South of Tule River Master Plan

Initial Study

PUBLIC REVIEW DRAFT IN CIRCULATION WITH THE NOTICE OF PREPARATION

MARCH 2024

Prepared for

City of Porterville
Community Development Department
291 N. Main Street
Porterville, CA 93257

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1 INTRODUCTION

Precision Civil Engineering, Inc. (PCE) has prepared this Initial Study (IS) on behalf of the City of Porterville (City) to address the environmental effects of the proposed South of Tule River Master Plan ("Project" or "proposed Project"). The Project includes a Conditional Use Permit to adopt the master plan, a General Plan Amendment to reflect the mix of uses proposed in the Master Plan, and a Rezone/Pre-zone to amend the zoning map from the current zone districts to those consistent with the proposed land use changes. The goal of the South of Tule River (SoTu) Master Plan is to provide the necessary framework to guide development in this area as it transitions from agricultural land to a vibrant, distinct, and multi-modal district of mixed densities and uses that is attractive to residential and visitors to live, work, explore, and shop. This Project is funded by Local Early Action Planning (LEAP) grant funding for the purpose of increasing housing production in the city. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code *Section 21000 et. seq*. The City of Porterville is the Lead Agency for this proposed Project. The site and the proposed Project are described in detail in SECTION 2 ENVIRONMENTAL CHECKLIST FORM.

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, et seq.), also known as the CEQA Guidelines, *Section 15064 (a)(1)* states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels.

A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines *Section 15371*). According to CEQA Guidelines *Section 15070*, a ND or mitigated ND shall be prepared for a project subject to CEQA when either:

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or

b. The IS identified potentially significant effects, but:

> *1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed Mitigated Negative Declaration and Initial Study is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and*
>
> *2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as revised may have a significant effect on the environment.*

1.2 Purpose of the Initial Study

The City of Porterville is the Lead Agency in regard to the proposed Project. No new development projects are proposed in this Initial Study. As subsequent projects requiring discretionary approvals are proposed in the future, those individual projects would be subject to project-specific review under CEQA. For those projects that will be considered ministerial projects as proposed under the text amendment, this document serves to clear those future projects as they will not require future environmental review. It is the City's intent that this Initial Study can be tiered from, in compound to tiering from the General Plan PEIR (pursuant to Section 15168(c)(1) and 15168(d)), for evaluations of environmental issues associated with those later activities/subsequent projects. The City of Porterville may use this environmental analysis for discretionary actions associated with projects developed in the Project area, or mixed-use zones.

1.3 Document Format

This Initial Study contains five (5) chapters plus appendices. SECTION 1 INTRODUCTION provides bases of the Initial Study's regulatory information and an overview of the Project. SECTION 2 ENVIRONMENTAL CHECKLIST FORM provides a detailed description of Project components. SECTION 3 DETERMINATION concludes that the Initial Study determined the project may have a significant effect on the environment, and an Environmental Impact Report (EIR) is required. SECTION 4 EVALUATION OF ENVIRONMENTAL IMPACTS presents the CEQA checklist and environmental analyses for all impact areas and the mandatory findings of significance. A brief discussion of the reasons why the Project impact is anticipated to be potentially significant, less than significant with mitigation incorporated, less than significant, or why no impacts are expected is included. SECTION 5 MITIGATION MONITORING AND REPORTING PROGRAM presents the mitigation measures recommended in the Initial Study for the Project. The Air Quality, Greenhouse Gas, and Energy Analysis Report, Biological Assessment Report, Cultural Resource Overview Report, NAHC Correspondence, Noise Assessment, Vehicle Miles Traveled Analysis, and Pre-consultation Letters are provided as Appendix A, Appendix B, Appendix C, Appendix D, Appendix E, Appendix F, and Appendix G respectively, at the end of this document.

1.4 Early Consultation Letters Received

Early consultation with agencies outside of the City of Porterville and internal city departments (pursuant to CEQA Guidelines *Section 15082*) was conducted for the Project as part of the Master Plan planning process and project entitlement process. Responses to the Early Consultation were received from:

1. Consultation from the San Joaquin Valley Air Pollution Control District on July 26, 2023

Early consultation letters were also routed to the following departments or agencies:

- *City of Porterville Engineering and Project Management*
- *City of Porterville Public Works*
- *Tulare County Regional Transit Agency (TCRTA)*
- *Porterville Unified School District*
- *California Department of Transportation (Caltrans)*
- *California Department of Fish and Wildlife, Central Region 4 (CDFW)*
- *San Joaquin Valley Air Pollution Control District*
- *Tulare County – Environmental Health and Planning*

- *California Regional Water Quality Control Board, Central Valley Fresno Region 5 (RWQCB)*
- *California State Lands Commission (SLC)*
- *Central Valley Flood Protection Board*
- *Department of Conservation*
- *Department of Toxic Substance Control*

However, no comments were received from these departments or agencies within the response time frame. Early consultation correspondence is provided in Appendix G and comments received are incorporated throughout this document.

In addition to Early Consultation, the City also took the Project through Project Review Committee (PRC). Responses to the PRC submittal were received from:

1. *City of Porterville Planning Division*
2. *City of Porterville Engineering and Project Management Division*
3. *City of Porterville Building Division*
4. *City of Porterville Fire Department*
5. *City of Porterville Public Works Department*

In addition to general development comments, the Porterville Fire Department requested that there be a secondary vehicular access point that can support a fire apparatus between Newcomb Avenue and Highway 65. The Project has incorporated this road as a mandatory local road on the circulation plan. The Fire Department also requested a buffer and access points for properties developed along the river to allow access for fire apparatus, which has also been incorporated into the Project. PRC correspondence is provided in Appendix H.

2 ENVIRONMENTAL CHECKLIST FORM

This section describes the components of the proposed Project in more detail, including project location, project objectives, and required project approvals.

2.1 Project Title

South of Tule River (SoTu) Master Plan (General Plan Amendment No. 2024-01, Rezone No. 2024-01, Conditional Use Permit X)

2.2 Lead Agency Name and Address

City of Porterville
Community Development Department
291 N. Main Street
Porterville, CA 93257

2.3 Contact Person and Phone Number

Lead Agency/Applicant

City of Porterville
Community Development Department
Attn. Claudia Calderon, Acting Community Development Director
(559) 782-7460

2.4 Initial Study Prepared By

Precision Civil Engineering
1234 O Street
Fresno, CA 93721
(559) 449-4500

2.5 Project Location

The Project site is directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California (see Figure 2-1). The site is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street, consisting of 19 parcels that total approximately 447.30 gross acres. Figure 2-2 shows the aerial image of the site. The site is identified by the Tulare County Assessor as Assessor's Parcel Numbers (APNs) 259-150-001, 259-030-031,259-270-004, 259-030-011, 259-040-041, 259-040-044, 259-040-028, 259-040-027, 259-040-026, 259-040-025, 259-040-043, 259-040-042, 259-040-045, 259-040-046, 259-040-010, 259-040-039, 259-320-001, 259-370-058, and 259-320-002 (see Figure 2-3). The site is a portion of Township 21 South, Range 27 East, Section 33 and 34, Mount Diablo Base and Meridian.

2.6 Latitude and Longitude

The centroid of the Project site is 36.05316600003582, -119.05337129578194.

