildings; and other associated features, including a precast shop office and breakroom, an employee parking area, concrete storage areas, a catch basin, a lined retention basin, and fencing.

## 1.4 Soils

The Natural Resources Conservation Service (NRCS) online soil report revealed one soil unit within the BSA (see Figure 3) (NRCS 2024). The primary characteristics of this soil unit are described below.

- **Pedcat loam, 0 to 2 percent slopes:** The parent material of this soil type is alluvium derived from sedimentary rock. The drainage class of this soil type is poorly drained, and it is composed primarily of loam over clay over stratified sandy clay loam to clay. This soil type occurs on the fan aprons at elevations between 70 and 1,100 feet (21–355 meters). This soil type is not considered prime farmland.

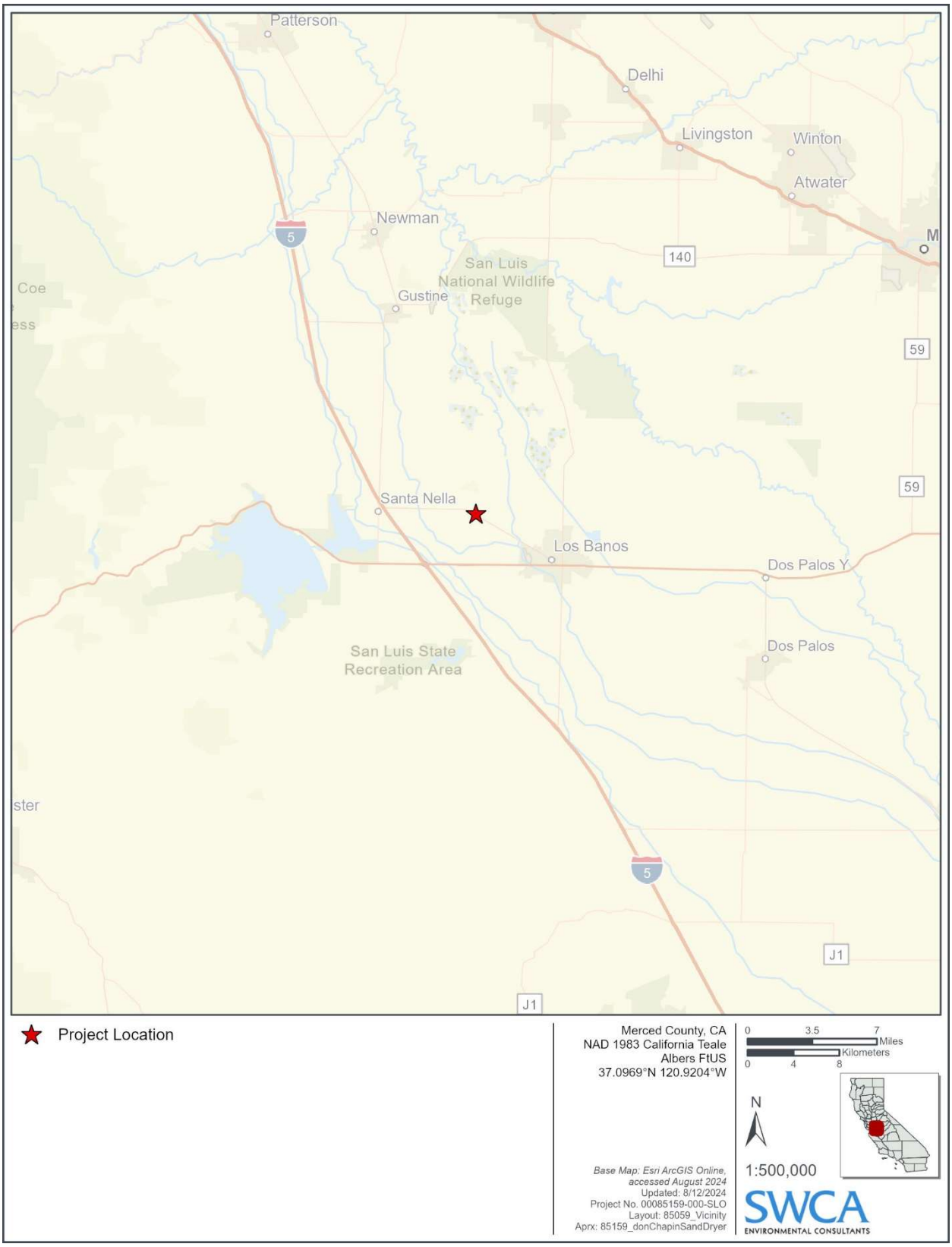


**Figure 1. Project vicinity map.**


**Figure 2. Biological survey area map.**

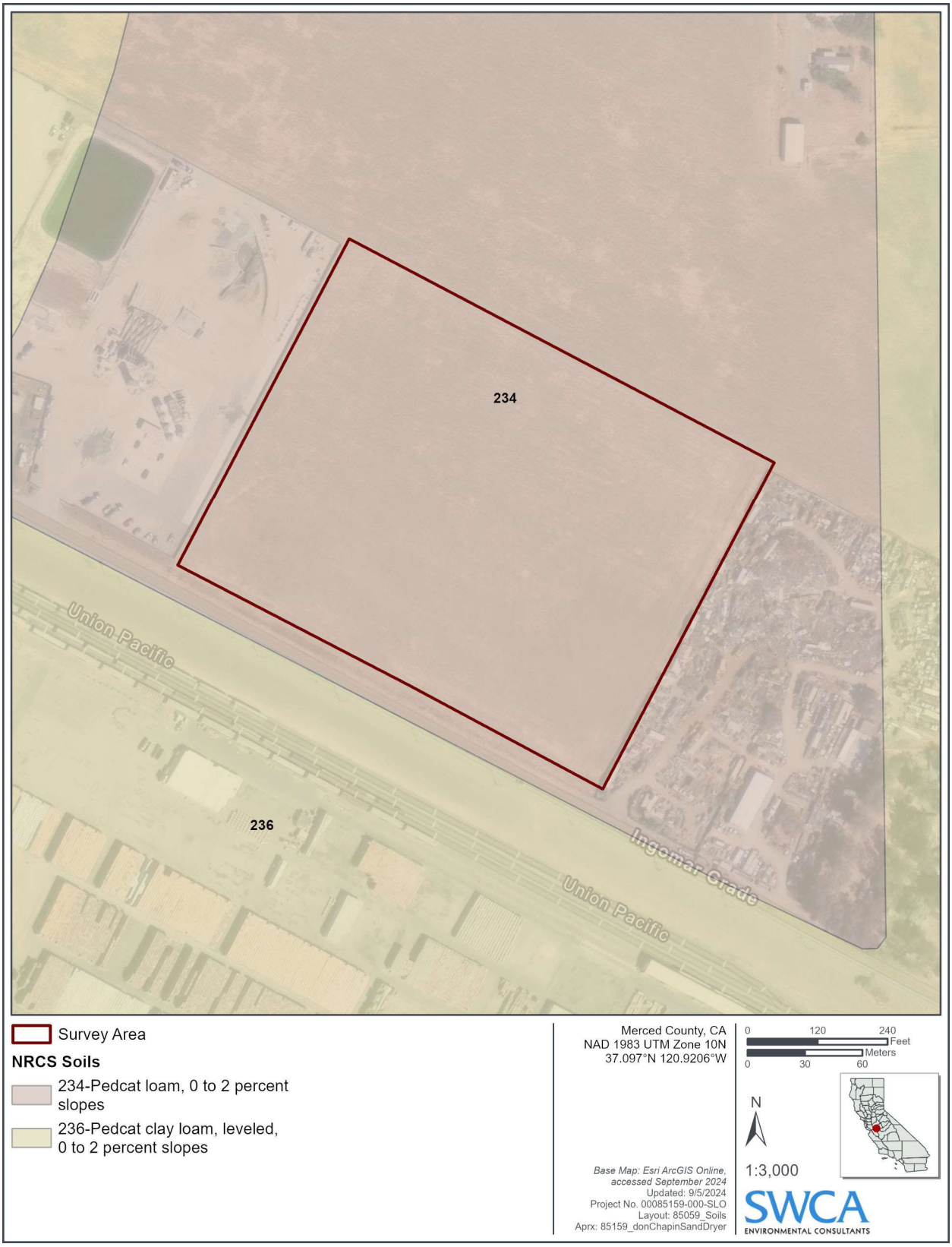


**Figure 3. Soils map.**

# 2 METHODOLOGY

## 2.1 Literature Review

Prior to conducting field surveys, SWCA staff completed a background review of relevant literature and resources pertaining to sensitive biological resources known to occur within the BSA (see Figure 2) and in the project vicinity, which included the following:

- Aerial photographs (Google Earth Pro 2024) and preliminary site plans (Appendix A)
- Topographic map of the Volta, California USGS 7.5-minute quadrangle (USGS 2024)
- Online soil survey of Merced County, California (NRCS 2024)
- Consortium of California Herbaria (CCH) online database of plant collections (CCH 2024)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants for the Volta, California, USGS 7.5-minute quadrangle and the surrounding quadrangles (San Luis Dam, Los Banos Valley, Los Banos, Ortigalita Peak NW, Charleston School, Howard Ranch, Ingomar, and San Luis Ranch) (CNPS 2024a)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) list of state and federally listed special-status species documented within the Volta, California USGS 7.5-minute quadrangle and the eight surrounding quadrangles (CDFW 2024)
- CNDDB map of special-status species that have been documented within a 5-mile radius of the project site (CDFW 2024)
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) planning tool (USFWS 2024a)
- USFWS Critical Habitat for Threatened and Endangered Species Report (USFWS 2024b)
- USFWS National Wetlands Inventory (NWI) Wetlands Mapper (USFWS 2024c)
- *Simmons Parcel, Merced County, California (200000760): Wetland Evaluation* (Moore Biological Consultants 2001)
- *2015 Survey Results for Burrowing Owl and Rare Plants – Volta Concrete Batch Plant* (H.T. Harvey & Associates [HTH] Project # 2809-02) (HTH 2015)
- Initial Study for Administrative Permit No. AA08-033 and Minor Subdivision No. MS07-027 Don Chapin Company Concrete Batch Plant Project Volta, California (Michael Brandman Associates [MBA] 2010)

A list of regionally occurring special-status species was compiled based on records reported in the scientific database queries (Appendix B). This species list was used to inform the field survey effort and determine an appropriate survey period for special-status botanical species with the potential to occur on-site.

## 2.2 Field Survey

Following the background review, SWCA Assistant Staff Botanist Kyle Suchy and Senior Biologist Sara Snyder completed a field survey on July 30, 2024. The surveys consisted of a botanical and wildlife

species inventory, a jurisdictional analysis, and an analysis of the potential for special-status species to occur on-site.

The surveys were conducted on foot to ensure complete visual coverage of the BSA. During the survey, all botanical and wildlife species observed, including those detected by indirect signs (i.e., tracks, scat, skeletal remains, dens, burrows, or vocalizations), were documented (Appendix C).

Botanical species identifications and taxonomic nomenclature followed *The Jepson Manual: Vascular Plants of California, 2nd edition* (Baldwin et al. 2012), as well as taxonomic updates provided in the Jepson eFlora (Jepson Flora Project [Jepson] 2024). Vegetation communities and land cover types were characterized, and natural communities were classified using the second edition of *A Manual of California Vegetation* (MCV) classification system (Sawyer et al. 2009), as well as updates included in the MCV Online (CNPS 2024b).

The habitat requirements for each regionally occurring special-status species identified in the scientific database queries were analyzed and compared to the type and quality of habitats observed on-site during the field survey. The potential for many species to occur within the project site was eliminated due to lack of suitable habitat, inappropriate elevation, inappropriate soils/substrate, and/or known distribution of the species. Special-status species for which suitable habitat was identified are discussed in-depth in the following section, and those determined to have no potential to occur based on a lack of suitable habitat are not discussed. A complete list of regionally occurring species that were evaluated is included in Appendix B.

# 3 RESULTS

This section provides a summary and analysis of the results of the background research and field surveys. The discussion includes descriptions of terrestrial habitat types and hydrology and discussions of direct and indirect observations of wildlife and botanical species and the potential for special-status species to occur. Anticipated impacts to existing wildlife corridors, sensitive habitats, and habitat connectivity are also considered.

## 3.1 Habitat Types

Vegetation communities and land cover types were assessed, classified, and mapped based on vegetation composition, structure, and density (Figure 4). Natural vegetation communities identified within the BSA included Perennial rye grass fields, Alkali weed – Salt grass flats, and Parish's glasswort patches. Only Perennial rye grass fields and Alkali weed – Salt grass flats were observed within the project site. Parish's glasswort patches were observed outside of the project site. A total of 27 vascular plant species were identified in the BSA, of which 18 (67%) were nonnative. The natural vegetation communities are described below and illustrated in Figure 4.

#### 3.1.1.1 PERENNIAL RYE GRASS FIELDS (7.73 ACRES)

This community occurs throughout most of the project site (see Appendix D: Photo D-1). Vegetation cover in this community is dense and includes nonnative annual grasses such as perennial rye grass (*Festuca perennis*), soft chess (*Bromus hordeaceus*), and wild oats (*Avena fatua*), with the occasional alkali weed (*Cressa truxillensis*) and salt grass (*Distichlis spicata*) individuals.