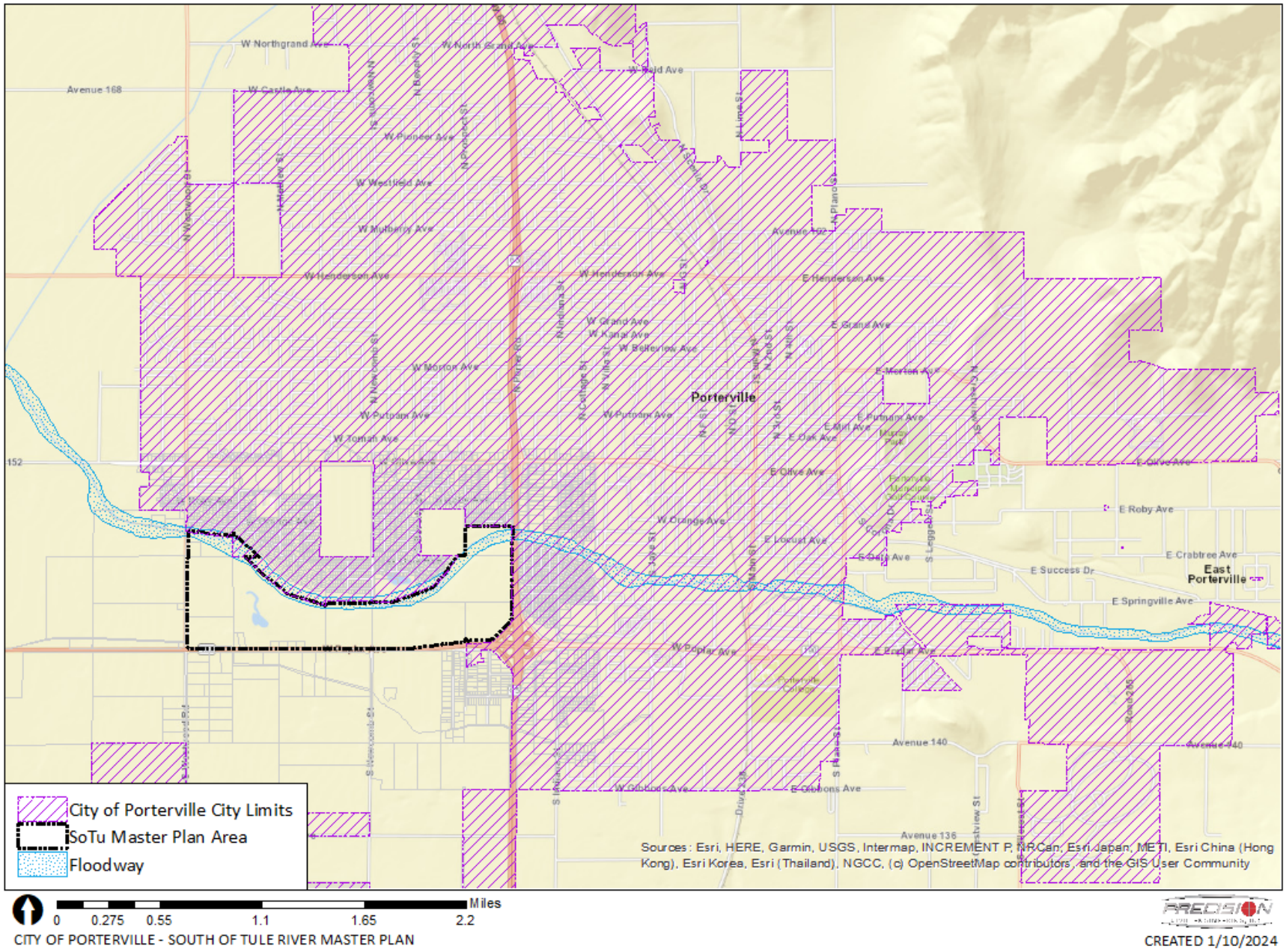

Figure 2-1 Regional Location

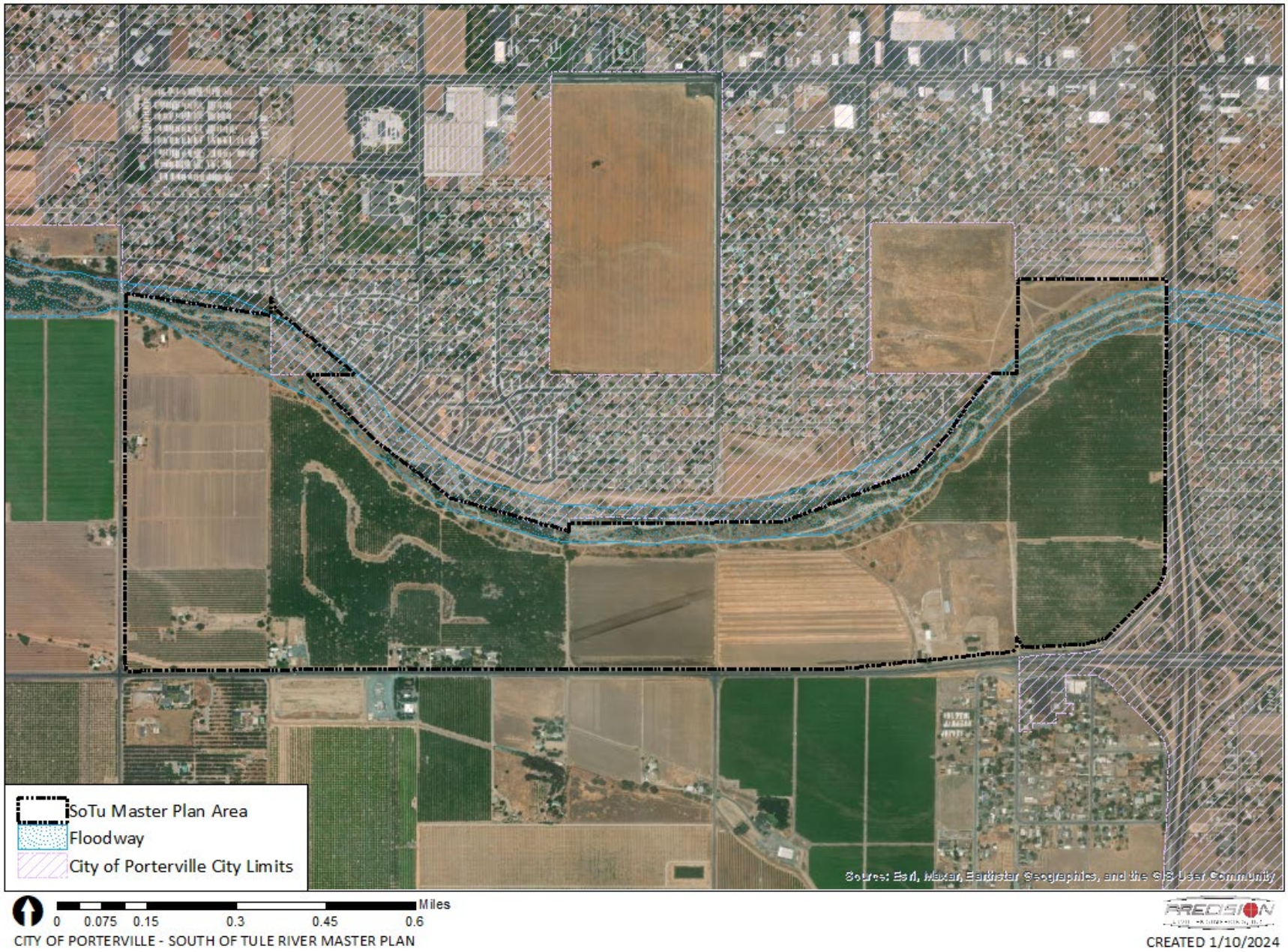

Figure 2-2 Project Site Aerial Image

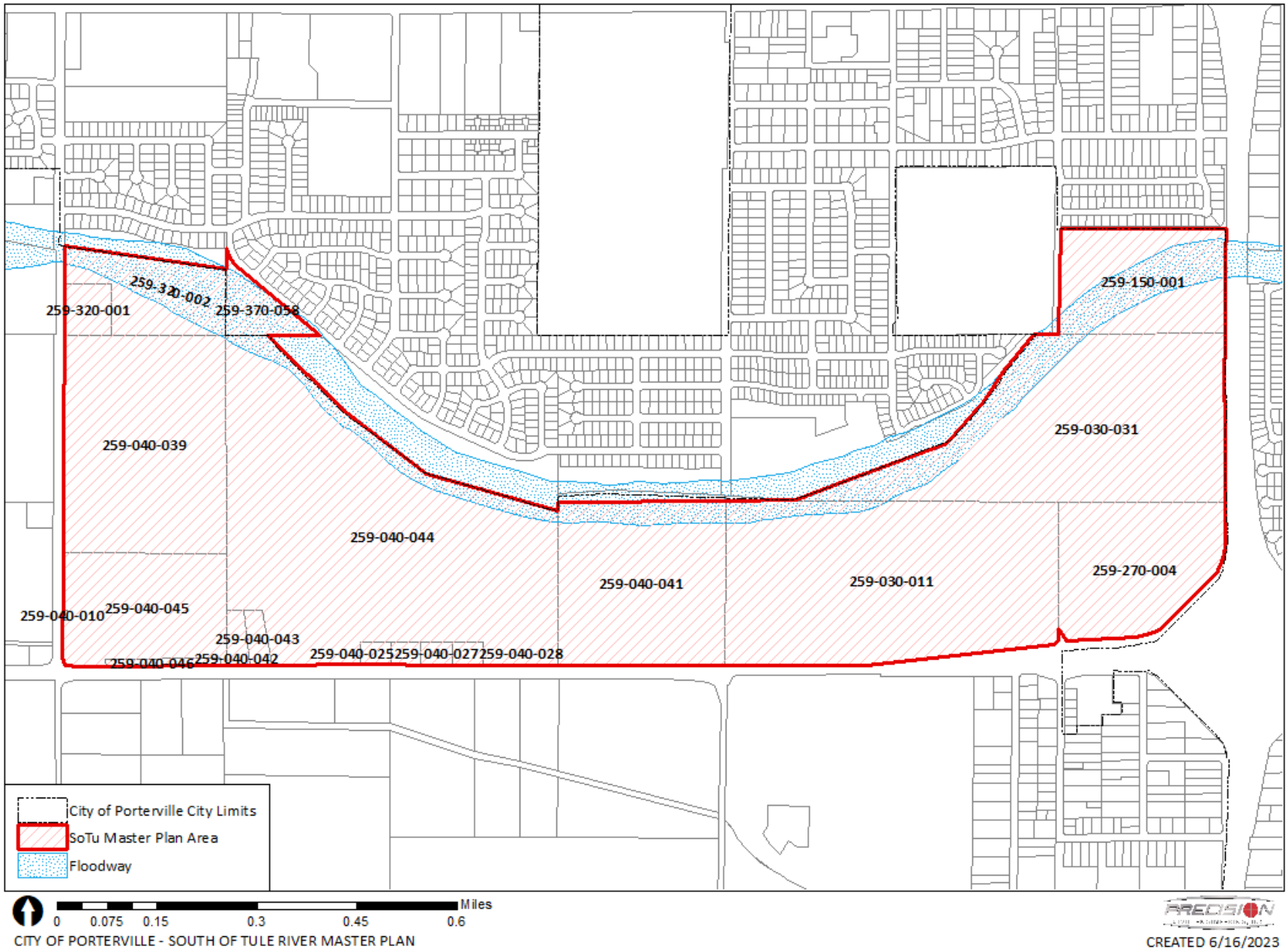

Figure 2-3 APN Map

2.7 General Plan Designation

The Project site has a City of Porterville 2030 General Plan (General Plan) land use designation of Low Density Residential, Parks, Education, and Retail Center (Figure 2-4). The City of Porterville (Applicant) proposes General Plan Amendment (GPA) No. 2024-01 to change the land use designation to various land uses, as shown in the SoTu Master Plan Land Use Map in Figure 2-5. According to the City of Porterville General Plan, the purpose of each land use and their permitted intensity and density are shown in Table 2-1.

Table 2-1 General Plan Land Use Designation Descriptions

Land Use Designation	Purpose	Permitted Intensity/Density
Low Density Residential	This density represents typical single-family subdivisions.	maximum residential density of 6.0 units per gross acre
Medium Density Residential	This density range would accommodate a variety of housing types, such as small-lot single-family homes, detached zero lot line developments, duplexes, townhouses, and garden apartments. Pedestrian-oriented design and clustered development can support higher levels of density.	maximum residential density of 12.0 units per gross acre
High Density Residential	This classification is intended to accommodate attached homes, two-to fourplexes, and apartment buildings.	maximum residential density of 24.0 units per gross acre
Commercial Mixed Use	This designation allows for either horizontal or vertical mixed-use development. Commercial, service, office, and residential uses are allowed. Buildings more than one story are strongly encouraged.	maximum FAR of 2.0 and maximum residential density of 24.0 units per gross acre
Retail Centers	Design and use standards will be established for regional shopping centers located at major circulation intersections. Large format or “big box” retail and auto sales as well as travel related services, such as hotels and gas stations are allowed.	maximum FAR of 0.35
Neighborhood Commercial	This designation is intended for small-scale commercial development that primarily provides office space and convenience retail for local neighborhoods.	maximum FAR of 0.30
Professional Office	This designation is intended for office complex development, including professional and medical offices, as well as research and development activities. Small restaurants, support services, convenience retail and limited medium and high density residential are also allowed.	maximum FAR of 0.50
Industrial Park	This designation comprises a mix of light industrial, secondary office, bulk retail, and service uses. Typical uses include warehouse, mini-storage, research and development, wholesale, bulk retail, and office space with limited customer access. Other uses may be allowed, such as commercial recreation, distribution centers, or other uses that require large, warehouse-style buildings. Small-scale retail and service uses serving local employees and visitors are permitted as secondary uses.	maximum FAR of 0.40

Public/Institutional	This designation is intended for lands owned by public entities, including the Municipal Airport, City Hall, County buildings, and the hospital. At the Municipal Airport, industrial park uses will be allowed. It will provide for needed public facilities, including, but not limited to, recycling centers, sewage treatment ponds, and police and fire stations.	maximum FAR of 0.25
Park	This designation applies to both public and private recreation sites and facilities.	maximum FAR of 0.10

2.8 Zoning

The Project site is in the RS-1 – Very Low Density Residential, RS-2 – Low Density Residential, CR – Retail Centers, and PK – Parks and Public Recreation Facilities zoning districts (Figure 2-6). Although the entire Plan Area has been pre-zoned with existing City zone districts, the City of Porterville (Applicant) proposes Rezone (RZ) No. 2024-01 to change the zoning districts in consistent with the proposed land use designations (Figure 2-7).

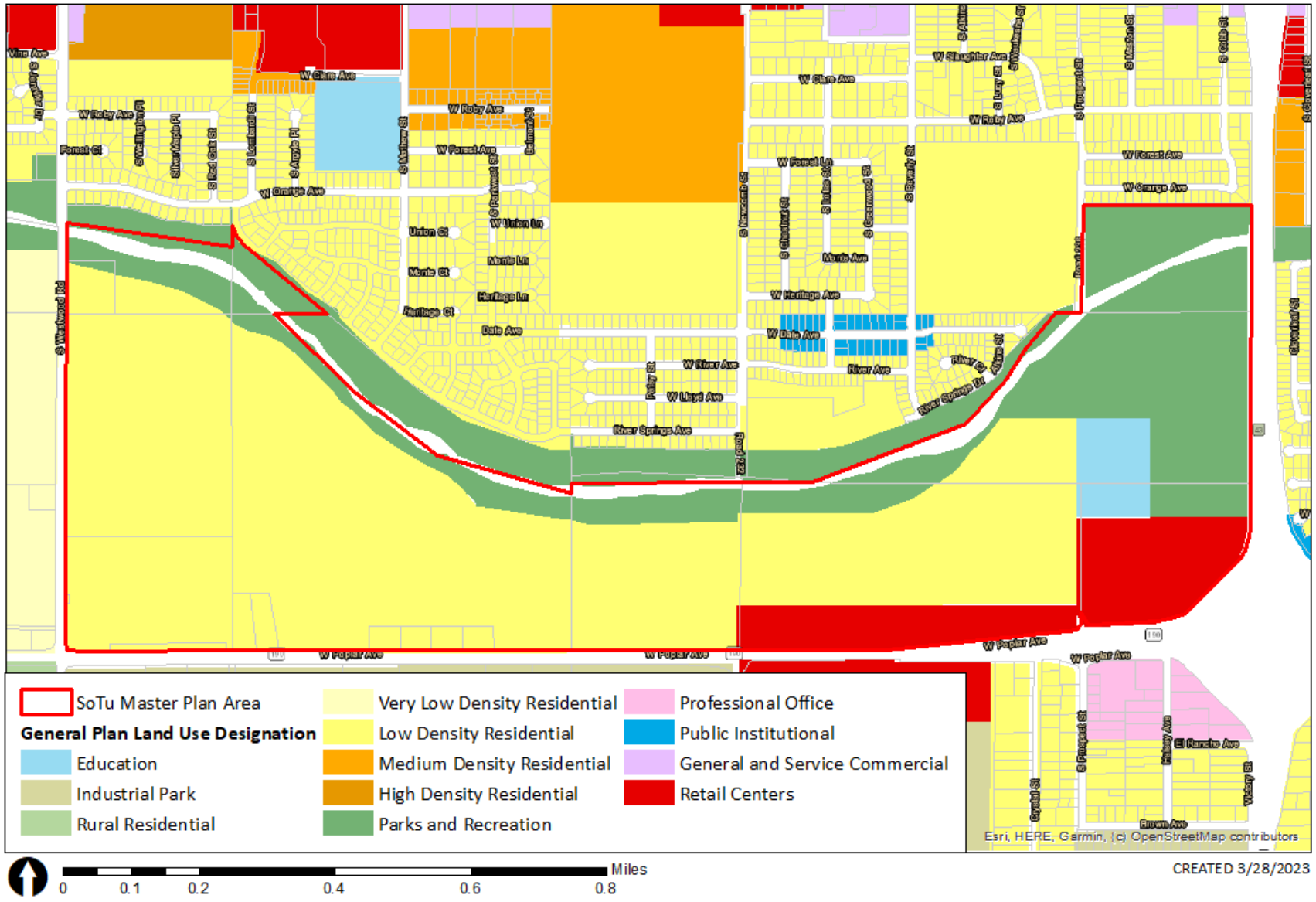

Figure 2-4 City of Porterville General Plan Land Use Designation Map (Existing)

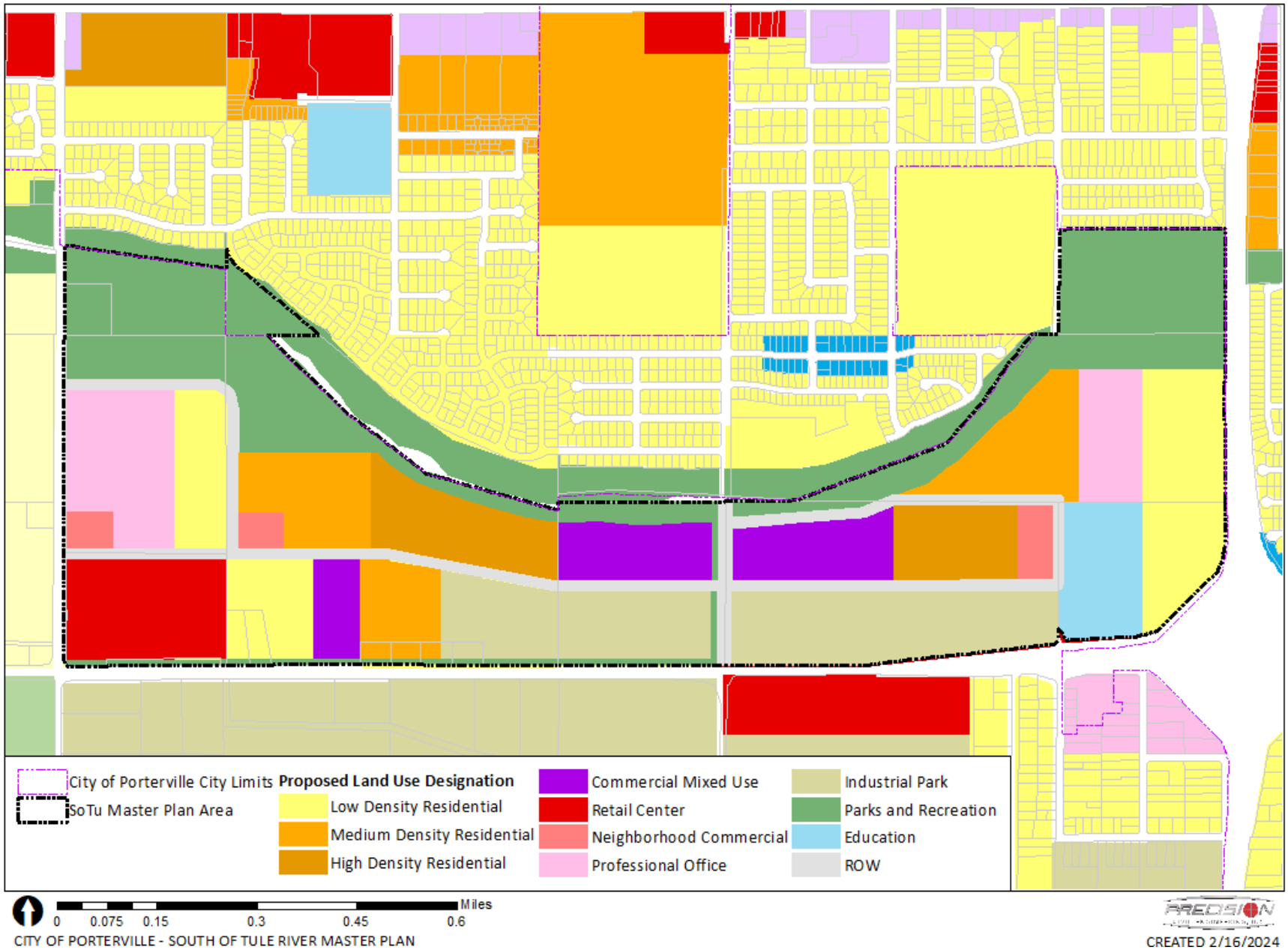

Figure 2-5 City of Porterville General Plan Land Use Designation Map/ SoTu Land Use Map (Proposed)

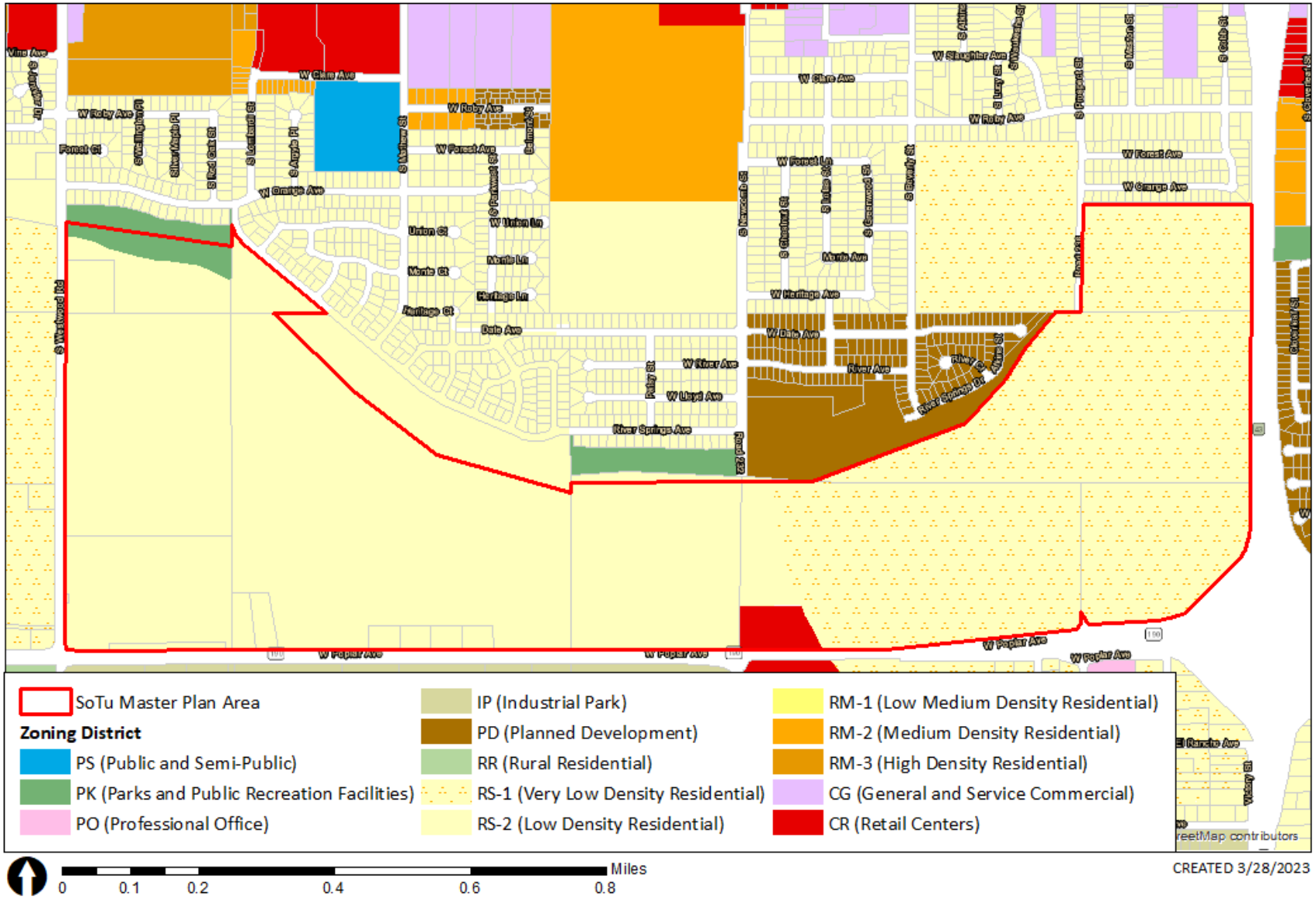

Figure 2-6 City of Porterville Zoning District Map (Existing)

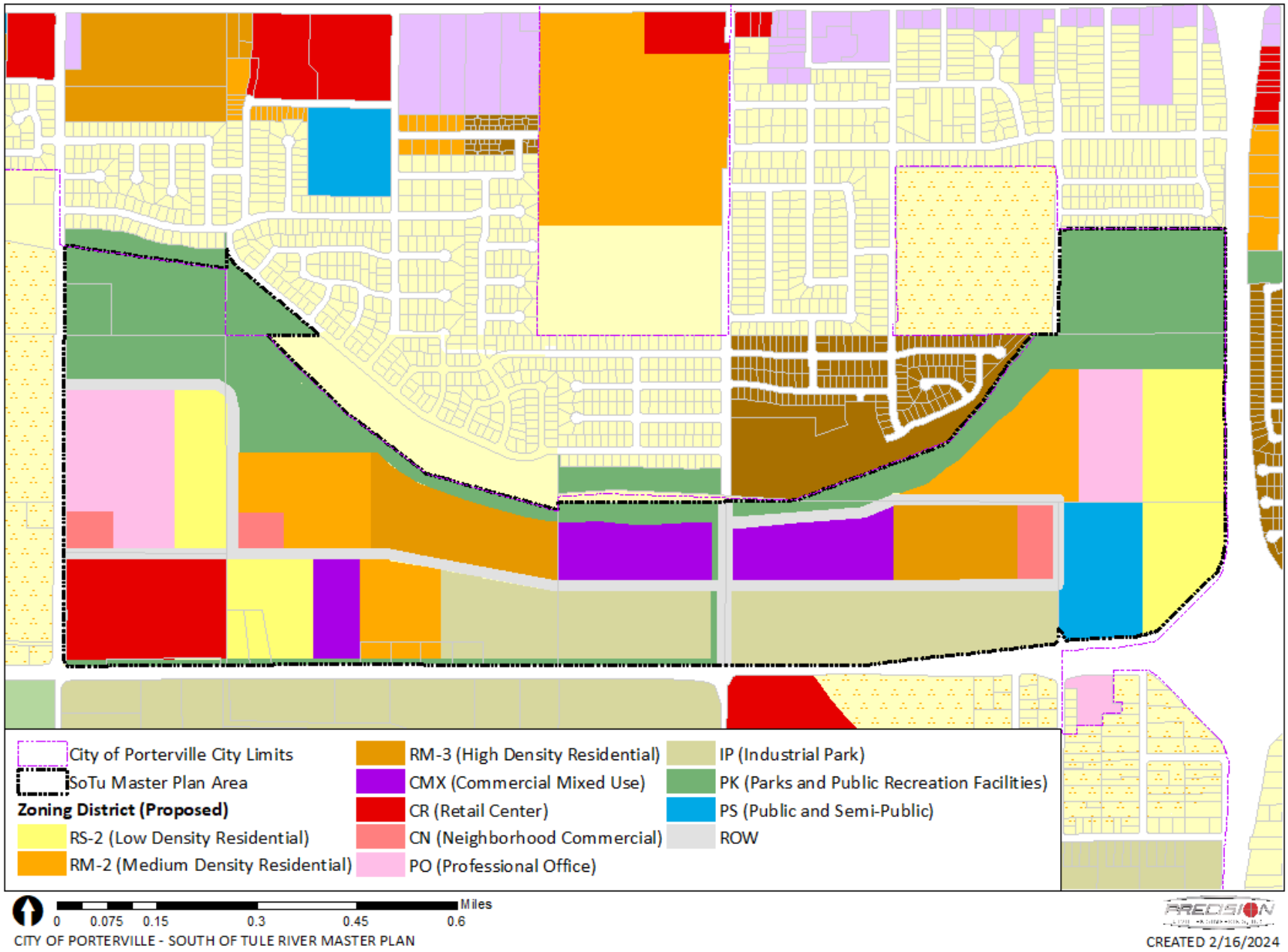

Figure 2-7 City of Porterville Zoning District Map (Proposed)

2.9 Description of Project

South of Tule River (SoTu) Master Plan and the associated entitlements, including Conditional Use Permit (CUP) No. X, General Plan Amendment (GPA) No. 2024-001, and Pre-zone/Rezone (RZ) No. 2024-001, is filed by the City of Porterville (Applicant) and pertains to 19 parcels that are located directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California. The SoTu Project Site is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street ("Project site"). The site totals approximately 447.30 gross acres. The site is identified by the Tulare County Assessor as APNs 259-150-001, 259-030-031,259-270-004, 259-030-011, 259-040-041, 259-040-044, 259-040-028, 259-040-027, 259-040-026, 259-040-025, 259-040-043, 259-040-042, 259-040-045, 259-040-046, 259-040-010, 259-040-039, 259-320-001, 259-370-058, and 259-320-002. CUP No. X facilitates the adoption of the SoTu Master Plan. GPA No. 2024-001 requests amendment of the existing land use designations to the mix of 10 different land uses proposed in the SoTu Master Plan. RZ No. 2024-001 requests a rezone from the existing zoning districts to zoning districts that are consistent with the proposed land use designation. No physical development is proposed.

Project Assumptions

This Project is funded by LEAP grant funding for the purpose of providing the necessary framework to guide development in this area as it transitions from agricultural land to a vibrant, distinct, and multi-modal district of mixed densities and uses that are attractive to residents and visitors to live, work, explore, and shop. Currently, the site is primarily occupied by agricultural operations with a few single-family residential dwellings.