This species composition most closely corresponds with the *Lolium perenne* Herbaceous Semi-Natural Alliance (Perennial rye grass fields) in the MCV classification system. This community occurs in

lowlands with periodic flooding, disced fields, and uplands including serpentine substrates. Soils are variable and occur at elevations below 4,350 feet (1,325 meters). This community provides marginal habitat for small mammals, reptiles, and other wildlife, but is not a CDFW Sensitive Natural Community.

#### 3.1.1.2 ALKALI WEED – SALT GRASS FLATS (4.12 ACRES)

This community occurs along the eastern edge of the property as well as near the northwestern corner in a low spot that continues north away from the property (see Appendix D: Photos D-6 and D-7). Vegetation cover in this community is primarily herbaceous and dominated by both alkali weed and salt grass with the occasional rush (*Juncus* sp.) or nonnative grass, such as perennial rye grass or soft chess.

This species composition most closely corresponds with the *Cressa truxillensis – Distichlis spicata* Herbaceous Alliance (Alkali weed – Salt grass playas and sinks) in the MCV classification system. This community occurs on alkaline or saline vernal playas and alkali sinks at elevations below 100 feet (30 meters). Soils are saline alluvium and seasonally inundated, losing water mostly through evaporation. This community provides habitat for small mammals, reptiles, and other wildlife. This community has a State Rarity rank of S2, making it a CDFW Sensitive Natural Community.

#### 3.1.1.3 PARISH'S GLASSWORT PATCHES (0.79 ACRE)

This community occurs along the southern edge of the property outside of the project area and along Ingmar Grade within the roadside irrigation canal (see Appendix D: Photos D-2 and D-4). Vegetation cover in this community is limited, and dominated by Parish's glasswort (*Arthrocnemum subterminale*) with narrowleaf milkweed (*Asclepias fascicularis*), great valley gumplant (*Grindelia camporum*), annual beard grass (*Polypogon monspeliensis*), and rushes (*Juncus* sp.)

This species composition most closely corresponds with the *Arthrocnemum subterminale* Herbaceous Alliance (Parish's glasswort patches) in the MCV classification system. This community occurs on coastal salt marshes and interior alkali-saline wetlands and may be associated with vernal pools typically at elevations below 10 feet (2 meters). This community provides habitat for small mammals, reptiles, and other wildlife. This community also has a State Rarity rank of S2, making it a CDFW Sensitive Natural Community.

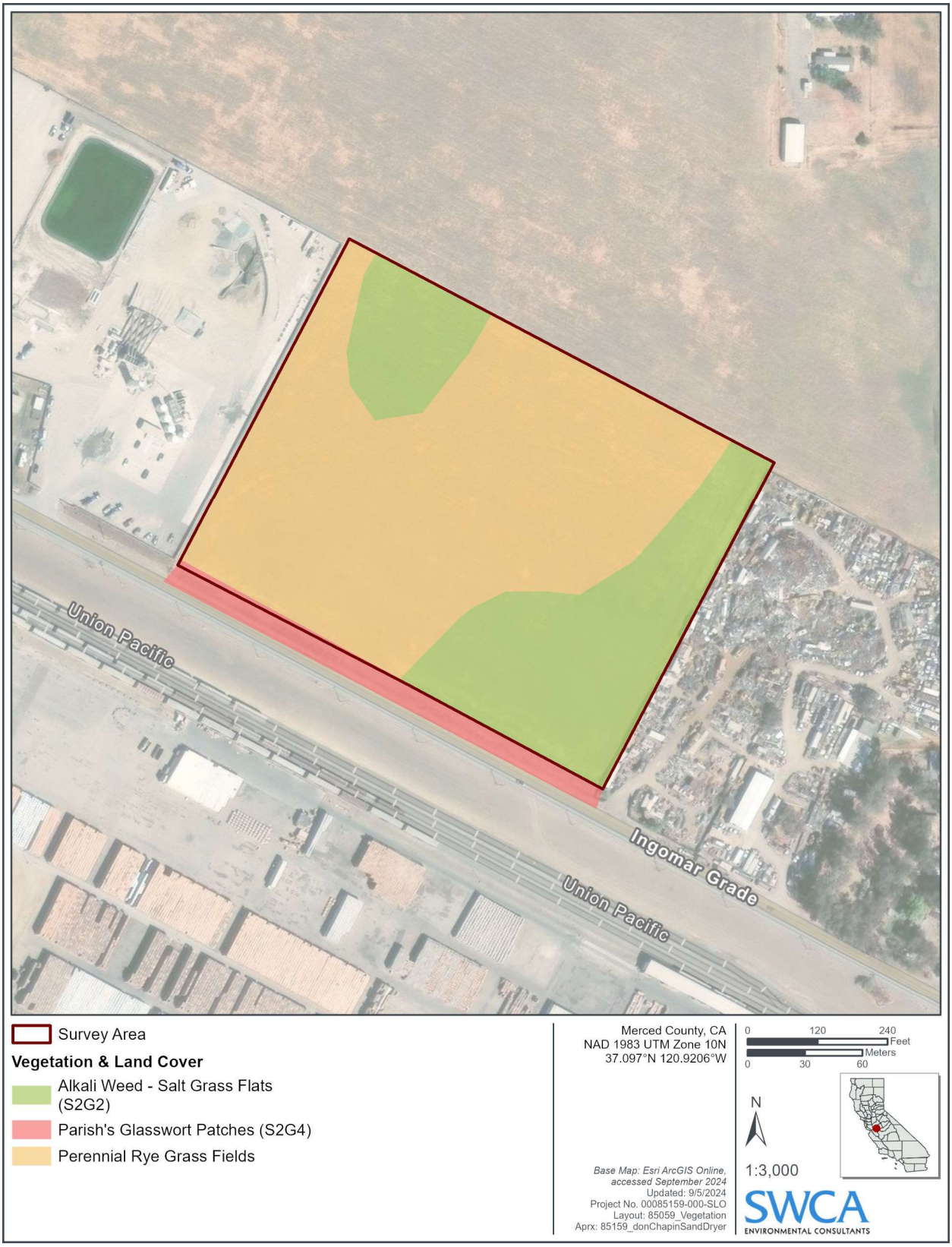


**Figure 4. Vegetation communities map.**

## 3.2 Wildlife

The habitat within the BSA is suitable for a variety of common and special-status wildlife species. Mature narrow leafed milkweed plants (*Asclepias fascicularis*) persist along the southern edge of the BSA, which provide habitat for various invertebrate species, including monarch caterpillars (*Danaus plexippus*), a federal candidate species. Overall, the BSA consists of grassland habitat intermixed with perennial plant species known to occur in alkali sink habitat, which is suitable for ground-nesting birds; transient, foraging wildlife; and burrowing mammals.

No special-status wildlife species were observed during the field survey. However, avian species and their signs, as well as other terrestrial wildlife and their signs, were observed within the BSA. A comprehensive list of all wildlife species observed during the survey is included in Appendix C.

## 3.3 Hydrological Features

A roadside irrigation canal runs outside of the project area, along the southern edge parallel to Ingomar Grade. This feature has a defined bed and bank along most of its length. Patches of Parish's glasswort were present along the banks of the feature. Parish's glasswort is classified as a Facultative Wetland (FACW) plant, which is a plant that nearly always occurs in areas of prolonged flooding or requires standing water or saturated soils but may occur in non-wetlands. This feature was also noted during the survey completed in 2008 for the Initial Study (MBA 2010). Based on the defined bed and bank and the presence of wetland vegetation, this feature would likely be considered waters of the state.

In addition to the roadside irrigation canal, plants that can be indicative of wetland habitat, including salt grass and alkali weed, were observed throughout the project site and in some areas were the dominant vegetation present. Salt grass is a Facultative (FAC) plant, which is a plant that occurs in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occurs in standing water or saturated soils. Alkali weed is an FACW plant, similar to Parish's glasswort. In addition, the USFWS NWI Wetlands Mapper identified Freshwater Emergent Wetlands within the northern portion of the project site (USFWS 2024c). However, other indicators, such as watermarks that are typically used to assess whether wetland hydrology is present, were not observed. Past surveys, including the 2008 survey completed for the Initial Study (MBA 2010) and the aerial imagery assessment completed in 2001 (Moore Biological Consultants 2001) did not identify wetlands within the project area. Based on the previous assessments, wetlands are not present within the project area.


**Figure 5. Hydrologic features map.**

# 3.4 Special-Status Species

## *3.4.1 Special-Status Plants*

For the purposes of this BRA, special-status plant species are defined as the following:

- Plants listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] 17.12 for listed plants and various notices in the *Federal Register* for proposed species).
- Plants that are candidates for possible future listing as threatened or endangered under the FESA.
- Plants that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA) (State CEQA Guidelines Section 15380).
- Plants considered by the CNPS to be "rare, threatened, or endangered" in California (California Rare Plant Ranks [CRPRs] 1B and 2 in CNPS 2024a).
- Plants listed by CNPS as plants about which we need more information and plants of limited distribution (CRPRs 3 and 4 in CNPS 2024a).
- Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5).
- Plants listed under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).
- Plants considered sensitive by other federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), state and local agencies, or jurisdictions.

Based on a CNDDB query and review of existing literature, 35 special-status vascular plant species have been documented within the nine quadrangles surrounding the BSA. Because this list of species is considered regional, an analysis of the range and habitat preferences of those plant species was conducted to identify which sensitive plant species have the potential to occur within the BSA. SWCA determined that there is suitable habitat in the BSA for 12 special-status botanical species; however, only one special-status botanical species, Parry's rough tarplant, was observed during the survey. Recommendations for the avoidance, minimization, and mitigation of impacts to this species are included in Section 5.4, *Avoidance and Mitigation Measures*.

The following paragraphs provide a description of the special-status plant species that have the potential to occur on-site.

### 3.4.1.1 ALKALI MILK-VETCH

Alkali milk-vetch (*Astragalus tener* var. *tener*; CRPR 1B.2) is an annual herb that is known to occur from Yolo County to San Benito County. This herb grows in alkaline flats and vernally moist meadows at elevations below 197 feet (60 meters). The typical blooming period is from March through June (Jepson 2024). Documented threats to this species include development, competition from nonnative plants, and habitat destruction, especially from agricultural conversion (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of alkali milk-vetch is approximately 7.71 miles northeast of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

#### 3.4.1.2 HEARTSCALE

Heartscale (*Atriplex cordulata* var. *cordulata*; CRPR 1B.2, BLM sensitive) is an annual herb that is known to occur throughout the Sacramento and San Joaquin Valleys. This herb grows in saline or alkaline soils in association with grassland and saltbush (*Atriplex* spp.) scrub habitats at elevations below 1,840 feet (560 meters). The typical blooming period is from June through July (Jepson 2024). Documented threats to this species include competition from nonnative plants and potential threats include trampling (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of heartscale is approximately 1.71 miles northwest of the proposed project area. In addition, this species was identified by HTH during the 2015 pre-activity survey on the parcel immediately northwest of the project site (HTH 2015). Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

#### 3.4.1.3 CROWNSCALE

Crownscale (*Atriplex coronata* var. *coronata*; CRPR 4.2) is an annual herb that is known to occur from Solano County to eastern San Luis Obispo County and western Kern County along the eastern side of the inner South Coast Ranges. This herb grows in fine alkaline soils at elevations below 656 feet (200 meters). The typical blooming period is from March through October (Jepson 2024). Threats to this species are undocumented (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of crownscale is approximately 14 miles south of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

#### 3.4.1.4 VERNAL POOL SMALLSCALE

Vernal pool smallscale (*Atriplex persistens*; CRPR 1B.2) is an annual herb that is known to occur throughout the San Joaquin Valley from Glenn County to Tulare County. This herb grows alkaline vernal pools at elevations below 377 feet (115 meters). The typical blooming period is from June through September (Jepson 2024). Documented threats to this species include grazing, development, competition from nonnative plants, pollution, and erosion and runoff (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of vernal pool smallscale is approximately 6.78 miles northeast of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

#### 3.4.1.5 PARRY'S ROUGH TARPLANT

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*; CRPR 4.2) is an annual herb that is known to occur from Modoc County to Merced County. This herb grows in grasslands, the edges of marshes and vernal pools, and in disturbed sites at elevations below 1,640 feet (500 meters). The typical blooming period is from June through October (Jepson 2024). Documented threats to this species include development, habitat alteration, and habitat disturbance as well as grazing and road maintenance (CNPS 2024).

According to CCH records (2024), the nearest occurrence of Parry's rough tarplant is approximately 4.41 miles southeast of the proposed project area. Suitable habitat for this species is present on-site. This species was observed on the fence line between the proposed project area and the existing concrete facility.