Although no physical development is proposed by the Project, this Initial Study analyzes the potential buildout of the Project site at a programmatic level, using reasonable assumptions so that future development of the site can tier from this Initial Study pursuant to CEQA Guidelines *Section 15168(c)(1)* and *15168(d)* for evaluations of environmental issues associated with later activities/subsequent development. However, depending on the final design of future physical development, additional project specific CEQA review may be required as determined by the City through the entitlement review and approval process.

For the purposes of the analysis contained in this Initial Study, Table 2-2 shows the assumption of the Project buildout. As shown in the table, the Project assumes the development of 2,213 dwelling units, 2,873,801 square feet of mixed-use, and 1,821,492 square feet of employment uses at full build-out.

Table 2-2 Project Buildout Assumption for Impact Analysis

Land Use Designation	Acreage	Permitted Intensity/Density	Average Density
Residential			
Low Density Residential	51.9	6 dwelling unit maximum	5.35 dwelling units
Medium Density Residential	43.8	12 dwelling unit maximum	6 dwelling units for Single Family 11.3 dwelling units for Multi-Family
High Density Residential	31.2	24 dwelling unit maximum	22.55 dwelling units
Mixed-Use			
Commercial Mixed Use	33.2	24.0 dwelling unit	20 dwelling units

		Maximum 2.0 FAR maximum	2.0 FAR
Employment			
Retail Centers	24.6	0.35 FAR maximum	0.35 FAR
Neighborhood Commercial	8.5	0.30 FAR maximum	0.30 FAR
Professional Office	32.6	0.5 FAR maximum	0.3 FAR
Industrial Park	59.5	0.4 FAR maximum	0.25 FAR
Public Uses and Open Space			
Education	15.9	N/A	N/A
Parks	112.5	0.10 FAR maximum	0.10 FAR
Right-of-Way (ROW)	33.6	-	-
Total	**447.30**		

2.10 Project Setting and Surrounding Land Uses

Project Setting

The majority of the SoTu Project Site has historically been used for agricultural crops (orchards and row crops) continuously for at least the last 50 years. The Project site is primarily occupied by agricultural operations with a few single-family residential dwellings. The aerial image of the Project site is shown in Figure 2-2.

Existing land uses are listed in Table 2-3. Currently, the Project site has little to no existing circulation network. Street frontage includes State Route (SR) 190 adjacent south, SR 65 adjacent east, and South Westwood Street adjacent west to the Project site. The State Routes and the Tule River bounding the north of the site have prevented any major circulation within the site. The General Plan calls for Newcomb Street to be a four (4)-lane north-south major arterial that will extend south with a bridge over the Tule River to access the site and a grade separation (overpass) at SR 190. Additionally, the General Plan has a collector planned for the east-west direction that eventually turns north to connect at the Prospect Street alignment with another planned bridge over the Tule River.

Table 2-3 Existing Land Use on the Project site

APN	Acreage	Address	Existing Land Use
259-030-011	75.84	1260 W Poplar Ave Porterville, CA 93257	Agriculture (field and seed)
259-030-031	66.62	-	Agriculture (orchard)
259-040-010	0.06	-	Well Site
259-040-025	1.02	2040 W Poplar Ave Porterville, CA 93257	1,945 sf. single-family dwelling built in 1990, a storage shed, and two (2) metal structures.
259-040-026	1.00	2002 W Poplar Ave Porterville, CA 93257	1,716 sf. single-family dwelling built in 1995
259-040-027	1.05	1960 W Poplar Ave Porterville, CA 93257	2,797 sf. single-family dwelling built in 2006
259-040-028	1.00	1918 W Poplar Ave Porterville, CA 93257	A single-family dwelling and a storage shed.
259-040-039	50.94	512 S Westwood Rd Porterville, CA 93257	Mostly vacant land, 1,008 sf. single-family dwelling, and 2,580 sf. and 625 sf. metal structures.
259-040-041	39.34	-	Agriculture (field and seed)
259-040-042	1.65	2186 W Poplar Ave Porterville, CA 93257	1,536 sf. single-family dwelling with 6 metal structures
259-040-043	1.65	2176 W Poplar Ave Porterville, CA 93257	one mobile home and one metal structure
259-040-044	103.53	-	Agriculture (orchard)

259-040-045	25.13	730 S Westwood Rd #B Porterville, CA 93257	Agriculture (orchard) with a single-family dwelling and 10 accessory structures
259-040-046	1.25	-	Poplar Ditch (owned by Lower Tule River Irrigation District)
259-150-001	25.03	-	Agriculture (orchard), vacant land north of Tule River
259-270-004	28.67	-	Agriculture (orchard)
259-320-001	3.55	362 S Westwood Rd Porterville, CA 93257	2 single-family dwellings
259-320-002	14.67	362 S Westwood Rd Porterville, CA 93257	3 structures, mostly vacant land
259-370-058	5.31	-	Tule River floodplain (owned by City of Porterville)
Total	**447.30**	-	-

The existing biotic conditions and resources of the site can be defined as agricultural (orchards and row crops), ruderal/non-native, and riparian habitats. Figure 2-8 maps the type of crops within the Project site. [1] In addition to crop trees, there are existing trees and shrubs on properties with single-family residences and along existing dirt roads. Historically, an agricultural ditch (Poplar Ditch) crossed through the southwest corner of the Project Site. Co-existing water features include the Tule River, and a 22.11-acre freshwater emergent wetland and 3.47-acre freshwater forested shrub wetland on APN 259-040-044.

Surrounding Land Uses

The Project site is bounded by Tule River to the north, SR 65 to the east, and SR 190 to the south. Existing land uses to the north of the site beyond Tule River and to the east are single-family residential uses. Existing land uses to the south and west include a mix of residential, services, vacant, and agriculture uses. As referenced in Table 2-4, all properties to the north, east, and west are planned and zoned for residential and public uses, and properties to the south are planned and zoned with a mix of industrial, retail, residential, and office uses.

Table 2-4 Existing Uses, General Plan Designations, and Zone Districts of Surrounding Properties

Direction from the Project site	Existing Land Use	Planned Land Use	Zone District
North	Tule River, Single-Family Residential	Parks, Low Density Residential	RS-1 – Very Low Density Residential, RS-2 – Low Density Residential, PD – Planned Development, PK – Parks and Public Recreation Facilities
South	SR 190, Agriculture, Residential, Healthcare center	Industrial Park, Retail Center, Low Density Residential, Professional Office	IP – Industrial Park, CR – Retail Centers, RS-1 – Very Low Density Residential, PO – Professional Office
East	SR 65, Single-Family Residential	Low Density Residential, Public Institution	PK - Parks and Public Recreation Facilities, PD – Planned Development
West	Agriculture, Single-Family Residential	Very Low Density Residential, Parks	RS-1 – Very Low Density Residential

[1] California Department of Water Resources. (2023). 2020 Statewide Crop Mapping dataset. Accessed on June 19, 2023, https://data.cnra.ca.gov/dataset/statewide-crop-mapping

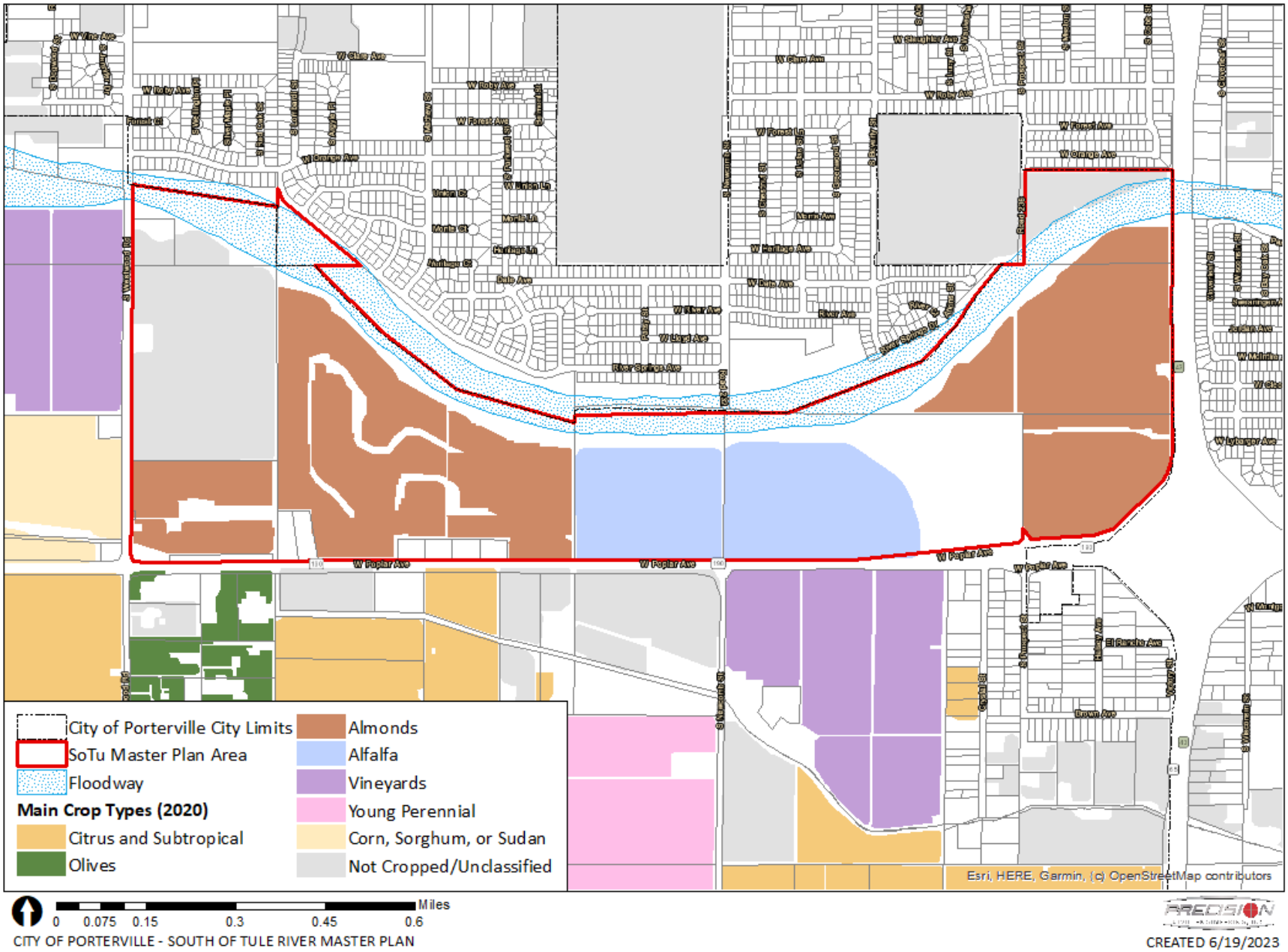

Figure 2-8 Crop Mapping of the Project site (2020)

2.11 Other Public Agencies Whose Approval is Required

The Project would require approval by the City of Porterville City Council, including approval of a Conditional Use Permit, General Plan Amendment, and Rezone/Pre-zone. No permits would be required from other agencies for approval of the Project. However, future redevelopment of the Project site would require annexation by Tulare County Local Agency Formation Commission (LAFCo), as well as review, permits, and/or approvals, such as grading, building, encroachment, and sign permits. Other approvals may be required as identified through the entitlement review and approval process. In addition, other agencies may have the authority to issues permits prior to implementation including but not limited to:

- *California Department of Fish and Wildlife, Central Region 4 (CDFW)*
- *California Regional Water Quality Control Board, Central Valley Fresno Region 5 (RWQCB)*
- *Porterville Unified School District*
- *San Joaquin Valley Air Pollution Control District*
- *Army Corp of Engineers*
- *Tulare County LAFCo*

2.12 Consultation with California Native American Tribes

The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the CEQA Guidelines. Pursuant to PRC *Section 21080.3.1*, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Historic Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC *Section 21074(a)(1-2)*). According to the most recent census data, California is home to 109 currently recognized Indian tribes.

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

A consultation list of tribes with traditional lands or cultural places located within Tulare County was requested and received from the California Native American Heritage Commission (NAHC) on April 27, 2023. The listed tribes include Big Sandy Rancheria of Western Mono Indians, Tule River Indian Tribe, and Wuksache Indian Tribe/Eshom Valley Band. In addition, the City of Porterville (Lead Agency) provided a list that included two additional tribes: Kern Valley Indian Community and Tubatulabals of Kern Valley. The NAHC also conducted a Sacred Lands File (SFL) search which was negative.

The City of Porterville conducted formal tribal consultation pursuant to AB 52 (Chapter 532, Statutes 2014) and SB 18 (Chapter 905, Statutes 2004) on March 31, 2023, utilizing the consultation list of tribes received from Native

American Heritage Commission (NAHC). All five tribes listed above were included in the formal consultation. Consultation for AB 52 and SB 18 ended on June 29, 2023. On April 27, 2023, a representative of the Tule River Tribe expressed interest in continued consultation pursuant to SB18. Although the tribal representative did not have knowledge of specific cultural resources or sites within your planned project area, they did request the results of the any record searches and cultural resource surveys; both the results from the SLF search and the cultural resource report have been provided to the tribe as requested.

3 DETERMINATION

3.1 Environmental Factors Potentially Affected

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

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

For purposes of this Initial Study, the following answers have the corresponding meanings:

"No Impact" means the specific impact category does not apply to the project, or that the record sufficiently demonstrates that project specific factors or general standards applicable to the project will result in no impact for the threshold under consideration.

"Less Than Significant Impact" means there is an impact related to the threshold under consideration, but that impact is less than significant.

"Less Than Significant with Mitigation Incorporation" means there is a potentially significant impact related to the threshold under consideration, however, with the mitigation incorporated into the project, the impact is less than significant. For purposes of this Initial Study "mitigation incorporated into the project" means mitigation originally described in the GP PEIR and applied to an individual project, as well as mitigation developed specifically for an individual project.

"Potentially Significant Impact" means there is substantial evidence that an effect may be significant related to the threshold under consideration.

3.2 Determination

The environmental analysis contained in this Initial Study is tiered from Program Environmental Impact Report (EIR) SCH No. 2006011033 prepared for the Porterville 2030 General Plan (PEIR). A copy of the PEIR may be reviewed in the City of Porterville, Community Development Department as noted above (See Lead Agency). The Project has been determined to be a subsequent project that is not fully within the scope of PEIR SCH No. 2006011033 prepared for the Porterville General Plan.

Pursuant to Public Resources Code Section 21094 and California Environmental Quality Act (CEQA) Guidelines Section 15168(d), this Project has been evaluated with respect to each item on the attached environmental checklist to determine whether this project may cause any additional significant effect on the environment which was not previously examined in the PEIR.

This completed environmental impact checklist form and its associated narrative reflect applicable comments of responsible and trustee agencies and research and analysis conducted to examine the interrelationship between the proposed project and the physical environment. The information contained in the Project application and its related environmental assessment application, responses to requests for comment, checklist, initial study narrative, and any attachments thereto, combine to form a record indicating that an initial study has been completed in compliance with the State CEQA Guidelines and the CEQA.

All new development activities and many non-physical projects contribute directly or indirectly toward cumulative impacts on the physical environment. It has been determined that the incremental effect contributed by this Project toward cumulative impacts is not considered substantial or significant in itself, and/or that cumulative impacts accruing from this project may be mitigated to less than significant with application of feasible mitigation measures.

Based upon the evaluation guided by the environmental checklist form, it was determined that there may be impacts from the Project that are additional to those identified in the Porterville General Plan PEIR that related to Air Quality, after the incorporation of project-specific mitigation measures in the Mitigation Monitoring and Reporting Program. The completed environmental checklist form indicates whether an impact is potentially significant, less than significant with mitigation, less than significant, or no impact.

For some categories of potential impacts, the checklist may indicate that a specific adverse environmental effect has been identified which is of sufficient magnitude to be of concern. Such an effect may be inherent in the nature and magnitude of the Project or may be related to the design and characteristics of the individual project. Most effects so rated are not sufficient in themselves to require the preparation of an EIR and have been mitigated to the extent feasible. However, analysis included in this Initial Study has indicated there may be air quality impacts. Both the PEIR Mitigation Monitoring and Reporting Program and the Project-specific Mitigation Monitoring and Reporting Program will be imposed on this Project.

The Initial Study has concluded that the Project may result in any adverse effects relating to Air Quality which fall within the "Mandatory Findings of Significance" contained in Section 15065 of the CEQA Guidelines. Therefore, a subsequent Focused EIR will be prepared to further analyze air quality impacts.

On the basis of this initial evaluation (to be completed by the Lead Agency):

☐ 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 (EIR) is required.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An EIR 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.

Approved By:

Claudia Calderon 3/19/2024

Claudia Calderon, Acting Community Development Director Date
City of Porterville

4 EVALUATION OF ENVIRONMENTAL IMPACTS

4.1 AESTHETICS

Except as provided in Public Resources Code *Section 21099*, would the project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista?			X	
b)	Substantially damage scenic resources, including, but not limited to, trees, rock out-croppings, and historic buildings within a state scenic highway?			X	
c)	In non-urbanized areas, substantially degrade the existing visual character or quality 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?			X	
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

4.1.1 Environmental Setting

The SoTu Project Site ("Project site") is approximately 447.30 gross acres bounded to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street. The site is currently primarily occupied by agricultural operations with a few single-family residential dwellings. No physical development is proposed as part of the Project; however, it is expected that the site would be developed with the proposed urbanized land uses, including commercial, residential, industrial, office, and recreational.

According to the Porterville 2030 General Plan, views extending along the Tule River and its heavily vegetated banks contribute to the scenic quality of the area. Rocky Hill, located approximately 18 miles north of the Project site, is also a prominent visual landmark. The General Plan also identified the city's agricultural foundation, topography, and landscape as a contribution to community identity, aesthetic value, environmental quality, habitat protection, and recreation opportunities.

A thin horizontal line of the mountain ranges can be seen to the east as shown in Figure 4-1.

Figure 4-1 Mountain Ranges to the East
South Westwood Street, looking east. Source: Google Earth, 2021

Municipal Code

Porterville Municipal Code (PMC) contains enforceable requirements for all new development intended to prevent light and glare impacts, as listed below.

Section 306.07 – Lighting and Glare

> *B. Lighting. Lights shall be placed to deflect light away from adjacent properties and public streets, and to prevent adverse interference with the normal operation or enjoyment of surrounding properties. Direct or sky-reflected glare from floodlights shall not be directed into any other property or street. Except for public street lights, no light or combination of lights, or activity shall cast light on a public street exceeding one (1) foot-candle as measured from the centerline of the street. No light, combination of lights, or activity shall cast light onto a residentially zoned property, or any property containing residential uses, exceeding one-half foot-candle. Refer to Section 300.07 Lighting and Illumination and Section 304.10(g) Parking Lot Lighting for additional lighting standards required by this code.*

Section 300.07 – Lighting and Illumination

> *E. Shielding. All lighting fixtures shall be shielded in accordance with Table 300.07(B) so as not to produce obtrusive glare onto the public right-of-way or adjoining properties. All luminaries shall meet the most recently adopted criteria of the Illuminating Engineering Society of North America (IESNA) for "Cut Off" or "Full Cut Off" luminaries, as illustrated in Figure 300.07.*

Section 304.10 – Parking Area Design and Development Standards

> *G. Lighting. Parking areas designed to accommodate ten (10) or more vehicles shall be provided with a minimum of one-half (0.5) foot-candle and a maximum average of three (3) foot-candles of light over the parking surface during the hours of use from one-half (0.5) hour before dusk until one-half (0.5) hour after dawn. Lighting design shall be coordinated with the landscape plan to ensure that vegetation growth will not substantially impair the intended illumination. Parking lot lighting shall, to the maximum extent feasible, be designed and installed so that light and glare is not directed onto residential use areas or adjacent public rights-of-way, consistent with Chapter 306, Performance Standards.*

California Scenic Highway Program

The California Scenic Highway Program was established in 1963 with the purpose of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. A highway may be designated scenic depending upon 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. There are no officially designated State Scenic Highways in the City of Porterville, inclusive of the Project site. However, State Route 190 (SR 190) is an eligible State Scenic Highway, located adjacent to the Project site starting from SR 65 extending west. [2]

[2] Caltrans. California State Scenic Highway System Map. Accessed on June 27, 2023, https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

4.1.2 Impact Assessment

Except as provided in PRC Section 21099, would the project:

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

Less than Significant Impact. The Project site is currently occupied by agricultural operations with a few single-family residential dwellings. A thin horizontal line of the mountain ranges can be seen to the east of the Project site, which is not obstructed by State Route 65 due to the flat topography of the site. As the Project site is developed with proposed uses of the Master Plan, views of the mountain ranges will be further obstructed by intervening development. However, buildout of the proposed Master Plan will not affect state designated scenic highways. The General Plan identified Tule River and Rocky Hill as the city's scenic resources. To ensure that views of Tule River are protected, the Project proposes Open Space land use along the Tule River, including the floodway/riverbanks that are identified as Open Space Resources pursuant the General Plan. This is also consistent with the General Plan *Guiding Policy OSC-G-1 "Protect the Tule River Corridor and Rocky Hill as significant open space resources."* As a result, the Project would not adversely affect scenic vistas and no impact would occur because of the Project.

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

Less than Significant Impact. According to the California State Scenic Highway Program, there are no officially designated State Scenic Highways in the City of Porterville. SR 190 is an eligible State Scenic Highway but is located outside of the Project site and would not be impacted by the Project. The eligible SR 190 sections are surrounded by urban development. As such, the proposed Project would not damage scenic resources, including trees, rock out-croppings, and historic buildings within a state scenic highway and no impact would occur as a result of the Project.

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?

Less than Significant Impact. The Project site is located outside of the City of Porterville city limits and is mainly occupied by agricultural operations. As such, the site is in a non-urbanized area. Although no physical development is proposed, buildout of the proposed Master Plan would increase the density and intensity of development in the area, which could obstruct views, including mountain ranges to the east and views of the Tule River. In addition, Open Space land use is planned along the Tule River, which would protect the views of the riverbank.

Future development under the Master Plan would also be subject to the entitlement review and approval process through the City of Porterville. Through this process, future development would be subject to comply with applicable policies and regulations that govern scenic quality including but not limited to the PMC and California Building Code. Compliance would ensure that future development of the site would not conflict with applicable zoning and other regulations governing scenic quality. Therefore, a less than significant impact would occur because of the Project.

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

Less than Significant Impact. Generally, lighting impacts are associated with artificial lighting in evening hours either through interior lighting from windows or exterior lighting (e.g., street lighting, parking lot lighting, landscape lighting, cars, and trucks). Although no physical development is proposed, future development of the Project site would incrementally increase the amount of light from exterior lighting such as streetlights and vehicular headlights. Such sources could create adverse effects on day or nighttime views in the area. Future development of the Master Plan would be subject to site development standards contained in PMC *Section 306.07 – Lighting and Glare*, which contains specific, enforceable requirements intended to prevent light and glare impacts, *Section 300.07 – Lighting and Illumination*, specifically sub-section (E), which provides standards for shielding light fixtures from right-of-way, and *Section 304.10 – Parking Area Design and Development Standards*, which regulates lighting in parking lots. In addition, future development would be required to comply with Title 24 lighting requirements which would also reduce impacts related to nighttime light. The Title 24 lighting requirements cover outdoor spaces including regulations for mounted luminaires (i.e., high efficacy, motion sensor controlled, time clocks, energy management control systems, etc.). As such, conditions imposed on future development by the City pursuant to the PMC and Title 24 would reduce light and glare impacts to a less than significant impact.

4.1.3 Mitigation Measures

None required.

4.2 AGRICULTURE AND FORESTRY RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?			X	
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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))?				X
d)	Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

4.2.1 Environmental Setting

The Project site is located outside of the City of Porterville city limits, but within the City of Porterville 2030 General Plan Planning Area. The site is currently pre-zoned and planned for open space, residential, and commercial uses in the City of Porterville. Although completely outside of the City's limits, the entire Project site has been pre-zoned with City of Porterville zoning districts and are zoned RS-2 – Low Density Residential, RS-1 – Very Low Density Residential, CR – Retail Centers, and PK – Parks and Recreation. The site is zoned AE-20 – Exclusive Agricultural Zone 20 Acre Minimum, R-1-20 – Single-Family Residential, and A-1 – Agricultural in the County of Tulare.

The Project site is currently mostly occupied by agricultural operations with a few single-family residential dwellings, containing several existing structures. The existing biotic conditions and resources of the site can be defined primarily as agricultural, including almonds and alfalfa. In addition to crop trees, there are existing trees and shrubs

on properties with single-family residences and along existing dirt roads. Existing water features include the Tule River, Poplar Ditch on the southwest of the site, and a 22.11-acre freshwater emergent wetland and 3.47-acre freshwater forested/shrub wetland on APN 259-040-044. The Project site does not contain any forestry resources such as forest land or timberland.

Farmland Monitoring and Mapping Program

The California Department of Conservation manages the Farmland Mapping and Monitoring Program (FMMP) that provides maps and data for analyzing land use impacts to farmland. The FMMP produces the Important Farmland Finder as a resource map that shows quality (soils) and land use information. Agricultural land is rated according to soil quality and irrigation status, in addition to many other physical and chemical characteristics. The highest quality land is called "Prime Farmland" which is defined by the FMMP as *"farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.* [3] Maps are updated every two years. According to the FMMP, California Important Farmland Finder, the Project site includes "Prime Farmland", "Unique Farmland", "Farmland of Statewide Importance", "Grazing Land", "Semi-Agricultural and Rural Commercial Land", "Nonagricultural and Natural Vegetation", and "Rural Residential Land". [4] Figure 4-2 shows the location of each farmland type on the Project site and Table 4-1 includes the acreage of each type.