### 3.4.1.6 HISPID SALTY BIRD'S-BEAK

Hispid salty bird's-beak (*Chloropyron molle* ssp. *hispidum*; CRPR 1B.1) is an annual herb that is known to occur in sparse pockets along the San Joaquin Valley. This herb grows in saline marshes and flats at elevations below 427 feet (130 meters). The typical blooming period is from June through July (Jepson 2024). Documented threats to this species include grazing, altered hydrological regimes, development, and habitat inundation (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of hispid salty bird's-beak overlaps the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

### 3.4.1.7 DELTA BUTTON-CELERY

Delta button-celery (*Eryngium racemosum*; CRPR 1B.1, state critically endangered) is an annual or perennial herb that is known to occur from San Joaquin County to Merced County. This herb grows in seasonally flooded clay depressions in floodplains at elevations below 100 feet (30 meters). The typical blooming period is from June through August (Jepson 2024). Documented threats to this species include agriculture, nonnative plant impacts, and flood control activities (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of delta button-celery species is approximately 5.51 miles west of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

### 3.4.1.8 HOGWALLOW STARFISH

Hogwallow starfish (*Hesperevax caulescens*; CRPR 4.2) is an annual herb that is endemic to California. The known range is concentrated along the Inner North and South Coast Ranges, as well as the Sacramento and San Joaquin Valleys. This species occurs in the drying shrink-swell clay of vernal pools on flats and steep slopes, and occasionally in serpentine soil. This species is known to occur at elevations below 1,640 feet (500 meters). The typical blooming period is from March through June (Jepson 2024). Documented threats to this species include development and agriculture, including gazing (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of this hogwallow starfish is approximately 12 miles northwest of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

### 3.4.1.9 ALKALI-SINK GOLDFIELDS

Alkali-sink goldfields (*Lasthenia chrysantha*; CRPR 1B.1) is an annual herb that is known to occur throughout the San Joaquin Valley from Solano County to Kern County. This herb grows in vernal pools and wet saline flats at elevations below 330 feet (100 meters). The typical blooming period is from February through April (Jepson 2024). Documented threats to this species include habitat loss, agriculture, urbanization, and development (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of alkali-sink goldfields is approximately 15 miles northwest of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

### 3.4.1.10 FERRIS' GOLDFIELDS

Ferris' goldfields (*Lasthenia ferrisiae*; CRPR 4.2) is an annual herb that is endemic to California. It is found primarily in the Sacramento Valley and San Joaquin Valley with some known occurrences in the inner South Coast Ranges. This species grows in vernal pools at elevations ranging from 65 to 2,295 feet (20–700 meters). The typical blooming period for this species is from February through May. Threats to this species include development, agriculture, vehicles, and foot traffic.

According to CNDDB records (2024), the nearest occurrence of Ferris' goldfields is approximately 1.5 miles west of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

### 3.4.1.11 COULTER'S GOLDFIELDS

Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*; CRPR 1B.1) is an annual that is known to occur along the central and southern coast between San Luis Obispo and San Diego, as well as several disjunct populations scattered along the Sacramento and San Joaquin Valleys. This species occurs in saline places and vernal pools at elevations below 3,281 feet (1,000 meters). The typical blooming period is from April through May (Jepson 2024). Documented threats to this species include urbanization, agricultural development, and road maintenance and potential threats include foot traffic and drought and significant population declines have been documented since 1966 (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of Coulter's goldfields is approximately 11 miles northeast of the proposed project area. Marginally suitable habitat for this species is present on-site. This species was not observed during the 2024 botanical survey.

### 3.4.1.12 PROSTRATE VERNAL POOL NAVARRETIA

Prostrate vernal pool navarretia (*Navarretia prostrata,* CRPR 1B.1) is an annual herb that is endemic to California. The known range includes disjunct populations spanning from the eastern San Francisco Bay and northern San Joaquin Valley to the Inner South Coast Ranges, and down the south coast from Los Angeles to San Diego. This species occurs in alkaline floodplains and vernal pools at elevations below 2,297 feet (700 meters). The typical blooming period for this species is from April through July (Jepson 2024). Documented threats to this species include road maintenance and recreational activities (CNPS 2024).

According to CNDDB records (2024), the nearest occurrence of this species is approximately 6.43 miles northeast of the proposed project area. Marginally suitable habitat for this prostrate vernal pool navarretia is present on-site. This species was not observed during the 2024 botanical survey.


**Figure 6. Special-status plants map.**

### 3.4.2 Special-Status Animal Species

For the purposes of this BRA, special-status animal species are defined as the following:

- Animals listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.11 for listed animals and various notices in the *Federal Register* for proposed species).
- Animals that are candidates for possible future listing as threatened or endangered under the FESA.
- Animals that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5).
- Animal Species of Special Concern (SSC) to the CDFW.
- Animal species that are fully protected in California (California Fish and Game Code Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Based on a CNDDB query (CDFW 2024) and a review of existing literature, 36 special-status wildlife species have been documented within the nine quadrangles surrounding the BSA. Because this list of species is considered regional, an analysis of the range and habitat preferences of those animal species was conducted to identify which sensitive wildlife species have the potential to occur within the BSA. SWCA determined that there is suitable habitat within the BSA for eight special-status wildlife species and nesting birds; however, no special-status wildlife species or their signs were observed during the field survey. The following paragraphs provide a description of the special-status wildlife species for which suitable habitat was identified on-site, and recommendations for the avoidance, minimization, and mitigation of impacts to these species are included in Section 5.4, *Avoidance and Mitigation Measures*.

#### 3.4.2.1 BURROWING OWL

Burrowing owl (*Athene cunicularia*), a state candidate species and CDFW SSC, generally inhabits open grasslands, prairies, and fields with short-stature vegetation, but may also occupy agricultural and developed areas (Shuford and Gardali 2008). This species typically uses the burrows of ground squirrels and other small mammals for shelter, protection from predators, and rearing of chicks. Burrowing owl is active day and night, and can be seen roosting outside of burrow entrances during the day. Courtship and mating may begin as early as late December in California and continue into early spring. Incubation lasts 28 to 30 days, and young disperse to nearby burrows by early fall. The primary threats to burrowing owl are the elimination of burrowing mammals through control programs and habitat loss (Klute et al. 2003).

According to CNDDB records (CDFW 2024), this species was documented approximately 4.3 miles southwest of the proposed project area. Suitable habitat for burrowing owl is present throughout the proposed project area. Based on the nearest documented occurrence and the habitat suitability, there is potential to encounter this species on-site.

#### 3.4.2.2 CROTCH BUMBLE BEE

Crotch bumble bee (*Bombus crotchii*), a state candidate species, inhabit open grassland and scrub habitats primarily in California, from Sacramento south into Mexico, and from the coast east into Nevada. Bumble bee colonies are annual with the queen mating in the fall before overwintering alone starting in October. In the spring the queen emerges and establishes a new colony by producing female workers and male

drones. Not much is known about Crotch bumble bee overwintering sites (Hatfield et al. 2020). Generally, bumble bees overwinter in soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014). Queens emerge between February and April (Thorp et al. 1983) and establish a colony. Colonies are usually underground in abandoned holes made by ground squirrels, mice, and rats, or occasionally abandoned bird nests (Osborne et al. 2008). However, bumble bees may also nest above ground in tufts of grass or cavities in downed wood, rock walls or brush piles. Crotch bumble bee are generalist foragers, feeding on a variety of flowering plants (Hatfield et al. 2018). Like other bumble bees, this species feeds on both the nectar and the pollen. Select food plant families include Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae (Hatfield et al. 2018). Threats to this species include loss of habitat due to agriculture and development and degradation of habitat due to invasive species, livestock grazing, herbicide use and decreases in small mammal population due to poisoning.

There are no CNDDB records of Crotch bumble bee within the nine quadrangles encompassing the project site; however, there are recently verified observations of this species six miles west of the project site in the Xerces Bumble Bee Watch database (Xerces Society 2024a). The project site may provide suitable habitat for Crotch bumble bee.

#### 3.4.2.3 SWAINSON'S HAWK

Swainson's hawk (*Buteo swainsoni*), a state threatened species, habitat typically consists of open desert, grasslands, riparian areas, or cropland with large, scattered trees or small tree stands. This species winters in Mexico, and Central and South America from early November through mid-March, then migrates north to nest throughout interior California. Swainson's hawk will nest in riparian forests or corridors, in lone trees along agricultural fields and pastures, and roadside trees (CDFW 2016). Declines in breeding pairs have been attributed to loss of nesting habitat (Zeiner et al. 1988–1990a).

According to CNDDB records (CDFW 2024), this species was documented approximately 0.5 mile west of the proposed project area. Suitable habitat foraging habitat for Swainson's hawk is present throughout the proposed project area; however, there are no suitable nesting sites within the project area. Based on the nearest documented occurrence and the habitat suitability, there is potential that this species may forage on-site and nest in the vicinity of the project site.

#### 3.4.2.4 CALIFORNIA HORNED LARK

California horned lark (*Eremophila alpestris actia*), an SSC, inhabits open areas, such as grasslands and agricultural areas. Horned larks breed between March and August, during which two broods are common. Nests are typically built on the ground in shallow depressions made of roots, grass, and hair. Incubation is approximately 10 to 14 days and young leave the nest at 9 to 12 days. California horned lark is a year-long resident in California and becomes gregarious following breeding, forming large flocks that forage and roost together (Zeiner et al. 1998–1990b). Loss of habitat and destruction of nests through earth-moving activities are major threats to this species.

According to CNDDB records (CDFW 2024), this species was documented approximately 5.7 miles west of the proposed project area. Suitable habitat for California horned lark is present throughout the proposed project area. Based on the nearest documented occurrence and the habitat suitability, there is potential to encounter this species on-site.

### 3.4.2.5 AMERICAN BADGER

The range of American badger (*Taxidea taxus*), an SSC, covers most of North America including throughout California, except for the North Coast region. This species prefers open and arid habitats such as grasslands, meadows, savannahs, open-canopy desert scrub, and open chaparral. American badger is a predator of fossorial rodents and adept at quickly excavating deep burrows to access its prey. As such, where badgers are present, the landscape is dotted with large soil tailings, which are normally half-moon shaped. American badger shelters in burrows it has excavated and, while it is known to traverse a relatively small home range (up to 2.5 acres), the species moves among burrows frequently. It can be active at all times of day but is primarily nocturnal. This species occurs at elevations below 3,660 meters (12,000 feet). Mating is typically from May through September but, because of delayed implantation, cubs are not born until early spring. Habitat conversion is a primary threat to this species (Zeiner et al. 1988–1990c).

According to CNDDB records (CDFW 2024), this species was documented approximately 6.79 miles southwest of the proposed project area. Suitable habitat for American badger is present throughout the proposed project area. Based on the nearest documented occurrence, the habitat suitability, and the presence of a prey base, there is potential to encounter this species on-site.

### 3.4.2.6 SAN JOAQUIN KIT FOX

San Joaquin kit fox (*Vulpes macrotis mutica*), a federally endangered and state threatened species, is endemic to the San Joaquin Valley and adjacent arid valleys of central California. Highly suitable habitats for kit fox are characterized by sparsely vegetated saltbush scrublands and grasslands dominated by red brome (*Bromus rubens*) on flat or gently rolling terrain (Brown et al. 2019). The three remaining core populations of San Joaquin kit fox are in the Carrizo Plain Natural Area in San Luis Obispo County, natural lands of western Kern County, and Ciervo-Panoche Natural Area of western Fresno and eastern San Benito Counties (USFWS 1998). This species has adapted to arid climates and primarily preys on small mammals and invertebrates. Kit foxes extensively use dens for protection from the elements, protection from predators, and rearing pups. Mating occurs between December and March and pups are born after a 48- to 52-day gestation period. The pups are reared in the den and begin to emerge approximately one month after birth and most disperse by August. San Joaquin kit fox is primarily nocturnal but may be observed during the day, basking outside the den entrance or taking short excursions. This species excavates its own dens, enlarges burrows of other species such as giant kangaroo rats, or dens in human-made features, such as culverts. This species occupies numerous den sites throughout the year. Many factors have contributed to the decline of San Joaquin kit fox over time. By the 1950s, loss, degradation, and fragmentation of habitats in the San Joaquin Valley were the primary factors of decline. Many other sources of mortality pose a threat to maintaining viable populations of this species, including disease, parasites, predation, and many human-induced factors such as shooting, trapping, poisoning, electrocution, and vehicle strikes (Brown et al. 2019).

According to CNDDB records (CDFW 2024), this species was documented approximately 3.2 miles southwest of the proposed project area. Marginally suitable habitat for San Joaquin kit fox is present throughout the proposed project area. Based on the nearest documented occurrence and the habitat suitability, there is potential to encounter this species on-site.

### 3.4.2.7 SAN JOAQUIN COACHWHIP

San Joaquin coachwhip (*Masticophis flagellum ruddocki*), an SSC, occurs in a variety of habitats dry, treeless habitats such as grasslands and desert scrub. This species seeks refuge under objects such as rocks, as well as under shrubs or in rodent burrows. Its range extends from the Sacramento Valley, south

to Kern County and west to the Inner South Coast Ranges. Suitable habitat is at elevations ranging from 65 to 3,000 feet. Coachwhip is dormant during the winter and resumes activity in late spring. This snake is especially tolerant of high temperatures and is active during the day. San Joaquin coachwhip is oviparous and lays a clutch of 4 to 20 eggs in early summer. It feeds on a variety of animals, including small mammals, bats, lizards, and birds. Because this species tends to bask on roadways and scavenge on roadkill, vehicle strikes are a common threat. Threats also include extensive habitat loss and fragmentation, especially conversion of large areas of suitable habitat to agricultural use in the San Joaquin Valley and urban development in areas of the inner Coast Ranges (Nafis 2024).