Table 4-1 Farmland Types of the Project site

Farmland Type	Acreage	Percentage
Grazing Land	47.7	10.7%
Farmland of Local Importance	81.5	18.2%
Nonagricultural and Natural Vegetation	16.5	3.7%
Prime Farmland	85.3	19.1%
Rural Residential Land	30.1	6.7%
Farmland of Statewide Importance	36.2	8.1%
Semi-Agricultural and Rural Commercial Land	70.8	15.8%
Unique Farmland	79.2	17.7%
Total	**447.3**	**100.0%**

California Land Conservation Act

The California Land Conservation Act of 1965 (i.e., the Williamson Act) allows local governments to enter contracts with private landowners to restrict parcels of land agricultural or open space uses. In return, property tax assessments of the restricted parcels are lower than full market value. The minimum length of a Williamson Act contract is 10 years and automatically renews upon its anniversary date; as such, the contract length is essentially indefinite. The Project site is not subject to the Williamson Act.

[3] California Department of Conservation. Important Farmland Categories. Accessed on June 28, 2023, https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx
[4] California Department of Conservation. (2018). California Important Farmland Finder. Accessed on June 28, 2023, https://maps.conservation.ca.gov/DLRP/CIFF/

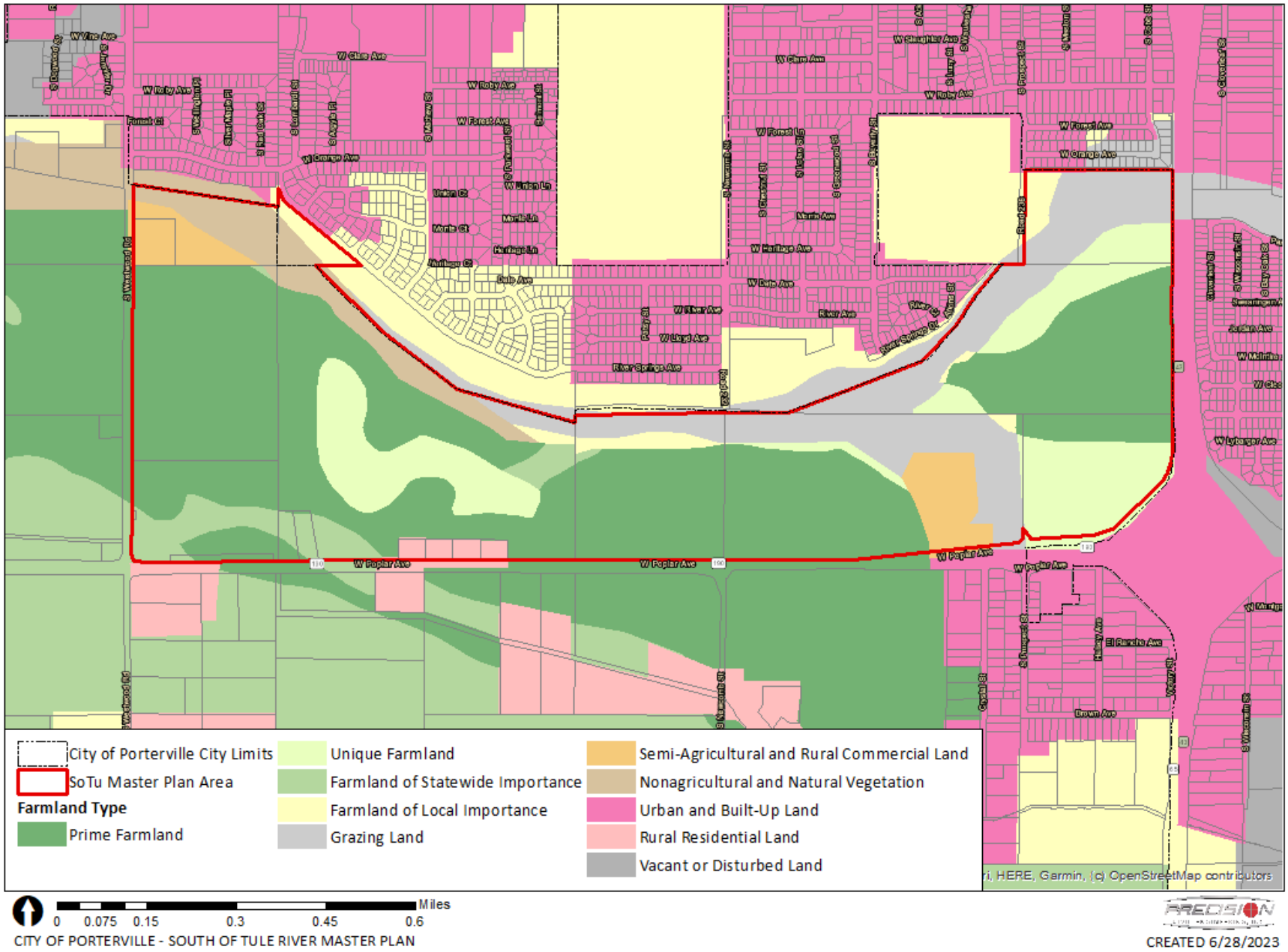

Figure 4-2 Farmland Types in the Project site

4.2.2 Impact Assessment

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?

Less than Significant Impact. According to the FMMP, the Project site has 85.3 acres of "Prime Farmland", 79.2 acres of "Unique Farmland", and 36.2 acres of "Farmland of Statewide Importance." The Project site is located within the City of Porterville Planning Area. While no development is proposed as part of the Project, future buildout of the Master Plan would result in the conversion of agricultural land to non-agricultural uses.

While the Project would result in the conversion of agricultural lands to a non-agricultural use, this conversion was evaluated under the Porterville 2030 General Plan Environmental Impact Report (EIR SCH #2006011033) and related Findings, and Statement of Overriding Considerations. The EIR acknowledged that farmland conversion would occur at full buildout of the General Plan, including approximately 3,050 acres of Prime Farmland soils (of which 2,880 acres are unincorporated lands) and approximately 4,200 acres of Farmland of Statewide Importance and Unique Farmland soils. While the General Plan provides policies to minimize the extent of sprawl associated with future development, the EIR recognizes that the conversion of agricultural lands is still considered significant and unavoidable. To certify the EIR, the City adopted Findings of Fact related to Significant and Unavoidable Impacts as well as Statements of Overriding Considerations pursuant of *Section 15093* of the California Environmental Quality Act (CEQA), which requires the lead agency to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve the project.

The adopted Statements of Overriding Considerations for the EIR addressed Findings of Significant and Unavoidable Impacts within the categories/areas of Agricultural Resources. The findings cite specific social, economic, and environmental, or other considerations which were deemed and considered by the City Council to be benefits which outweighed the unavoidable adverse environmental effects attributed to development occurring within the City's Planning Area, consistent with the land uses, densities, and intensities set forth in the General Plan. Consequently, the City of Porterville issued a Statement of Overriding Considerations for this significant and unavoidable impact, demonstrating that the environmental impacts are "acceptable" due to the project benefits and considerations.

Since the Project site was evaluated under the General Plan EIR and subsequent Statements of Overriding Considerations and Findings of Significant and Unavoidable Impacts, the Project would have a less than significant impact as it relates to agricultural land conversion.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

Less than Significant Impact. While the Project Site is currently zoned for agricultural use within the County, the Project Site is also pre-zoned as residential, commercial, and open space zoning districts, consistent with the underlying land use designations. In addition, the Project plans for future development within the Porterville city limits with urbanized land uses. Upon entitlement approval of future developments within the Project Site, Tulare County Local Agency Formation Commission (LAFCO) would review and approve the expansion of the City Limits in consideration of the specific project's impact on agricultural land, as required by state law. Once the Project is approved by LAFCO and annexed into the City Limits, the Project would no longer be within the County's agricultural

zoning district. Therefore, the Project would not conflict with existing zoning for agricultural use and impacts would be less than significant.

The Project Site is not subject to the Williamson Act. As such, a less than significant impact would occur.

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))?

No Impact. The Project site is not planned or zoned for forest land or timberland. Further, the Project site would not cause the rezoning of forest land, timberland, or timberland zoned Timberland Production. As a result, the Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production and no impact would occur.

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

No Impact. The Project site does not contain forest land and is not planned or zoned for forest land or forest uses. Implementation of the Project would therefore not result in the loss of forest land or conversion of forest land to non-forest use. As a result, no impact would occur.

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?

Less than Significant impact. While the Project Site is zoned for agricultural uses within the County, it is planned and pre-zoned for urban uses, including residential and commercial uses, in the City of Porterville. As described under criteria a) and b), while the Project would result in the conversion of agricultural lands to non-agricultural uses, this conversion was evaluated under the General Plan EIR and subsequent Statements of Overriding Considerations and Findings of Significant and Unavoidable Impacts. Upon entitlement approval of future developments within the Project Site, Tulare County Local Agency Formation Commission (LAFCO) would review and approve the expansion of the City Limits in consideration of the specific project's impact on agricultural land, as required by state law. In addition, the Project site is surrounded by existing residential and office uses. While some properties to the south and west of the site are currently occupied with agricultural operations, buildout of the Project is not expected to result in conversion of surrounding properties from agricultural to non-agricultural use since the Project site and surrounding properties are divided by existing right-of-way. As a result, the Project would not involve other changes in the existing environment that could result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, a less than significant impact would occur because of the Project.

4.2.3 Mitigation Measures

None required.

4.3 AIR QUALITY

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	X			
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?	X			
c)	Expose sensitive receptors to substantial pollutant concentrations?	X			
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

4.3.1 Environmental Setting

An air quality analysis of the Project was conducted on August 17, 2023, by Johnson, Johnson and Miller, Inc. The full report is provided in Appendix A. The environmental setting, regulatory setting, existing air quality conditions, plans and regulations, and modeling parameters and assumptions within the air quality analysis are provided below.

Environmental Setting

Air quality impacts are both local and regional. Local and regional air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season. The project is located in the San Joaquin Valley Air Basin (Air Basin), which experiences some of the most challenging environmental conditions for air quality in the nation. The following section describes these conditions as they pertain to the Air Basin. The information in this section is primarily from the San Joaquin Valley Air Pollution Control District's (SJVAPCD's) Guidance for Assessing and Mitigation Air Quality Impacts (GAMAQI).

Topography

The topography of a region is important for air quality because mountains can block airflow that would help disperse pollutants and can channel air from upwind areas that transports pollutants to downwind areas. The SJVAPCD covers the entirety of the Air Basin. The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

Climate

The climate is important for air quality because of differences in the atmosphere's ability to trap pollutants close to the ground, which creates adverse air quality; inversely, the atmosphere's ability to rapidly disperse pollutants over a wide area prevents high concentrations from accumulating under different climatic conditions. The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually encountered 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Mojave Desert Air Basin portion of Kern County. As the wind moves through the Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong, low-level temperature inversions and very stable air conditions, which can lead to Tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10}.

Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the United States Environmental Protection Agency (EPA) with setting air quality standards. The State of California also sets air quality standards, which are in some cases more stringent than federal standards, in addition to addressing additional pollutants. The following section describes these federal and state standards and the health effects of the regulated pollutants.

Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970 and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA: particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. The EPA labels these pollutants as criteria air pollutants because they are regulated by developing human health-based and/or environmentally based criteria (science-based guidelines), which sets permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards.

The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO_2)
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect public health.

California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation and require additional actions beyond the federal mandates. The California Air Resources Board (ARB) administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six federal standards listed above as well visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA.

Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants (HAP). Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and HAPs in California.

Air Pollutant Description and Health Effects

The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 1 in Appendix A. Several pollutants listed in Table 1 are not addressed in this analysis. Analysis of lead, hydrogen sulfide, sulfates, and vinyl chloride are not included in this report because no new sources of these pollutant emissions are anticipated with the project. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed as PM_{10} and $PM_{2.5}$.

Existing Air Quality Conditions

The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 4-2 provides a description of the health impacts of ozone at different concentrations.

Table 4-2 Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI 51–100—Moderate Concentration 55–70 ppb	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
	Health Effects Statements: Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI 101–150—Unhealthy for Sensitive Groups Concentration 71–85 ppb	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151–200—Unhealthy Concentration 86–105 ppb	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
	Health Effects Statements: Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201–300—Very Unhealthy Concentration 106–200 ppb	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.

Source: Air Now. 2021. AQI Calculator: AQI to Concentration. Website: https://www.airnow.gov/aqi/aqi-calculator-concentration/. Accessed July 2023.

The other nonattainment pollutant of concern is $PM_{2.5}$. An AQI of 100 or lower is considered moderate and would be triggered by a 24-hour average concentration of 12.1 to 35.4 µg/m3. The relationship of the AQI to health effects in shown Table 4-3.