According to CNDDB records (CDFW 2024), this species has occurred approximately 7.5 miles southwest of the proposed project area. Suitable habitat for San Joaquin coachwhip is present throughout the proposed project area. Based on the nearest documented occurrence and the habitat suitability, there is potential to encounter this species on-site.

#### 3.4.2.8 MONARCH BUTTERFLY

Monarch butterfly (*Danaus plexippus*), a federal candidate species, begins migrating in early November to overwintering sites in southern California and Mexico. This species flies north for breeding as milkweeds come into bloom in the spring. Monarch caterpillars feed exclusively on milkweed plants. Wintering monarchs have very specific habitat requirements for overwintering sites, including dappled sunlight, high humidity, fresh water, and an absence of freezing temperature or high winds (Sakai and Calvert 1991). Overwintering sites are typically located within 1.5 miles of the Pacific Ocean, in areas with moderate temperatures. In central and southern California, monarch butterfly typically aggregates on Monterey pine (*Pinus radiata*) and blue gum eucalyptus (*Eucalyptus globulus*) (Xerces Society 2024b).

Milkweed plants were observed within the BSA. No monarch caterpillars were observed on the milkweed; however, these plants are perennial and maybe used by monarch in future years. Therefore, there is potential for monarch eggs, caterpillars, and/or chrysalises to be present within the project area.

#### 3.4.2.9 MIGRATORY NESTING BIRDS

In addition to bird species protected by the federal or state government, all native avian species are protected by federal and state legislation, most notably the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Collectively, these and other international regulations make it unlawful to collect, sell, pursue, hunt, or kill native migratory birds, their eggs, nests, or any parts thereof.

Avian species can be expected to occur within the project area during all seasons and throughout construction of the proposed project. The potential to encounter and disrupt avian species is highest during their nesting season (generally February 1–August 31) when nests are likely to be active and eggs and young are present. The grassland and ruderal areas on-site may provide nesting habitat for ground-nesting species. Raptors are particularly drawn to large trees and structures, and they are less tolerant of disturbances than other species.

## 3.5 Sensitive Habitats

### *3.5.1 Waters and Wetlands*

The roadside irrigation canal mapped south of the project site is outside of the proposed project area and therefore is not expected to be impacted by proposed project activities (see Figure 5). In addition to the roadside irrigation canal, the USFWS NWI Wetlands Mapper identified Freshwater Emergent Wetlands within the northern portion of the project site. Plants often associated with wetlands were observed

throughout the project site; however, other indicators of weltand hydrology were not observed. The previous field survey completed in 2008 (MBA 2010) and the aerial imagery assessment completed in 2001 (Moore Biological Consultants 2001) did not identify wetlands within the project area. Based on these previous assessments, wetlands are not present.

### 3.5.2 Sensitive Natural Communities

Based on a CNDDB query (CDFW 2024) and a review of existing literature, seven CNDDB Sensitive Natural Communities—Alkali seep, Cismontane alkali marsh, Coastal and valley freshwater marsh, Great Valley cottonwood riparian forest, Sycamore alluvial woodland, Valley sacaton grassland, and Valley sink scrub—have been documented within the nine quadrangles surrounding the BSA. Because this list is considered regional, field identification of habitats within the BSA was used to determine the presence of any sensitive communities. No CNDDB Sensitive Natural Communities are present within the BSA.

Natural vegetation communities that have a State Rarity Rank of S1 through S3 are considered CDFW Sensitive Natural Communities. During the July survey, it was determined that the project site supports two CDFW Sensitive Natural Communities, both with a ranking of S2: 1) Alkali weed – Salt grass playas and sinks, and 2) Parish's glasswort patches (see Figure 4).

### 3.5.3 USFWS- and NOAA-Designated Critical Habitats

No USFWS- or National Oceanic and Atmospheric Administration (NOAA)-designated critical habitat occurs within or immediately adjacent to the proposed project area.

## 3.6 Habitat Connectivity

Maintaining connectivity between areas of suitable habitat is critical for the survival and reproduction of plants and wildlife. Intact habitats benefit plants by ensuring proper dispersal of pollen and seeds, which sustains or grows the population and contributes to the genetic health of the species. Wildlife species require contiguous habitats to attain sufficient food resources for their energetic demands; to locate proper resting, burrowing, and/or nesting sites; to facilitate long-distance travel or migration to seek out mates or resources; and for the safe and successful dispersal of young. The project site is immediately north of Ingomar Grade, which runs southeast to northwest parallel to railroad tracks and north of a developed industrial area that likely acts as a significant barrier to north-south movement of wildlife through the project site. The project is also surrounded by developed parcels to the east and west, likely limiting the number of transient wildlife species crossing through the project site. As such, the project is not expected to significantly impact habitat connectivity in the region.

# 4 REGULATORY OVERVIEW

## 4.1 Federal Policies and Regulations

### 4.1.1 Federal Endangered Species Act of 1973

The FESA provides legislation to protect federally listed plant and animal species. Impacts to listed species resulting from the implementation of a project would require the responsible agency or individual to formally consult with the USFWS or NOAA National Marine Fisheries Service (NOAA Fisheries) to determine the extent of impact to a particular species. If the USFWS or NOAA Fisheries determines that

impacts to a federally listed species would likely occur, alternatives and measures to avoid or reduce impacts must be identified. The USFWS and NOAA Fisheries also regulate activities conducted in federal critical habitat, which are geographic units designated as areas that support primary habitat constituent elements for listed species.

No FESA-listed species were observed during surveys of the BSA. However, there is potential for FESA-listed species to occur within the project area.

## *4.1.2 Migratory Bird Treaty Act of 1918*

The MBTA protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade in bird feathers, popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies.

No nesting migratory birds or vacant nests were observed during surveys of the BSA; however, the BSA supports suitable nesting habitat for ground-nesting birds, and the proposed project must comply with the MBTA.

## *4.1.3 Clean Water Act of 1977*

### 4.1.3.1 SECTION 404

The U.S. Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States. These waters include wetland and non-wetland waterbodies that meet specific criteria. USACE regulatory jurisdiction, pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 United States Code [USC] 403), regulates almost all work in, over, and under waters listed as "navigable waters of the United States" that results in a discharge of dredged or fill material within USACE regulatory jurisdiction, pursuant to Section 404 of the Clean Water Act (CWA). Under Section 404, USACE regulates the following waters of the United States features:

(1) traditional navigable waters, the territorial seas, and interstate waters ("paragraph (a)(1) waters");

(2) impoundments of "waters of the United States" ("paragraph (a)(2) impoundments");

(3) tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water ("jurisdictional tributaries");

(4) wetlands adjacent to paragraph (a)(1) waters;

- wetlands adjacent to and with a continuous surface connection to paragraph (a)(2) impoundments or jurisdictional tributaries when the jurisdictional tributaries meet the relatively permanent standard ("jurisdictional adjacent wetlands")

(5) intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) that meet either the relatively permanent standard ("paragraph (a)(5) waters").

The roadside irrigation canal appears to be ephemeral, due to the lack of an ordinary high-water mark and lack of connectivity to traditional navigable waters. As such, it is likely not waters of the United States but would likely be considered waters of the state. In addition, this feature is outside of the project area and is not expected to be impacted by the project.

In addition to the roadside irrigation canal, the USFWS NWI Wetlands Mapper identified Freshwater Emergent Wetlands within the northern portion of the project site. Plants often associated with wetlands were observed throughout the project site; however, other indicators of wetland hydrology were not observed. The previous field survey completed in 2008 (MBA 2010) and the aerial imagery assessment completed in 2001 (Moore Biological Consultants 2001) did not identify wetlands within the project area. Based on these previous assessments, wetlands are not present. If wetlands were present within the project area, they would likely be isolated and would not meet the adjacency requirement to be considered waters of the United States.

#### 4.1.3.2 SECTION 401

Section 401 of the CWA and its provisions ensure that federally permitted activities comply with the CWA and state water quality laws. Section 401 is implemented through a review process that is conducted by the Regional Water Quality Control Board (RWQCB) and is triggered by the Section 404 permitting process (see Section 4.1.3.1, *Section 404*). RWQCB certifies through the Section 401 process that a proposed project complies with applicable effluent limitations, water quality standards, and other conditions of California law. Evaluating the effects of the proposed project on both water quality and quantity (runoff) falls under the jurisdiction of the RWQCB.

As stated above, the roadside irrigation canal would likely be considered waters of the state; however, it is not located within the project area and will not be impacted by the project.

## 4.2 State Policies and Regulations

### *4.2.1 California Endangered Species Act of 1973*

The CESA ensures legal protection for plants listed as rare or endangered, and wildlife species formally listed as endangered or threatened. The state also maintains a list of California SSC, a status that is assigned to species that have limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, the CDFW is empowered to review projects for their potential to impact special-status species and their habitats. Under the CESA, the CDFW reserves the right to request the replacement of lost habitat that is considered important to the continued existence of CESA protected species.

Eight special-status wildlife species have a low potential to occur in the BSA, including Crotch bumble bee and burrowing owl which are state candidate species under CESA.

### *4.2.2 California Fish and Game Code*

California Fish and Game Code Section 3511 includes provisions to protect Fully Protected species, such as 1) prohibiting take or possession “at any time” of the species listed in the statute, with few exceptions; 2) stating that no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to “take” the species; and 3) stating that no previously issued permits or licenses for take of the species “shall have any force or effect” for authorizing take or possession. The CDFW is unable to authorize incidental take of “fully protected” species when activities are proposed in areas inhabited by those species. Sections 3503 and 3503.5 of the California Fish and Game Code state that it is unlawful to take, possess, or destroy the nest or eggs of any bird, with occasional exceptions. In addition, Section 3513 states that it is unlawful to take or possess any migratory bird as designated in the MBTA or any part of such migratory birds except as provided by rules and regulations under provisions of the MBTA.

Avian species can be expected to occur within the project area during all seasons and throughout construction of the proposed project. Therefore, the proposed project must comply with the California Fish and Game Code when applicable.

#### 4.2.2.1 SECTIONS 1600 THROUGH 1602

Pursuant to Division 2, Chapter 6, Sections 1600 through 1602 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." The CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

If the CDFW determines that a project may adversely affect existing fish and wildlife resources, a Lake, and Streambed Alteration Agreement (LSAA) is required. An LSAA lists the CDFW conditions of approval relative to the proposed project and serves as an agreement between an applicant and the CDFW for a term of not more than 5 years for the performance of activities subject to this section.

The roadside irrigation canal has a defined bed and bank along most of its length and would likely fall under the jurisdiction of CDFW. This feature is outside of the project area and is not expected to be impacted. In addition, any wetland features within the project area would likely fall under the jurisdiction of the CDFW.

### *4.2.3 State Water Resources Control Board and Regional Water Quality Control Boards*

The State Water Resources Control Board (State Water Board) and nine RWQCBs regulate discharges of fill and dredged material in California, under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), through the State Water Quality Certification Program. State Water Quality Certification is necessary for all projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the state. Waters of the state are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state."

In order for a Section 404 permit to be valid, Section 401 of the CWA requires a Water Quality Certification or waiver to be obtained. The Water Quality Certification (or waiver) determines that the permitted activities will not violate water quality standards individually or cumulatively over the term of the action. Water quality certification must be consistent with the requirements of the CWA, CEQA, CESA, and Porter-Cologne Act.

On April 2, 2019, the State Water Board adopted the *State Wetland Definition and Procedures for the Discharge of Dredged or Fill Material to Waters of the State*. Those activities that will result in the discharge of dredged or fill material are required to comply with the State Water Board procedures unless an exclusion applies, or the discharge qualifies for coverage under a General Order.

The roadside irrigation canal is likely waters of the state; however, given it is located outside of the project area, it will not be impacted by the project. Additionally, as stated above, the previous field survey completed in 2008 (MBA 2010) and the aerial imagery assessment completed in 2001 (Moore Biological Consultants 2001) did not identify wetlands within the project area and indicators of wetland hydrology

were not observed during the 2024 survey. Based on these assessments, waters of the state are not present within the project area.

# 5 IMPACT ASSESSMENT AND MITIGATION

## 5.1 Sufficiency of Biological Data

The field survey was conducted with sufficient detail by SWCA staff with relevant biological expertise to identify potentially occurring special-status botanical and wildlife species, assess habitats and site conditions for the presence of sensitive resources, and/or for the potential to support special-status species. The survey was conducted outside of the blooming season for several of the special-status plant species with potential to occur on-site and the project site had been disced prior to the survey, following this year's growing season. In addition, the project site disturbance may have obscured signs of isolated wetland features. Therefore, a supplementary 2025 spring survey is recommended to determine if additional special-status plants are present and if the wetland plants observed are associated with wetland features that would be considered waters of the state.

During the surveys, visibility and conditions were suitable for the detection of wildlife species and their sign. However, migratory and transient wildlife species, such as birds and large mammals, may only be seasonally present within the BSA. Further, some species are highly transient, nocturnal, scarce, or otherwise cryptic, and therefore may not have been detected during the survey effort. As such, recommendations are provided for the avoidance of special-status species deemed to have potential to occur, based on an assessment of habitat on-site.

## 5.2 Impacts

The proposed project has the potential to directly and/or indirectly impact sensitive plant communities, special-status plants, special-status wildlife, and migratory nesting birds. An assessment of anticipated impacts to sensitive biological resources caused by the proposed project is provided below.

### *5.2.1 Project Effect on Unique or Special-Status Species or their Habitats*

#### 5.2.1.1 PLANTS

Direct impacts to special-status plant species, if present, could include removal of individual plants and intact seed banks that occur within and immediately adjacent to work areas, as well as permanent conversion of occupied habitat. Indirect impacts to special-status plants in adjacent areas may result from dust emissions during construction, altered hydrology, or the spread of nonnative and invasive plant species to areas not previously impacted. AMM BIO-3 has been provided to ensure that project activities avoid impacts to special-status plants within the BSA (see Section 5.4, *Avoidance and Mitigation Measures*).

#### 5.2.1.2 WILDLIFE

##### 5.2.1.2.1 Special-Status Mammals

American badger and San Joaquin kit fox may be impacted directly or indirectly during construction. Construction poses several direct risks, such as vehicle strikes and destruction of resources such as dens.

Further, construction may impact or deter use of valuable habitat, yielding it unsuitable for this species. Indirect impacts may occur by deterring movement patterns of wildlife caused by construction disturbances. Avoidance and Mitigation Measure (AMM) BIO-4 has been provided to ensure that project activities avoid impacts to American badger within the BSA (see Section 5.4, *Avoidance and Mitigation Measures*).

#### 5.2.1.2.2 Special-Status Invertebrates

Monarchs may forage within the project area and breed on the milkweed plants present within the BSA. Therefore, direct impacts to monarchs are most likely to occur during the breeding season, generally March 15 to October 31, when milkweed (*Asclepias* spp.) plants are present for monarchs to lay their eggs on (Xerces Society 2024b). Construction poses a direct risk, such as crushing and trampling of eggs, caterpillars, or chrysalises are present within the work area during construction. Avoidance and Mitigation Measure (AMM) BIO-4 has been provided to ensure that project activities avoid impacts to monarch within the BSA (see Section 5.4, *Avoidance and Mitigation Measures*).

Crotch bumble bees may forage, nest, or overwinter on site. Direct impacts to nesting Crotch bumble bees are most likely to occur during the flight season, generally April 1 to August 31 and to overwintering queens from September 1 through March 31. Direct and indirect impacts may occur if grading and vegetation removal occur during the flight season. These actions can destroy nests or overwintering queens and remove foraging habitat that may lead to nest destruction or failure. Avoidance and Mitigation Measure (AMM) BIO-4 has been provided to ensure that project activities avoid impacts to Crotch bumble bee within the BSA (see Section 5.4, *Avoidance and Mitigation Measures*).

#### 5.2.1.2.3 Special-Status Reptiles

Construction activities may directly or indirectly San Joaquin coachwhip. If present, San Joaquin coachwhip maybe crushed by vehicle strikes or grading activities. Indirect impacts may occur through loss of suitable foraging habitat. AMM BIO-4 has been provided to ensure that project activities avoid impacts to American badger within the BSA (see Section 5.4, *Avoidance and Mitigation Measures*).

#### 5.2.1.2.4 Special-status and Nesting Birds

Direct impacts to avian species, including special-status species, are most likely to occur if construction activities take place during the typical avian nesting season, generally February 1 through August 31. Construction-related activities can destroy nests, remove nesting habitat, or cause disturbance that may lead to nest failure or otherwise harass nesting, resident, or transient birds. Indirect impacts may occur due to habitat loss, such as removal of suitable nesting habitat. AMM BIO-4 has been provided to ensure that project activities avoid impacts to burrowing owl, Swainson's hawk, California horned lark, and other nesting birds within the BSA (see Section 5.4, *Avoidance and Mitigation Measures*).

### *5.2.2 Project Effect on Extent, Diversity, or Quality of Native or Other Important Vegetation*

During the July survey it was determined that the project site potentially supports two CDFW Sensitive Natural Communities, both with a ranking of S2: 1) Alkali weed – Salt grass playas and sinks, and 2) Parish's glasswort patches. The Alkali weed – Salt grass playas and sinks were mapped in the northern and southern portions of the project area. The Parish's glasswort patches were mapped along the roadside irrigation canal outside of the project area and will not be affected by the project. AMM BIO-3 has been provided to ensure that project activities avoid impacts to CDFW Sensitive Natural Communities within the BSA (see Section 5.4, Avoidance and Mitigation Measures).

### 5.2.3 Project Effect on Waters, Wetland, or Riparian Habitat

During the July 2024 survey, the roadside irrigation canal was identified as a potential waters of state and ruled out as waters of the United States due to the lack of an ordinary high-water mark and lack of connectivity to traditional navigable waters. However, this feature is outside of the project area and will not be impacted by the project. In addition to the roadside irrigation canal, the USFWS NWI Wetlands Mapper identified Freshwater Emergent Wetlands within the northern portion of the project site. However, the previous field survey completed in 2008 (MBA 2010) and the aerial imagery assessment completed in 2001 (Moore Biological Consultants 2001) did not identify wetlands within the project area and indicators of wetland hydrology were not observed during the 2024 survey.

### 5.2.4 Project Effect on Habitat Connectivity

As proposed, the project is not expected to increase the current level of habitat fragmentation in the region nor is it expected to create a significant barrier to wildlife movement.

## 5.3 Recommendations

The following avoidance and mitigation measures are recommended to ensure project impacts are less

than significant to special-status species and habitats.

## 5.4 Avoidance and Mitigation Measures

This section focuses on identifying potential biological constraints associated with the construction of the proposed project. The emphasis is on determining the effects of the project on special-status species within the BSA. Where potential impacts to sensitive resources have been identified, measures for avoiding, minimizing, or mitigating adverse effects to these resources are recommended.

**BIO-1** **Worker Environmental Awareness Training.** An environmental awareness training shall be presented to all construction personnel by a qualified biologist prior to the start of any project activities. The training shall include color photographs and a description of the ecology of all special-status species known or with potential to occur, as well as other sensitive resources requiring avoidance during construction. The training shall also include a description of protection measures required by discretionary permits, an overview of the federal and California Endangered Species Acts, and implications of noncompliance with these regulations. This will include an overview of the required avoidance and mitigation measures. A sign-in sheet with the name and signature of the qualified biologist who presented the training, and the names and signatures of the environmental awareness trainees will be kept. A fact sheet conveying the information provided in the environmental awareness training will be provided to all project personnel and anyone else who may enter the project site.

If new construction personnel join the project after the initial training period, they will receive the environmental awareness training from a designated member of the construction team who attended the initial training before beginning work.

**BIO-2** **Site Maintenance and General Operations Training.** The following general measures are recommended to minimize impacts during active construction:

a. The use of heavy equipment and vehicles shall stay within the project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing or flagging. No work shall occur outside of these limits.

b. Project plans, drawings, and specifications shall show the location of erosion and sediment controls, delineation of construction limits, and other pertinent measures to ensure the protection of sensitive habitats and resources.

c. Staging of equipment and materials shall occur in designated areas with appropriate demarcation and perimeter controls.

d. Secondary containment, such as drip pans, shall be used to prevent leaks and spills of potential contaminants.

e. Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur only in designated staging areas. Sandbags and/or absorbent pads and spill control kits shall always be available on-site to clean up and contain fuel spills and other contaminants.

f. Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.

g. Plastic monofilament netting (erosion control matting) or similar material will not be used on-site due to the potential to entangle special-status wildlife. Acceptable substitutes are coconut coir matting, biodegradable fiber rolls, or tackified hydroseeding compounds.

**BIO-3** **Preconstruction Survey and Avoidance Measures for Alkali Weed – Salt Grass and Parry's Rough Tarplant.** The boundaries of Alkali Weed – Salt Gras and Parry's Rough Tarplant plant populations identified within the Biological Survey Area shall be flagged in the field using data collected prior to the start of the project. If Alkali Weed – Salt Grass and/or Parry's Rough Tarplant cannot be avoided during construction (i.e., if avoidance is deemed infeasible), the project applicant shall consult with the California Department of Fish and Wildlife (CDFW) and, if recommended, develop a mitigation plan for impacts to these resources prior to the onset of construction. The project applicant shall pay all required compensatory mitigation fees and implement all avoidance, minimization, and reporting requirements deemed necessary by CDFW.

**BIO-4** **Surveys, Avoidance, and Monitoring for Special-Status Wildlife.** A qualified biologist shall conduct surveys prior to the start of initial project activities to ensure special-status wildlife species are not present within proposed work areas. If special-status wildlife species are found, they shall be allowed to leave the area on their own volition or be relocated (as permitted) to suitable habitat areas outside the work area(s). If necessary, resource agencies will be contacted for further guidance. Pre-activity surveys and/or monitoring shall be conducted as follows:

a. ***Preconstruction Survey and Avoidance Measures for American Badger and San Joaquin Kit Fox.*** A qualified biologist shall conduct a preconstruction survey within 30 days prior to the start of initial project activities to ensure American badger and San Joaquin kit fox are not present within proposed work area. If potential dens are discovered, they shall be monitored with a remote camera or tracking medium for at least 3 days to determine if they are occupied. If the qualified biologist determines that a den may be active during the non-reproductive season, a no-entry exclusion

buffer shall be established within 50 feet of the den. If active dens are found during the American badger or San Joaquin kit fox reproductive season, no activity shall occur within 200 feet of the den. Exclusion buffers shall be prominently flagged and encircle the den. Exclusion zones shall be maintained until all project-related disturbances have been terminated or it has been determined by a qualified biologist that the den is no longer in use. If an exclusion buffer is not feasible, the applicant will contact the County of Merced for further guidance. The results of the survey shall be provided to the County of Merced prior to initial project activities. If construction lapses beyond 30 days from the survey, an additional survey will be required.

b. ***Preconstruction Survey and Avoidance Measures for Monarch Caterpillars.*** If work is planned to occur during the breeding season (March 16–October 30), a qualified biologist shall survey for monarch eggs, caterpillars, and chrysalises within the work area 2 weeks prior to the start of initial ground disturbance. If monarch eggs, caterpillars, or chrysalises are observed, no work shall occur within 25 feet until the monarch egg, caterpillar, or chrysalis is no longer present. If an exclusion buffer is not feasible, the applicant shall contact the County of Merced for further guidance. The results of the survey shall be provided to the County of Merced prior to initial project activities.

***c.*** ***Preconstruction Surveys and Avoidance Measures for Crotch Bumble Bee.*** A qualified biologist shall complete focused surveys for Crotch bumble bee in accordance with California Department of Fish and Wildlife's guidance provided in *Survey considerations for CESA Candidate Bumble Bee Species* (CDFW 2023). If a Crotch bumble bee nest is observed, no work shall occur within 25 feet of the nest until it is no longer active. If an exclusion buffer is not feasible, the applicant shall contact the County of Merced for further guidance. The County of Merced shall coordinate with California Department of Fish and Wildlife for guidance to implement project activities and avoid take or proceed with an Incidental Take Permit. The results of the surveys shall be provided to the County of Merced prior to initial project activities.

***d.*** ***Preconstruction Surveys for San Joaquin Coachwhip.*** A qualified biologist shall complete a preconstruction survey for San Joaquin coachwhip within 48 hours prior to the start of initial grading/excavation. If San Joaquin coachwhip is observed, it shall be allowed to leave on its own volition and the observation submitted to the California Natural Diversity Database. The results of the survey shall be provided to the County of Merced within 1 week of survey completion.

e. ***Preconstruction Surveys Burrowing Owl.*** If work will occur within 492 feet (150 meters) of burrowing owl habitat, within the breeding or non-breeding seasons, a qualified biologist shall conduct a preconstruction survey for this species within 14 days of the onset of construction. A second survey shall be completed immediately prior to construction (i.e., within the preceding 24 hours). The surveys shall be consistent with the methods outlined in Appendix D of the California Department of Fish and Wildlife 2012 *Staff Report on Burrowing Owl Mitigation* (Staff Report). Qualified biologists will walk 20- to 65-foot-wide (7- to 20-meter) transects through the survey area and visually scan the entire project area for sign and individuals. These surveys may be completed concurrently with any other preconstruction surveys for special-status species.