Table 4-3 Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
AQI 51–100—Moderate Concentration 12.1–35.4 µg/m^3	**Sensitive Groups:** Some people who may be unusually sensitive to particle.
	Health Effects Statements: Unusually sensitive people should consider reducing prolonged or heavy exertion.
	Cautionary Statements: Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.
AQI 101–150—Unhealthy for Sensitive Groups Concentration 35.5–55.4 µg/m^2	**Sensitive Groups:** Sensitive groups include people with heart or lung disease, older adults, children, and teenagers.
	Health Effects Statements: Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly.
AQI 151–200—Unhealthy	**Sensitive Groups:** Everyone

Concentration 55.5–150.4 µg/m^3	**Health Effects Statements:** Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during outdoor activities.
AQI 201–300—Very Unhealthy Concentration 150.5–250.4 µg/m^3	**Sensitive Groups:** Everyone
	Health Effects Statements: Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.

Source: Air Now. 2021. AQI Calculator: AQI to Concentration. Website: https://www.airnow.gov/aqi/aqi-calculator-concentration/. Accessed July 2023.

Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 4-4. The Air Basin is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

Table 4-4 San Joaquin Valley Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone—One Hour	Nonattainment/Severe	No Standard
Ozone—Eight Hour	Nonattainment	Nonattainment/Extreme
Carbon monoxide	Attainment/Unclassified	Merced, Madera, and Kings Counties are unclassified; others are in Attainment
Nitrogen dioxide	Attainment	Attainment/Unclassified
Sulfur dioxide	Attainment	Attainment/Unclassified
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	No Designation/Classification

Source of State status: California Air Resources Board (ARB 2013).
Source of National status: U.S. Environmental Protection Agency (EPA 2021).
Source of additional status information (SJVAPCD 2017).

Air Quality Plans and Regulations

Air pollutants are regulated at the national, state, and air basin or county level, and each agency has a different level of regulatory responsibility: the EPA regulates at the national level, the Air Resources Board (ARB) at the state level, and the SJVAPCD at the air basin level.

San Joaquin Valley Air Pollution Control District

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The SJVAPCD also has roles under CEQA.

SJVAPCD Rules and Regulations

The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the project include but are not limited to the following:

Rule 4102—Nuisance. *The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials. This rule is enforced on a complaint basis.*

Rule 4601—Architectural Coatings. *The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.*

Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. *The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This regulation is enforced on the asphalt provider.*

Regulation VIII—Fugitive PM_{10} Prohibitions. *Rules 8011–8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.*

Rule 9510—Indirect Source Review. *This rule reduces the impact of NO_X and PM_{10} emissions from growth within the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site District-administered projects, or a combination of the two. This project is subject to Rule 9510.*

CEQA

The SJVAPCD has three roles under CEQA:

1. Lead Agency: Responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the SJVAPCD where the SJVAPCD has primary approval authority over the project.
2. Responsible Agency: The discretionary authority of a responsible agency is more limited than a lead agency; having responsibility for mitigating or avoiding only the environmental effects of those parts of the project which it decides to approve, carry out, or finance. The SJVAPCD defers to the lead agency for preparation of environmental documents for land use projects that also have discretionary air quality permits, unless

no document is prepared by the lead agency and potentially significant impacts related to the permit are possible. The SJVAPCD regularly submits comments on documents prepared by lead agencies to ensure that the SJVAPCD's concerns are addressed.

3. Commenting Agency: The SJVAPCD reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The SJVAPCD also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance, as well as state regulations to control air pollution, is an overall improvement in the Air Basin. In particular, the SJVAPCD's 2015 GAMAQI states the following:

1. *The District's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs. The general plan is the primary long-range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions.*
2. *The Air Quality Guidelines for General Plans (AQGGP), adopted by the District in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1. When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific suggestions in the AQGGP are voluntary. The District strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs.*

Local

The City of Porterville 2030 General Plan was adopted on March 4, 2008. The City's applicable air quality goals and policies from the Air Quality section are listed below.

City of Porterville Air Quality Goals and Policies

The General Plan lists the following policies that are supportive of improved air quality. Policies that are directly related to the project are listed below:

Land Use Element

LU-G-3: Promote sustainability in the design and development of public and private development projects.

LU-G-11: Foster strong, visually attractive regional commercial centers with a mix of tenants to serve both local and regional needs.

LU-I-20: Establish standards for pedestrian-oriented design in neighborhood centers. Pedestrian-oriented design standards may include, but would not be limited to:

- Limitations on maximum block length;

- Minimum sidewalk width;

- Required streetscape improvements, including street trees;

- Building height and articulation;

- Building setbacks;

- Location of entries; and

- Parking location and required landscaping.

The City also may provide additional incentives for projects that contribute to the pedestrian, bicycle and transit networks, and/or the open space network.

Circulation Element

C-G-3: Make efficient use of existing transportation facilities and, through coordinated land use planning, strive to improve accessibility to shops, schools, parks and employment centers and reduce total vehicle miles traveled per household to minimize vehicle emissions and save energy.

C-I-2: Require all new developments to provide right-of-way and improvements consistent with the General Plan street designations and City street section standards.

C-I-3: Provide for greater street connectivity by: Incorporating in subdivision regulations requirements for a minimum number of access points to existing local or collector streets for each development;

Encouraging roundabouts over signals, where feasible and appropriate;

Requiring the bicycle and pedestrian connections from cul-de-sacs to nearby public areas and main streets; and

Requiring new residential communities on undeveloped land planned for urban uses to provide stubs for future connections to the edge of the property line. Where stubs exist on adjacent properties, new streets within the development should connect to these stubs.

C-G-8: Promote the use of public transit for daily trips to schools and work and for other purposes.

C-G-9: Promote the use of bicycles to alleviate vehicle traffic and improve public health.

C-G-10: Promote pedestrian activity.

C-I-21: Develop a series of continuous walkways within new office parks, commercial districts, and residential neighborhoods so they connect to one another.

Open Space & Conservation Element

OSC-G-9: Improve and protect Porterville's air quality by making air quality a priority in land use and transportation planning and in development review.

OSC-I-58: Continue to assess air quality impacts through environmental review and require developers to implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.

The City will use the San Joaquin Valley Air Pollution Control District (SJVAPCD) Guidelines for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of

significance for use in environmental documents. The City shall cooperate with the SJVAPCD in the review of development proposals.

BMPs could include transportation demand management strategies for large development projects such as:

- *Providing bicycle access and parking facilities;*
- *Providing preferential parking for high-occupancy vehicles, carpools, or alternative fuels vehicles;*
- *Establishing telecommuting programs or satellite work centers;*
- *Allowing alternative work schedules;*
- *Subsidizing public transit costs for employee; and*
- *Scheduling deliveries at off-peak traffic periods.*

***OSC-I-59**: Require preparation of a Health Risk Assessment for any development subject to the Air Toxics "Hot Spots" Act.*

***OSC-I-60**: Require dust control measures as a condition of approval for subdivision maps, site plans, and all grading permits.*

***OSC-I-61**: Coordinate air quality planning efforts with other local, regional and State agencies.*

***OSC-I-62**. Be proactive in educating the public about the linkages between land use, transportation and air quality.*

***OSC-I-63**: Notify local and regional jurisdictions of proposed projects that may affect regional air quality.*

***OSC-I-65**: When asbestos has been identified in the preliminary soils report, require all new development and public works projects to comply with all provisions of State and regional ATCM regulations for control of airborne asbestos emissions relating to construction, road maintenance, and grading activities.*

The City will establish Best Management Practices for construction, grading, and road maintenance in areas with naturally occurring asbestos, consistent with State and regional regulations for Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. BMPs may include but are not limited to:

- *Wetting soil during excavation and other dust suppression measures;*
- *Wetting roads, excavated materials and rinsing equipment;*
- *Limiting vehicle speeds within construction areas;*
- *Creating wind breaks and berms;*
- *Suspending activities when wind creates visible dust;*
- *Prohibiting rock-crushing of asbestos-containing materials;*
- *Monitoring dust levels;*
- *Posting warning signs;*
- *Replanting; and*

- Paving or other permanent sealants or covers.

Existing Sources of Toxic Emissions

No existing sources were identified that exceed ARB recommendations in its Air Quality Land Use Handbook for siting sensitive land uses impact the project.

ARB Air Quality Land Use Handbook

Table 4-5 lists the following ARB advisory recommendations that address the issue of siting "sensitive land uses" near specific sources of air pollution:

- High traffic freeways and roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

The analysis examines the area around the site to determine if potential sources of TAC emissions may impact the project, based on the ARB recommended screening distances.

Table 4-5 Recommendations on Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Note: These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

4.3.2 Modeling Parameters and Assumptions

Model Selection and Guidance

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant given the activity over time; for example, grams of NO_X per horsepower-hour or grams of NO_X per vehicle mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMission FACtors Model (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) was developed in cooperation with air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses.

The modeling follows SJVAPCD guidance where applicable from its GAMAQI. The models used in this analysis are summarized as follows:

- Construction emissions: CalEEMod, version 2022.1 (specifically, 2022.1.1.17)
- Operational emissions: CalEEMod, version 2022.1 (specifically, 2022.1.1.17)
- Other emission rates: EMFAC 2021

Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- *Reactive organic gases (ROG)*
- *Nitrogen oxides (NO_X)*
- *Carbon monoxide (CO)*
- *Sulfur dioxide (SO_2)*
- *Particulate matter less than 10 microns in diameter (PM_{10})*
- *Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)*

Note that the project would emit ozone precursors ROG and NO_X. However, the project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reaction of ozone precursors. Other criteria pollutants such as vinyl chloride, hydrogen sulfide, lead, and sulfates were not included because of their low levels of emissions from the project.

As noted previously, the project would emit ultrafine particles. However, there is currently no standard separate from the $PM_{2.5}$ standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

Construction Modeling Assumptions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities.

On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

Project Schedule

Although no physical development is proposed by the project, this analysis looks at the potential buildout of the plan area at a programmatic level using reasonable assumptions so that future development of the site can tier from this Initial Study pursuant to CEQA Guidelines Section *15168(c)(1) and 15168(d)* for evaluations of environmental issues associated with later activities/subsequent projects. Buildout of development contemplated under the proposed Master Plan would occur over several years. For the purpose of estimating emissions, construction was anticipated to occur starting as early as the first quarter of 2024. The use of an earlier construction schedule in this analysis represents a conservative estimate of emissions, as emissions resulting from construction equipment and vehicle use are expected to decrease over time due to turnover and other factors. Overall CalEEMod default HP hours were retained. In instances where the CalEEMod default schedule was modified for ground-up construction to reflect the anticipated buildout schedule, equipment usage was proportionally modified to retain the overall HP hours.

Construction Equipment Emission Factors

The analysis uses CalEEMod default assumptions for the equipment used during construction. CalEEMod default equipment assumptions for construction equipment and equipment activity are based on surveys of construction projects of various sizes. The full modeling assumptions are provided as part of Appendix A of this report. CalEEMod contains an inventory of construction equipment that incorporates estimates of the number of equipment, age, horsepower, and equipment emission, and control level or tier from which rates of emissions are developed. The CalEEMod default equipment assumptions were used in this analysis for the estimation of emissions from on-site construction equipment. As previously noted, equipment usage was proportionally modified to retain the overall HP hours in instances where the CalEEMod default schedule was modified. CalEEMod's off-road emission factors and load factors are from the ARB OFFROAD model.

Operation

Operational emissions are those emissions that occur when development contemplated by the Master Plan is occupied by the future businesses and residents. The major sources are summarized below.

Model Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the plan area/project site. Project trip generation rates were obtained from the project Traffic Impact Study.

A pass-by trip accounts for vehicles already on the roadway network that stop at the project site as they pass-by; the pass-by trips are existing vehicle trips in the community. CalEEMod default rates of three percent pass-by trips were used in this analysis for the commercial shopping center. The pass-by trips for the fast-food land uses were adjusted to match project-specific values provided in the project Traffic Impact Study.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline

and diesel-powered vehicles). The CalEEMod default vehicle fleet mixes were used to estimate emissions for commercial uses. The SJVAPCD-approved Residential Fleet Mix was used in the analysis for the residential land uses.

Architectural Coatings (Painting)

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project is required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints 100 g/l by 2012 for an average rate of 65 g/l. Most of the coatings used for residential and shopping center/nonresidential painting are flat paints. Effective January 1, 2022, nonflat gloss and semi-gloss paints are required to meet the 50 g/l standard, providing lower VOC emissions for buildings constructed after that date.

Customer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. "Consumer Product" means a chemically formulated product used by household and institutional consumers, including but not limited to: detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings. CalEEMod includes default consumer product use rates based on building square footage. The default emission factors developed for CalEEMod were used for consumer products.

Landscape Equipment

CalEEMod estimated the landscaping equipment using the default assumptions in the model.

Electricity

Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity emissions estimates are only used in the GHG analysis. CalEEMod was used to estimate these emissions from the proposed Master Plan.

Electricity Consumption

CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations, non-Title 24 electricity, and lighting. The Title 24 uses are defined as the major building envelope systems covered by California's Building Code Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title 24. Since lighting is not considered as part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. Total electricity consumption in CalEEMod is divided into the three categories. The percentage for each category is determined by using percentages derived from the CalEEMod default electricity intensity factors. The percentages are then applied to the electricity consumption to result in the values used in the analysis.