If occupied burrowing owl burrows are identified, the following buffer distances shall be observed by construction, unless otherwise authorized by the California Department of Fish and Wildlife:

| Location | Time of Year | Level of Disturbance | | |
|---|---|---|---|---|
| | | Low | Medium | High |
| Nesting Sites | April 1–August 15 | 656 feet | 1,640 feet | 1,640 feet |
| Nesting Sites | August 16–October 15 | 656 feet | 656 feet | 1,640 feet |
| Any Occupied Burrow | October 16–March 31 | 164 feet | 328 feet | 1,640 feet |

Each exclusion buffer shall encircle the burrow and have a radius as specified in the table above. All foot and vehicle traffic, as well as all project activities, including storage of supplies and equipment, shall remain outside of exclusion buffers. Exclusion buffers shall be maintained until all project-related disturbances have been terminated, or it has been determined by a qualified biologist that the burrow is no longer in use. If avoidance of active burrows is infeasible, the applicant shall contact the County of Merced for further guidance. The County of Merced shall coordinate with the California Department of Fish and Wildlife for guidance to implement project activities and avoid take or proceed with an Incidental Take Permit. The results of the survey shall be submitted to the County of Merced prior to start of initial project activities.

f. ***Preconstruction Survey for Swainson's Hawk.*** If work is planned to occur between March 1 and September 1, a qualified biologist shall survey for nesting Swainson's hawks within a half-mile radius around the project site. Preconstruction surveys for Swainson's hawk should be conducted according to the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Survey in California's Central Valley*. If an active nest is identified within the half-mile radius and work cannot be delayed until the nest has fledged or is no longer active, California Department of Fish and Wildlife will be consulted for appropriate avoidance measures.

g. ***Preconstruction Survey for Special-Status and Nesting Birds/Raptors*****.** If work is planned to occur between February 1 and August 31, a qualified biologist shall survey the area for nesting birds within 1 week prior to activity beginning on-site. If nesting birds are located on or near the proposed project site, they shall be avoided until they have successfully fledged, or the nest is no longer deemed active. A non-disturbance buffer of 50 feet will be placed around non-listed, passerine species, and a 250-foot buffer will be implemented for all non-listed raptor species. All activity will remain outside of the buffer until a qualified biologist has determined that the nest is no longer active (e.g., young have fledged, the nest has failed) or that proposed construction activities would not cause adverse impacts to the nest, adults, eggs, or young. If special-status avian species are identified and nesting within the work area, no work will begin until an appropriate buffer is determined in consultation with the County of Merced, California Department of Fish and Wildlife, and/or U.S. Fish and Wildlife Service.

# 6 CONCLUSION

The potential for significant impacts to special-status biological resources as a result of the proposed project activities is likely low. Parry's rough tarplant, a CRPR 4.2 species, was observed within the BSA and may be impacted by the project. In addition, it was determined that there is potential for up to eleven additional special-status plant species and eight special-status wildlife species, as well as nesting birds, to be present within the project area. Two CDFW Sensitive Natural Communities were observed: Parish's glasswort patches (S2) and Alkali weed – Salt grass playas and sinks (S2). Portions of the Alkali weed – Salt grass playas and sinks are expected to be impacted as a result of the project. Wetland plant species were observed throughout the BSA; however, the previous field survey completed in 2008 (MBA 2010) and the aerial imagery assessment completed in 2001 (Moore Biological Consultants 2001) did not identify wetlands within the project area.

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# APPENDIX A

## Preliminary Site Plan
## (Dated 2023)

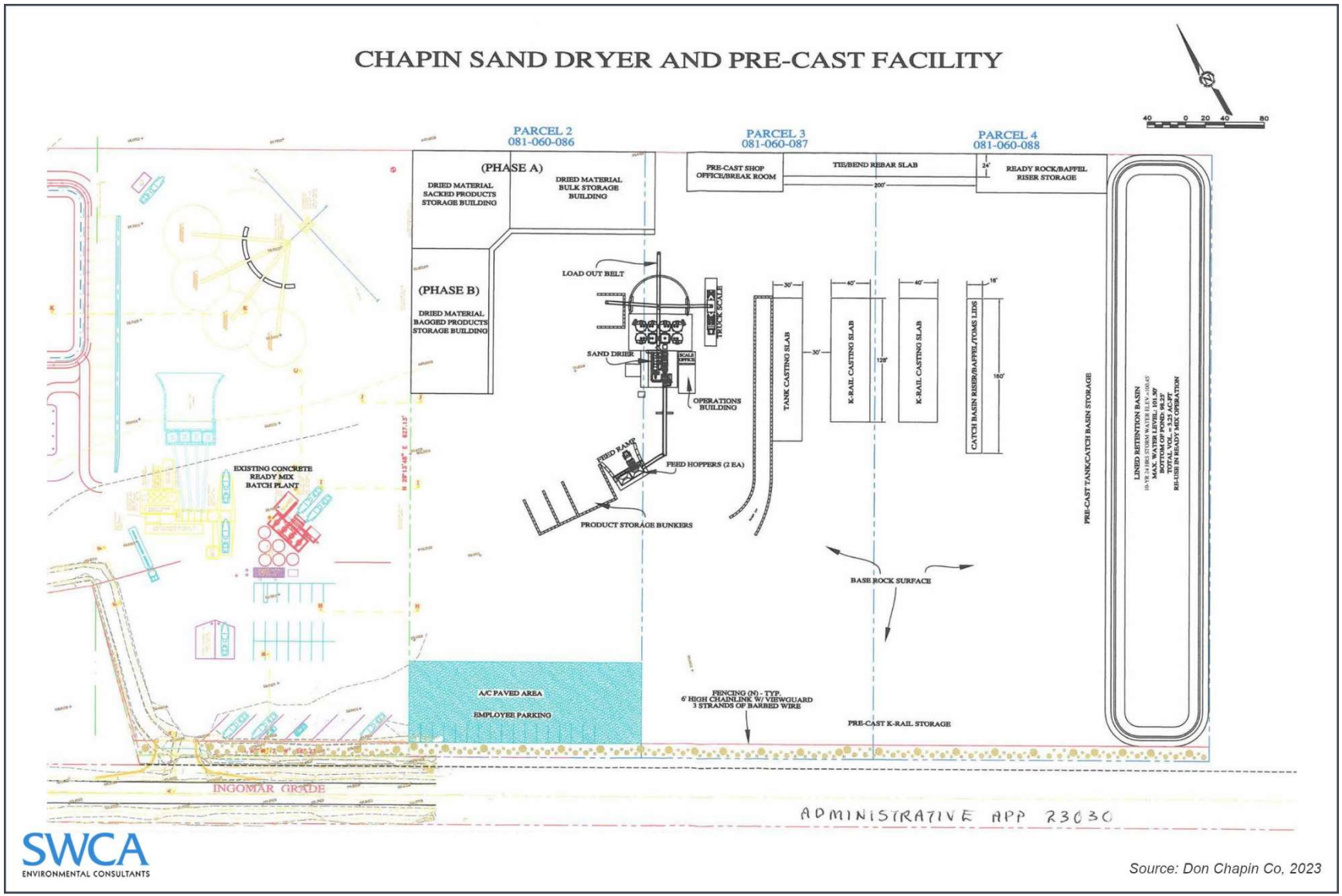


**Figure A-1. Preliminary site plan.**

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# APPENDIX B

# Regionally Occurring Special-Status Species

## Table B-1. Sensitive Vegetation Communities and Habitats Investigated for Potential Occurrence

| Community/ Habitat[1] | Description[2] | Observed On-Site? | Rationale for Expecting Presence or Absence |
|---|---|---|---|
| ***CNDDB-Designated Sensitive Natural Communities*** | | | |
| Alkali Seep | Associated with relatively few species of low-growing perennial herbs, which usually form complete cover. Associated vegetation will grow throughout the year in areas with mild winters. Permanently moist or wet; often associated with alkali meadows throughout the desert regions of California. | No | Diagnostic species and substrate are not present on-site; this community is not present within the BSA. |
| Cismontane Alkali Marsh | Dominated by perennial, emergent, herbaceous monocots to two meters tall. Cover is often complete and dense. Characteristic species include *Carex* spp., *Distichlis spicata*, *Juncus* spp., *Salicornia* spp., and *Typha* spp. Found in lake beds and other areas on the flood plains of the Sacramento and San Joaquin rivers. Also occurs in low-lying areas of Kings and Kern counties in the southwestern San Joaquin Valley and occasionally near the Colorado River in eastern Riverside and Imperial counties. | No | Diagnostic species and substrate are not present on-site; this community is not present within the BSA. |
| Coastal and Valley Freshwater Marsh | Dominated by perennial, emergent, and tall monocots that often form closed canopies. Tend to be *Typha* dominated and permanently flooded with fresh water, which results in deep peaty soils. | No | Diagnostic species and substrate are not present on-site; this community is not present within the BSA. |
| Great Valley Cottonwood Riparian Forest | A dense, broad-leafed, winter-deciduous riparian forest dominated by *Populus fremontii* and *Salix gooddingii*. Understories are dense, with abundant vegetative reproduction of canopy dominants. *Vitis californica* is the most conspicuous vine. Scattered seedlings and saplings or shade-tolerant species such as *Acer negundo* or *Fraxinus latifolia* may be found, but frequent flooding prevents their reaching into the canopy. | No | Diagnostic species and substrate are not present on-site; this community is not present within the BSA. |
| Sycamore Alluvial Woodland | Open to moderately closed, winter-deciduous broad-leafed riparian woodland dominated by well-spaced *Platanus racemose*. Contains at least 50% relative cover in tree canopy, or at least 30% relative cover in tree canopy when co-dominated by coast live oak (*Quercus agrifolia*), arroyo willow (*S. lasiolepis*), or Fremont cottonwood (*Populus fremontii*). The understory is usually introduced nonnative grasses and shrubs. Western poison oak (*Toxicodendron diversilobum*) is often present. This community is found near braided, intermittent streams with periodic flooding. The soils are rocky or cobbly alluvium with permanent moisture at depth. | No | Diagnostic species and substrate are not present on-site; this community is not present within the BSA. |
| Valley Sacaton Grassland | Mid-height (up to 3-foot) tussock-forming grassland dominated by *Sporobolus airoides*. Most sites have seasonally high water tables or are overflowed during winter flooding. Characteristic species include *Distichlis spicata* and *Hordeum depressum*. | No | Diagnostic species and substrate are not present on-site; this community is not present within the BSA. |
| Valley Sink Scrub | Low, open to dense succulent shrublands dominated by alkali tolerant *Chenopodiaceae*. Understory is lacking, with lower cover dominated by herbaceous cover. Heavy, saline and/or alkaline clays of lakebeds or playas, with soil surfaces often a brilliant white. | No | Diagnostic species and substrate are not present on-site; this community is not present within the BSA. |

[1] List of sensitive vegetation communities and habitats obtained from the CNDDB (CDFW 2024), Sawyer et al. (2009), and CNPS (2024b); critical habitat information was acquired from the USFWS Critical Habitat Portal (USFWS 2024b).

[2] Community and habitat descriptions acquired from the CNDDB (CDFW 2024) and *A Manual of California Vegetation* (Sawyer et al. 2009) and MCV Online (CNPS 2024b); critical habitat information was acquired from the USFWS Critical Habitat Portal (USFWS 2024b).

**Table B-2. Special-Status Plant Species Evaluated for Potential Occurrence**

| Scientific / Common Name[1] | Listing Status[2] Federal / State / CNPS | Blooming Period[3] | Habitat Type[3] | Observed / Habitat Present?[4] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| *Acanthomintha lanceolata* Santa Clara thorn-mint | -- / -- / 4.2 | March–June | Woodland, chaparral, talus, rocky slopes, outcrops, occasionally serpentine. Elevation: <1,200 meters. | No / No | **Suitable Conditions Absent**. No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Amsinckia furcata* Forked fiddleneck | -- / -- / 4.2 | February–May | Semi-barren, loose, shaly slopes. Elevation: 50–1,000 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Androsace elongata* ssp. *acuta* California androsace | -- / -- / 4.2 | March–June | Dry grassy slopes. Elevation: <1,200 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Astragalus tener* var. *tener* Alkali milk-vetch | -- / -- / 1B.2 | March–June | Alkaline flats, vernally moist meadows. Elevation: <60 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during out of season survey. |
| *Atriplex cordulata* var. *cordulata* Heartscale | -- / -- / 1B.2 | April–October | Saline or alkaline soils. Elevation: <70 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Atriplex coronata* var. *coronata* Crownscale | -- / -- / 4.2 | March–October | Fine, alkaline soils. Elevation: <200 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Atriplex coronata* var. *vallicola* Lost Hills crownscale | -- / -- / 1B.2 | April–September | Dried ponds, alkaline soils. Elevation: <430 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Atriplex minuscula* Lesser saltscale | -- / -- / 1B.1 | May–October | Sandy, alkaline soils. Elevation: <100 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Atriplex persistens* Vernal pool smallscale | -- / -- / 1B.2 | June–October | Alkaline vernal pools. Elevation: <115 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Caulanthus lemmonii* Lemmon's jewelflower | -- / -- / 1B.2 | February–May | Grassland, chaparral, scrub. Elevation: 80–1,100 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |

| Scientific / Common Name[1] | Listing Status[2] Federal / State / CNPS | Blooming Period[3] | Habitat Type[3] | Observed / Habitat Present?[4] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| ***Centromadia parryi ssp. rudis*** **Parry's rough tarplant** | **-- / -- / 4.2** | **May–October** | **Grassland, edges of marshes and vernal pools, disturbed sites. Elevation: <500 meters.** | **Yes / Yes** | **Suitable Conditions Present. Suitable habitat is present within the BSA; species observed on-site during appropriately timed survey.** |
| *Chloropyron molle* ssp. *hispidum* Hispid salty bird's-beak | -- / -- / 1B.1 | June–September | Saline marshes and flats. Elevation: <130 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Clarkia breweri* Brewer's clarkia | -- / -- / 4.2 | April–June | Chaparral, talus, occasionally serpentine. Elevation: <1,000 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Cryptantha rattanii* Rattan's cryptantha | -- / -- / 4.3 | April–July | Rocky, gravelly slopes, often granitic, grassland, coastal scrub, chaparral, foothill woodland. Elevation: 150–780 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Delphinium recurvatum* Recurved larkspur | -- / -- / 1B.2 | March–June | Poorly drained, fine, alkaline soils in grassland, *Atriplex* scrub. Elevation: 30--600 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Eriogonum nudum* var. *indictum* Protruding buckwheat | -- / -- / 4.2 | May–October | Clay. Elevation: 100–1,100 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Eriogonum vestitum* Idria buckwheat | -- / -- / 4.3 | March–November | Clay. Elevation: 400–700 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Eryngium racemosum* Delta button-celery | -- / SE / 1B.1 | June–August | Seasonally flooded clay depressions in floodplains. Elevation: 3–30 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Eryngium spinosepalum* Spiny-sepaled button-celery | -- / -- / 1B.2 | April - July | Vernal pools, swales, roadside ditches. Elevation: 100–1,270 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Hesperevax caulescens* Hogwallow starfish | -- / -- / 4.2 | March–June | Occurs in valley and foothill grassland on mesic clay soils and shallow vernal pools. Elevation: 0–505 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during out of season survey. |

| Scientific / Common Name[1] | Listing Status[2] Federal / State / CNPS | Blooming Period[3] | Habitat Type[3] | Observed / Habitat Present?[4] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| *Lasthenia chrysantha*<br>Alkali-sink goldfields | -- / -- / 1B.1 | February–April | Uncommon. Vernal pools, wet saline flats. Elevation: <100 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during out of season survey. |
| *Lasthenia ferrisiae*<br>Ferris' goldfields | -- / -- / 4.2 | February–May | Vernal pools or wet saline flats. Elevation: <700 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during out of season survey. |
| *Lasthenia glabrata* ssp. *coulteri*<br>Coulter's goldfields | -- / -- / 1B.1 | April–May | Saline places, vernal pools. Elevation: <1,000 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during out of season survey. |
| *Leptosiphon ambiguus*<br>Serpentine leptosiphon | -- / -- / 4.2 | April–May | Grassy areas generally on serpentine soil. Elevation: <1,000 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Malacothamnus hallii*<br>Hall's bushmallow | -- / -- / 1B.2 | March–June | Early-recovering post-burn woody vegetation, edges of openings, some plants occasionally persisting into more mature vegetation stages. Elevation: 0--760 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Myosurus minimus* ssp. *apus*<br>Little mousetail | -- / -- / 3.1 | April – June | Wet fields, vernal pools, streambanks, lake shores. Elevation: <2,100 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Navarretia nigelliformis* ssp. *radians*<br>Shining navarretia | -- / -- / 1B.2 | May–July | Vernal pools, clay depressions. Elevation: 150–1,000 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Navarretia prostrata*<br>Prostrate vernal pool navarretia | -- / -- / 1B.1 | April–July | Alkaline floodplains, vernal pools. Elevation: <700 meters. | No / Yes | **Marginally Suitable Conditions Present.** Suitable habitat is present within the BSA; species not observed during out of season survey. |
| *Puccinellia simplex*<br>California alkali grass | -- / -- / 1B.2 | March–May | Saline flats, mineral springs. Elevation: <900 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Sagittaria sanfordii*<br>Sanford's arrowhead | -- / -- / 1B.2 | May–October | Ponds, ditches. Elevation: <300 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |

| Scientific / Common Name[1] | Listing Status[2] Federal / State / CNPS | Blooming Period[3] | Habitat Type[3] | Observed / Habitat Present?[4] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| *Senecio aphanactis*<br>Chaparral ragwort | -- / -- / 2B.2 | January–May | Alkaline flats, dry open rocky areas. Elevation: 10–550 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Streptanthus insignis* ssp. *insignis*<br>Plumed jewelflower | -- / -- / 4.3 | March–May | Openings in chaparral, badlands, rock outcrops, talus, graywacke, shale, often serpentine. Elevation: 300—1,100 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Streptanthus insignis ssp. lyonia*<br>Arburua Ranch jewelflower | -- / -- / 1B.2 | April–May | Serpentine, grassland, oak woodland. Elevation: 200--900 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Stuckenia filiformis* ssp. *alpina*<br>Northern slender pondweed | -- / -- / 2B.2 | May–July | Shallow, clear water of lakes, drainage channels. Elevation: 300--2,150 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |
| *Trichocoronis wrightii* var. *wrightii*<br>Wright's trichocoronis | -- / -- / 2B.1 | May–September | Moist places, drying riverbeds. Elevation: <500 meters. | No / No | **Suitable Conditions Absent.** No suitable habitat is present within the BSA; species not observed during appropriately timed survey. |

Note: This list does not include listed non-vascular cryptograms.

**Status Codes:**
**--** = No status
**Federal:** FE = Federal Endangered; FT = Federal Threatened
**State***:* S**E** = State Endangered; SR = State Rare
**CNPS:** Rank 1B = rare, threatened, or endangered in California and elsewhere; Rank 2B = rare, threatened, or endangered in California but more common elsewhere; Rank 3 = review list plants about which more information is needed; Rank 4 = watch list plants of limited distribution
*Threat Codes:* _.1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); _.2 = Fairly endangered in California (20-80% occurrences threatened); _.3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)

[1] List of regionally occurring special-status species acquired from CNDDB (CDFW 2024), and CNPS Rare and Endangered Plant Inventory (CNPS 2024a), and local expert knowledge. This list includes all vascular plants in these databases; sensitive and rare lichens and moss were excluded.

[2] Listing status obtained from CNPS Rare and Endangered Plant Inventory (CNPS 2024a).

[3] Blooming period and habitat type obtained from Jepson eFlora (Jepson 2024) and occasionally supplemented with information provided by the CNPS (2024a).

[4] Species determined to have suitable habitat on-site, even marginally suitable, are indicated with gray highlight and discussed further in the report. Species observed on-site are indicated in bold font.

**Table B-3. Special-Status Wildlife Species Investigated for Potential Occurrence**

| Scientific / Common Name[1] | Listing Status[1] Federal / State / CDFW | Nesting/ Breeding Period[2] | Habitat Type[2] | Observed / Habitat Present?[3] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| ***Amphibians*** | | | | | |
| *Ambystoma californiense*<br>California tiger salamander | FT / ST / -- | December–February | Found in grasslands, oak savanna, and edges of mixed woodland and lower elevation coniferous forest. Nocturnal and fossorial, uses abandon rodent burrows. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat on-site. No documented occurrences within 5 miles. |
| *Rana boylii*<br>Foothill yellow-legged frog | FT / SE / SSC | April–July | Occurs in rocky streams and rivers with rocky substrate. Found in woodlands, chaparral, and forests with open sunny banks. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat on-site. No documented occurrences within 5 miles. |
| *Rana draytonii*<br>California red-legged frog | FT / -- / -- | January–July | Most common in ponds of woodlands and grasslands. Found in habitats adjacent to streams or water access. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat on-site. No documented occurrences within 5 miles. |
| *Spea hammondii*<br>Western spadefoot | PT / -- / SSC | January – August | Occurs in seasonal/vernal pools in grassland, coastal scrub, chaparral, woodland habitat, and open areas with sandy or gravelly soils. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat on-site. No documented occurrences within 5 miles. |
| ***Birds*** | | | | | |
| *Agelaius tricolor*<br>Tricolored blackbird | -- / ST / SSC | February–August | Needs nest sites near open, fresh water, protected habitat (such as cattails or tall rushes), and suitable feeding areas (e.g., pastures, rice fields, grassland). | No / No | **Suitable Conditions Absent.** No suitable nesting habitat for this species is present within the BSA. This species is not expected to nest within the BSA. |
| *Aquila chrysaetos*<br>Golden eagle | -- / -- / FP | January–August | Occurs in open country in prairies, tundra, open coniferous forest, and barren areas, especially in hilly or mountainous regions. Nests in large, prominent trees in wooded areas and on cliff ledges. | No / No | **Suitable Conditions Absent.** No suitable nesting habitat for this species is present within the BSA. This species is not expected to nest within the BSA or nearby but may forage. |
| *Athene cunicularia*<br>Burrowing owl | -- / SC / SSC | March–July | Occurs in open, dry grasslands and deserts. Will use the burrows of other terrestrial animals. Also found in cleared residential areas such as vacant lots and golf courses, | No / Yes | **Suitable Conditions Present.** Suitable nesting habitat for this species is present within the BSA. If suitable burrows are present at the time of project implementation this species may nest on-site. |

| Scientific / Common Name[1] | Listing Status[1] Federal / State / CDFW | Nesting/ Breeding Period[2] | Habitat Type[2] | Observed / Habitat Present?[3] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| *Branta hutchinsii leucopareia*<br>Cackling goose | -- / -- / WL | Summer | Nests on the ground along ponds and streams. Occurs in California during winter migration. | No / No | **Suitable Conditions Absent.** The BSA is not within the nesting range of this species. This species may be transient to the project site when overwintering. |
| *Buteo regalis*<br>Ferruginous hawk | -- / -- / WL | February–July | Occurs in lowlands, plateaus, rolling hills of grasslands, ranches and agricultural fields. Primarily nests in trees. | No / Yes | **Suitable Conditions Absent.** The BSA is not within the nesting range of this species. This species may be transient to the project site when overwintering. |
| *Buteo swainsoni*<br>Swainson's hawk | -- / ST / -- | March–August | Prefers open grasslands and desert-like habitats; common to see perched on a fence looking for prey. Also found in agricultural areas. Nests in trees. | No / Yes | **Suitable Conditions Present.** No suitable nesting habitat for this species is present within the BSA; however, this species may nest nearby. |
| *Circus hudsonius*<br>Northern harrier | -- / -- / SSC | April–September | Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands. Nests on the ground in shrubby vegetation in emergent wetlands or along rivers and lakes. | No / No | **Suitable Conditions Absent.** No suitable nesting habitat for this species is present within the BSA. This species is not expected to nest within the BSA or nearby but may forage. |
| *Corturnicops noveboracensis*<br>Yellow rail | -- / -- / SSC | May–September | Occurs in shallow marshes with fairly short vegetation. Nest on the ground, usually in upper, unflooded, parts of a sedge marsh, where there is relatively dense vegetation. Breeds in northeastern California with records from Modoc, Siskiyou, Mono, and Plumas Counties. Winters along coastal California, northern San Joaquin Valley, and San Francisco Bay region. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA. This species is not expected to occur. |
| *Eremophila alpestris actia*<br>California horned lark | -- / -- / WL | March–August | Occurs in open fields, short grass areas, fields, rangelands. | No / Yes | **Suitable Conditions Present.** Suitable nesting and foraging habitat for this species is present within the BSA. |
| *Falco mexicanus*<br>Prairie falcon | -- / -- / WL | February–July | Primarily inhabits dry grasslands, woodlands, savannahs, cultivated fields, lake shores, and rangelands. Primarily nests on cliffs, canyons, and rock outcrops. | No / No | **Suitable Conditions Absent.** No suitable nesting habitat for this species is present within the BSA. This species is not expected to nest within the BSA or nearby but may forage. |

| Scientific / Common Name[1] | Listing Status[1] Federal / State / CDFW | Nesting/ Breeding Period[2] | Habitat Type[2] | Observed / Habitat Present?[3] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| *Lanius ludovicianus*<br>Loggerhead shrike | -- / -- / SSC | April–July | Occurs in open country with short vegetation and well-spaced shrubs or low trees. Forages in a variety of areas including agricultural fields, pastures, orchards, riparian areas, and desert scrublands. Nests in shrubs, brushpiles, short trees, and human-made structures. | No / No | **Suitable Conditions Absent.** No suitable nesting habitat for this species is present within the BSA. This species is not expected to nest within the BSA or nearby but may forage. |
| ***Fish*** | | | | | |
| *Oncorhynchus mykiss irideus* pop. 11<br>Steelhead – Central Valley Distinct Population Segment | FT / -- / SSC | February–April | Occurs in clear, cool water with abundant instream cover, well-vegetated stream margins, relatively stable water flow, and 1:1 pool-to-riffle ratio. Federal listing refers to runs in the Sacramento and San Joaquin river basins. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA. This species is not expected to occur. |
| ***Invertebrates*** | | | | | |
| *Bombus crotchii*<br>Crotch bumble bee | -- / SC / -- | February–October | Inhabits grassland and scrub habitats in California, Nevada, and Baja California. Feeds on milkweeds, dustymaidens, lupines, medics, phacelias, and sages. | No / Yes | **Suitable Conditions Present.** Suitable habitat for this species is present within the BSA. Species has been documented within six miles of the BSA. |
| *Branchinecta conservation*<br>Conservancy fairy shrimp | FE / -- / -- | Winter–Spring | Occurs in large vernal pools in grasslands, wetlands, and rural areas. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat with BSA based on previous surveys completed by others and a review of available aerial imagery. This species is not expected to occur. |
| *Branchinecta longiantenna*<br>Longhorn fairy shrimp | FE / -- / -- | Winter–Spring | Occurs in vernal pools and swales, ephemeral freshwater habitats, and alkaline pools created by sandstone depressions; endemic to the Central Valley of California. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat with BSA based on previous surveys completed by others and a review of available aerial imagery. This species is not expected to occur. |
| *Branchinecta lynchi*<br>Vernal pool fairy shrimp | FT / -- / -- | Winter–Spring | Occurs in vernal pools and depressions in grasslands. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat with BSA based on previous surveys completed by others and a review of available aerial imagery. This species is not expected to occur. |

| Scientific / Common Name[1] | Listing Status[1] Federal / State / CDFW | Nesting/ Breeding Period[2] | Habitat Type[2] | Observed / Habitat Present?[3] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| *Danaus plexippus*<br>Monarch butterfly | FC / -- / -- | Spring | Breeds throughout state and overwintering along coast from northern Mendocino to Baja California, Mexico. Winter roosts in wind-protected tree groves (eucalyptus, Monterey pine, and cypress), with nectar and water sources nearby. | No / Yes | **Suitable Conditions Present.** Milkweed plants were observed within the BSA and present during the 2008 survey. Monarch eggs, caterpillars, or chrysalis may occur. |
| *Desmocerus californicus dimorphus*<br>Valley elderberry longhorn beetle | FT / -- / -- | March–June | Dependent on host plant elderberry, which grows in riparian areas and foothill oak woodlands. Only found on valley floor and low foothills. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA. This species is not expected to occur. |
| *Lepidurus packardi*<br>Vernal pool tadpole shrimp | FE / -- / -- | Winter–Spring | Occurs in vernal pools and depressions in grasslands, wetlands, and rural environments. | No / No | **Suitable Conditions Absent.** Likely no suitable breeding habitat with BSA based on previous surveys completed by others. This species is not expected to occur. |
| ***Mammals*** | | | | | |
| *Ammospermophilus nelson*<br>Nelson's antelope squirrel | -- / ST / -- | November–March | Occurs in desert open scrub communities and grasslands with low to moderate shrub cover and low foothills and mountains of San Joaquin Valley. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA and ***the project site*** is outside of its known range. This species is not expected to occur. |
| *Dipodomys ingens*<br>Giant kangaroo rat | FE / SE / -- | December–April | Prefers relatively flat homogenous terrain with few shrubs and rocks and easily excavated sandy loam covered with annual grasses and herbs. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA and ***the project site*** is outside of its known range. This species is not expected to occur. |
| *Eumops perotis californicus*<br>Western mastiff bat | -- / -- / SSC | March–July | Occurs in broad open areas, chaparral, montane meadows, rocky cliffs, canyon areas, roosts in crevices, tunnels, also in buildings. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA. This species is not expected to occur. |
| *Taxidea taxus*<br>American badger | -- / -- / SSC | Fall–Spring | Occurs in dry, open fields with friable soil for tunneling and foraging. | No / Yes | **Suitable Conditions Present.** Suitable habitat for this species is present within the BSA. Suitable burrows were not observed but this species has been documented nearby. |

| Scientific / Common Name[1] | Listing Status[1] Federal / State / CDFW | Nesting/ Breeding Period[2] | Habitat Type[2] | Observed / Habitat Present?[3] | Rationale for Expecting Presence or Absence |
|---|---|---|---|---|---|
| *Vulpes macrotis mutica*<br>San Joaquin kit fox | FE / SE / -- | December–February | Occurs in open, arid regions; desert scrub, chaparral, and grasslands. Prefers loose soils to construct dens. | No / Yes | **Suitable Conditions Present.** Suitable habitat for this species is present within the BSA. Suitable burrows were not observed but this species has been documented nearby. |
| ***Reptiles*** | | | | | |
| *Actinemys marmorata*<br>Northwestern pond turtle | PT / -- / SSC | April–August | Lives in streams, ponds, lakes, and permanent and ephemeral wetlands. Also requires terrestrial habitats for nesting. | No / No | **Suitable Conditions Absent.** Suitable aquatic habitat for this species is not present within the BSA. |
| *Anniella pulchra*<br>Northern California legless lizard | -- / -- / SSC | March–November | Occurs in sandy or loose loamy soils under coastal scrub or oak trees. Soil moisture is essential. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA. This species is not expected to occur. |
| *Gambelia sila*<br>Blunt-nosed leopard lizard | FE / SE / FP | May–August | Prefers flat, open areas such as semiarid grasslands, alkali flats, and washes. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA. This species is not expected to occur. |
| *Masticophis flagellum ruddocki*<br>San Joaquin coachwhip | -- / -- / SSC | Late Spring–Summer | Occurs in open dry, treeless areas such as grasslands or saltbush scrub. Uses refugia in rodent burrows, under shaded vegetation or surface objects. | No / Yes | **Suitable Conditions Present.** Suitable habitat for this species is present within the BSA and species has been documented nearby. |
| *Thamnophis gigas*<br>Giant gartersnake | FT / ST / -- | March–September | Found on edges of large flood basins, freshwater marshes, and tributaries. Also inhabits natural wetlands, small lakes, and small streams. | No / No | **Suitable Conditions Absent.** No suitable habitat for this species is present within the BSA. This species is not expected to occur. |

**Status Codes:**

-- = No status
**Federal:** FE = Federal Endangered; FT= Federal Threatened; FC = Federal Candidate
**State:** SE= State Endangered; ST= State Threatened; SC= State Candidate
**CDFW:** SSC= Species of Special Concern ; FP= Fully Protected Species; WL = Watch List

[1] List of regionally occurring special-status species and listing status acquired from CNDDB (CDFW 2024) and local expert knowledge. State Special Animals and California Department of Forestry and Fire Protection (CDF) sensitive species have been omitted from this list because these taxa do not currently have a protected status, or the protected status (CDF sensitive) only applies during timber operations.

[2] Life history information obtained from multiple sources, including All About Birds (Cornell Lab of Ornithology 2024), CaliforniaHerps.com (Nafis 2024), and USFWS IPaC (USFWS 2024a).

[3] Species determined to have suitable habitat on-site, even marginally suitable, are indicated with gray highlight and discussed further in the report.

# APPENDIX C

## Botanical and Wildlife Species Observed

## Table C-1. Plant Species Observed

| Family | Scientific Name | Common Name | Origin | NWPL Wetland Indicator Status[1] |
|---|---|---|---|---|
| Apiaceae, Carrot Family | *Conium maculatum* | Poison hemlock | Naturalized | FACW |
| Apocynaceae, Dogbane Family | *Asclepias fascicularis* | Narrowleaf milkweed | Native | FAC |
| Asteraceae, Sunflower Family | *Carduus pycnocephalus* | Italian thistle | Naturalized | -- |
| | ***Centromadia parryi* ssp. *rudis*** | **Pappose tarweed** | **Native, CRPR 4.2** | **FACW** |
| | *Erigeron bonariensis* | Flax leaved horseweed | Naturalized | FACU |
| | *Grindelia camporum* | Great Valley gumweed | Native | FACW |
| | *Lactuca serriola* | Prickly lettuce | Naturalized | FACU |
| | *Silybum marianum* | Milk thistle | Naturalized | -- |
| | *Sonchus oleraceus* | Sow thistle | Naturalized | UPL |
| Chenopodiaceae, Goosefoot Family | *Arthrocnemum subterminale* | Parish's glasswort | Native | FACW |
| | *Atriplex patula* | Spear oracle | Native | FACW |
| | *Bassia hyssopifolia* | Five horn bassia | Naturalized | FACU |
| Convulvulaceae, Morning Glory Family | *Cressa truxillensis* | Alkali weed | Native | FACW |
| Fabaceae, Legume Family | *Melilotus indicus* | Yellow sweetclover | Naturalized | FACU |
| Frankeniaceae, Frankenia Family | *Frankenia salina* | Alkali heath | Native | FACW |
| Juncaceae, Rush Family | *Juncus* sp. | Rush | Native | FAC-OBL |
| Poaceae, Grass Family | *Avena barbata* | Slender wild oats | Naturalized | -- |
| | *Avena fatua* | Wild oats | Naturalized | UPL |
| | *Bromus diandrus* | Ripgut brome | Naturalized | -- |
| | *Bromus hordeaceus* | Soft chess | Naturalized | FACU |
| | *Cynodon dactylon* | Bermuda grass | Naturalized | FACU |
| | *Distichlis spicata* | Salt grass | Native | FAC |
| | *Festuca perennis* | Italian rye grass | Naturalized | FAC |
| | *Hordeum marinum* | Seaside barley | Naturalized | FAC |
| | *Polypogon monspeliensis* | Annual beard grass | Naturalized | FACW |
| Polygonaceae, Buckwheat Family | *Rumex crispus* | Curly dock | Naturalized | FAC |
| Scrophulariaceae, Figwort Family | *Verbascum thapsus* | Common mullein | Naturalized | FACU |

Notes: Species observed on-site are indicated in bold font.

[1] FACW = plants that nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in non-wetlands.
FAC = plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occur in standing water or saturated soils.
FACU = plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils.
UPL = Plants that almost never occur in water or saturated soils.
OBL = plants that always occur in standing water or in saturated soils.

## Table C-2. Wildlife Species Observed

| Scientific Name | Common Name | Status |
|---|---|---|
| ***Birds*** | | |
| *Bubo virginianus* | Great horned owl | -- |
| *Columba livia* | Rock Pigeon | -- |
| *Corvus brachyrhynchos* | American crow | -- |
| *Egretta thula* | Snowy egret | -- |
| *Tyto alba* | Barn owl | -- |
| ***Mammals*** | | |
| *Thomomys bottae* | Botta's pocket gopher | -- |
| ***Reptiles*** | | |
| *Uta stansburiana* | Side-blotched lizard | -- |
| ***Invertebrates*** | | |
| *Apis mellifera* | European honey bee | -- |

# APPENDIX D

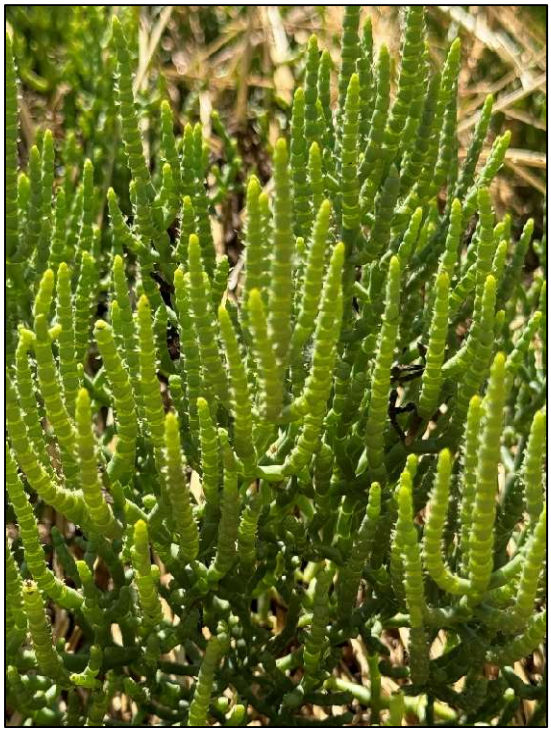
# Representative Site Photographs

**Photograph D-1. Disced project site adjacent to the existing concrete facility; view facing west. Photo taken July 30, 2024.**

**Photograph D-2. Roadside irrigation canal that runs parallel to Ingomar Grade just outside of the project boundary; view facing northwest. Photo taken July 30, 2024.**

**Photograph D-3. Representative photo of Pappose tarweed (CRPR 4.2) found at three locations within or immediately adjacent to the project site. Photo taken July 30, 2024.**

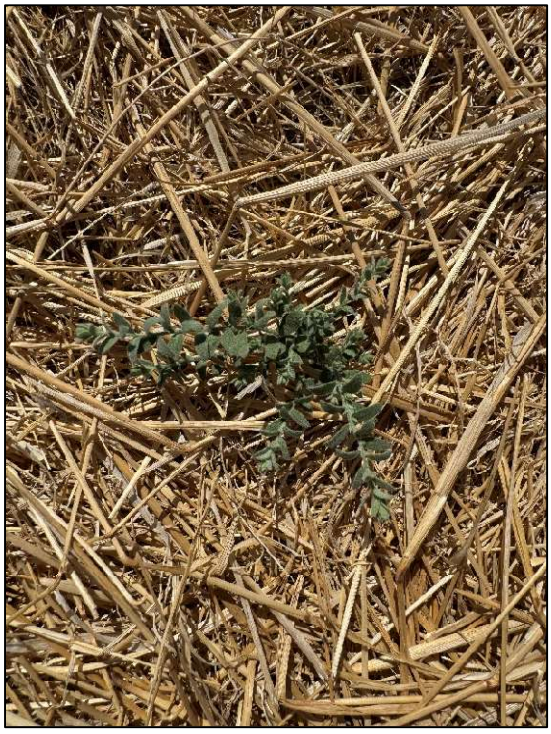
**Photograph D-4. Parish's glasswort patch (State Rarity Rank S2) along the roadside irrigation canal just outside the project area; view facing southeast. Photo taken July 30, 2024.**



**Photograph D-5. Representative photo of Parish's glasswort within the swale just south of the project area. Photo taken July 30, 2024.**

**Photograph D-6. Sparse but consistent patches of salt grass along the eastern edge of the project area; view facing northeast. Photo taken July 30, 2024.**

**Photograph D-7. Large alkali weed patch potentially indicating the presence of an Alkali weed – Salt grass flats community along the northern edge of the project area; view facing north. Photo taken July 30, 2024.**



**Photograph D-8. Representative photo of alkali weed, which was observed throughout much of the project area. Photo taken July 30, 2024.**