Natural Gas

The development under the proposed Master Plan would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. CalEEMod defaults were used in the analysis.

Water and Wastewater

GHG emissions are emitted from the use of electricity to pump water to the plan area/project site and to treat wastewater. CalEEMod defaults were used.

Refrigerants

During operation, air conditioners and refrigeration systems may leak refrigerants (hydrofluorocarbons). Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs. Regional and neighborhood commercial uses and residential uses of refrigerants are minor; however, CalEEMod default values were retained for all land uses analyzed to present a conservative estimate of GHG emissions.

Solid Waste

GHG emissions would be generated from the decomposition of solid waste generated by implementation of the proposed Master Plan. CalEEMod was used to estimate the GHG emissions from this source.

Vegetation

There is currently carbon sequestration occurring on-site from existing vegetation in the form of existing agricultural uses. Implementation of the proposed Master Plan would plant trees and integrate landscaping into the project design, which would provide carbon sequestration. However, the number of trees to be planted is unknown and data are insufficient to accurately determine the impact that existing plants have on carbon sequestration. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the proposed Master Plan would be balanced; therefore, emissions due to carbon sequestration were not included.

4.3.3 Early Consultation

Early consultation was received from the San Joaquin Valley Air Pollution District ("SJVAPCD" or "District") on July 26, 2023. The feedback received is included as Appendix G.

City of Porterville 2030 General Plan

The General Plan established the following policies to reduce air quality impacts.

Guiding Policy OSC-G-9 *Improve and protect Porterville's air quality by making air quality a priority in land use and transportation planning and in development review.*

> ***Implementation Policy OSC-I-58*** *Continue to assess air quality impacts through environmental review and require developers to implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.*
>
> ***Implementation Policy OSC-I-59*** *Require preparation of a Health Risk Assessment for any development subject to the Air Toxics "Hot Spots" Act.*
>
> ***Implementation Policy OSC-I-60*** *Require dust control measures as a condition of approval for subdivision maps, site plans, and all grading permits.*
>
> ***Implementation Policy OSC-I-61*** *Coordinate air quality planning efforts with other local, regional and State agencies.*

Implementation Policy OSC-I-62 *Be proactive in educating the public about the linkages between land use, transportation and air quality.*

Implementation Policy OSC-I-63 *Notify local and regional jurisdictions of proposed projects that may affect regional air quality.*

Implementation Policy OSC-I-64 *Investigate replacing City vehicles with low-emission technology.*

Implementation Policy OSC-I-65 *When asbestos has been identified in the preliminary soils report, require all new development and public works projects to comply with all provisions of State and regional ATCM regulations for control of airborne asbestos emissions relating to construction, road maintenance, and grading activities.*

4.3.4 Impact Assessment

Would the project:

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

Potentially Significant Impact. The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable air quality plan (AQP). An additional criterion regarding the project's implementation of control measures was assessed to provide further evidence of the project's consistency with current AQPs. This document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs?
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects include Regulation VIII—Fugitive PM10 Prohibitions and Rule 9510 Indirect Source Review.

Contribution to Air Quality Violations

A measure for determining if the project is consistent with the air quality plans is if the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the project is based on its cumulative contribution. Because of the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}—if project-generated emissions of either of the ozone precursor pollutants (ROG and NO_X), PM_{10}, or $PM_{2.5}$ would exceed the SJVAPCD's significance thresholds—then the project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans.

As discussed in criteria b) below, emissions of ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ associated with the operations of buildout under the proposed Master Plan would exceed the SJVAPCD's regional significance thresholds. Although

the proposed Master Plan would exceed the criteria pollutant thresholds for several pollutants, the proposed Master Plan would facilitate future growth. The proposed Master Plan would provide residential uses that will be designed to satisfy existing and future demand for quality housing in the area and would provide conveniently located commercial development to serve Porterville residents and the SoTu Master Plan development in a growing area near and in the City of Porterville. Several goals and policies contained in the City of Porterville's General Plan promote walkable mixed-use development. As a mixed-use project located adjacent to developed areas of a built-up city, the proposed Master Plan would create a considerable amount of internal capture among its components to reduce VMT compared to the same level of development built with land uses geographically separated from each other. Nonetheless, the impact would remain significant and unavoidable under this criterion.

Compliance with Applicable Control Measures

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. A description of rules and regulations that apply to this project is provided below.

SJVAPCD Rule 9510—Indirect Source Review (ISR) is a control measure in the 2006 PM_{10} Plan that requires NO_X and PM_{10} emission reductions from development projects in the San Joaquin Valley. The NO_X emission reductions help reduce the secondary formation of PM_{10} in the atmosphere (primarily ammonium nitrate and ammonium sulfate) and also reduce the formation of ozone. Reductions in directly emitted PM_{10} reduce particles such as dust, soot, and aerosols. Rule 9510 is also a control measure in the 2016 Plan for the 2008 8-Hour Ozone Standard. Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases through on-site measures or pay off-site mitigation fees. The project is required to comply with Rule 9510.

Regulation VIII—Fugitive PM_{10} Prohibitions is a control measure that is one main strategy from the 2006 PM_{10} for reducing the PM_{10} emissions that are part of fugitive dust. Residential projects over 10 acres and non-residential projects over 5 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. The project, or individual developments contemplated under the proposed Master Plan, will be required to prepare a DCP to comply with Regulation VIII.

Other control measures that apply to the project are *Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation* that requires reductions in VOC emissions during paving and Rule 4601—Architectural Coatings that limits the VOC content of all types of paints and coatings sold in the San Joaquin Valley. These measures apply at the point of sale of the asphalt and the coatings, so project compliance is ensured without additional mitigation measures.

The Project would comply with all applicable SJVAPCD rules and regulations. Therefore, the Project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan under this criterion.

Conclusion

The project's emissions are significant for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ and would be considered inconsistent with the AQP for this criterion. The project complies with applicable control measures of the AQP. Because the combined emissions from operations of development under the proposed Master Plan would continue to exceed at least one regional threshold after compliance with regulations and incorporation of mitigation, the impact would be significant.

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?

Potentially Significant Impact. To result in a less than significant impact, emissions of nonattainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD in its GAMAQI.

To result in a less than significant impact, the following criteria must be met:

1. Regional analysis: emissions of nonattainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD in its GAMAQI.
2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.

Criterion 1: Regional Emissions

Air pollutant emissions have both regional and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are assessed under Impact AIR-3.

The primary pollutants of concern during construction and operation of implementation of the proposed Master Plan are ROG, NO_X, PM_{10}, and $PM_{2.5}$. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NO_X, ROG, SO_X, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NO_X are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants. The SJVAPCD's annual emission significance thresholds used for the project define the substantial contribution for both operational and construction emissions as follows:

- *100 tons per year CO*
- *10 tons per year NO_X*
- *10 tons per year ROG*
- *27 tons per year SO_X*
- *15 tons per year PM_{10}*
- *15 tons per year $PM_{2.5}$*

The project does not contain sources that would produce substantial quantities of SO_X emissions during construction and operation. Modeling conducted for the project show that SO_X emissions are well below the SJVAPCD GAMAQI thresholds, as shown in the modeling results contained in Appendix A. No further analysis of SO_X is required.

Construction Emissions

Construction emissions were modeled using the CalEEMod version 2022.1. The results of the modeling are presented in Table 4-6 and Table 4-7. For large plan areas, individual residential tracts and commercial projects are constructed gradually with the various construction activities happening throughout the buildout period. The

specific timing of individual development projects contemplated under the proposed Master Plan is unknown and are dependent on market demand and other factors; therefore, the annual average construction emissions were calculated for comparison to the annual threshold of significance (see Table 4-6). In addition, the highest annual emissions are presented and compared to the applicable thresholds in Table 4-7.

The emissions reflect compliance with SJVAPCD regulations that apply to construction activities. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. As shown in Table 4-6Table 4-6, the annual average emissions are below the SJVAPCD significance thresholds. The highest annual emissions exceed the applicable threshold for regional emissions of NO_X (see Table 4-7Table 4-7).

Table 4-6 Construction Air Pollutant Emissions Summary – Annual Average (Unmitigated)

Construction Year	Emissions (tons per construction period)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Annual Emissions (2024)	1.46	12.09	13.13	3.24	1.48
Total Annual Emissions (2025)	2.70	13.58	23.38	3.88	1.22
Total Annual Emissions (2026)	2.14	9.52	19.40	3.26	0.93
Total Annual Emissions (2027)	1.78	7.43	16.63	2.84	0.75
Total Annual Emissions (2028)	1.70	7.02	15.81	2.83	0.74
Total Annual Emissions (2029)	1.59	6.68	14.96	2.82	0.73
Total Annual Emissions (2030)	1.51	6.45	14.29	2.81	0.72
Total Annual Emissions (2031)	1.37	6.17	13.56	2.80	0.71
Total Annual Emissions (2032)	1.31	5.95	12.99	2.80	0.69
Total Annual Emissions (2033)	7.86	4.69	10.44	2.62	0.61
Total Annual Emissions (2034)	2.36	2.77	5.39	1.55	0.37
Total Annual Emissions (2035)	0.51	2.62	4.98	1.44	0.35
Total Annual Emissions (2036)	6.98	2.66	5.25	1.69	0.39
Total Annual Emissions (2037)	1.78	0.28	0.59	0.21	0.05
Grand Total for All Construction Activities	**35.05**	**87.91**	**170.8**	**34.79**	**9.74**
Annual Average Emissions (Tons/Year)					
Average Annual Construction Emissions*	**2.66**	**6.66**	**12.94**	**2.64**	**0.74**
Significance threshold (tons/year)	**10**	**10**	**100**	**15**	**15**
Exceed threshold—significant impact?	**No**	**No**	**No**	**No**	**No**

Notes: PM_{10} and $PM_{2.5}$ emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM_{10} Prohibitions.
** Calculated using 13.2 years, consistent with the assumptions used to estimate emissions (see Appendix A).*
Source: CalEEMod output (Appendix A).

Table 4-7 Construction Air Pollutant Emissions Summary – Maximum Annual Emissions by Development Year (Unmitigated)

Construction Year	Maximum Annual Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Annual Emissions (2024)	1.46	12.09	13.13	3.24	1.48
Total Annual Emissions (2025)	2.70	13.58	23.38	3.88	1.22
Total Annual Emissions (2026)	2.14	9.52	19.40	3.26	0.93
Total Annual Emissions (2027)	1.78	7.43	16.63	2.84	0.75
Total Annual Emissions (2028)	1.70	7.02	15.81	2.83	0.74
Total Annual Emissions (2029)	1.59	6.68	14.96	2.82	0.73
Total Annual Emissions (2030)	1.51	6.45	14.29	2.81	0.72
Total Annual Emissions (2031)	1.37	6.17	13.56	2.80	0.71
Total Annual Emissions (2032)	1.31	5.95	12.99	2.80	0.69
Total Annual Emissions (2033)	7.86	4.69	10.44	2.62	0.61

Total Annual Emissions (2034)	2.36	2.77	5.39	1.55	0.37
Total Annual Emissions (2035)	0.51	2.62	4.98	1.44	0.35
Total Annual Emissions (2036)	6.98	2.66	5.25	1.69	0.39
Total Annual Emissions (2037)	1.78	0.28	0.59	0.21	0.05
Maximum Annual Emissions	**7.86**	**13.58**	**23.38**	**3.88**	**1.48**
Significance threshold (tons/year)	**10**	**10**	**100**	**15**	**15**
Exceed threshold—significant impact?	**No**	**Yes**	**No**	**No**	**No**

Notes: PM_{10} and $PM_{2.5}$ emissions reflect compliance with Regulation VIII—Fugitive PM_{10} Prohibitions.
Calculations use unrounded numbers; therefore, totals may not appear to sum exactly due to rounding.
Source: CalEEMod output (Appendix A).

As shown in Table 4-6, annual average emissions are below the applicable SJVAPCD significance thresholds; however, construction of the project exceeds the regional threshold for NO_X under the unmitigated scenario presented in Table 4-7. Therefore, the regional construction emissions have potentially significant impact on a project basis and mitigation is required.

Mitigation Measure AIR-2a requires the project applicant, project sponsor, or construction contractor for individual development projects under the Master Plan to provide documentation to the City of Porterville that the construction fleet meet the following requirement: all off-road diesel-powered construction equipment greater than 75 horsepower meet EPA or ARB Tier 4 Final off-road emissions standards.

Impacts would be less than significant on a project-level basis after incorporation of *Mitigation Measure AIR-2a*. Therefore, regional construction emissions would have a less-than-significant impact on a project basis with the incorporation of mitigation.

Operational Emissions

Operational emissions occur over the lifetime of the project and are from four main sources: area sources, energy consumption, motor vehicles (or mobile sources), and permitted sources. Area and mobile sources are non-permitted sources, while gasoline fueling activities are permitted sources. The SJVAPCD considers construction and operational emissions separately when making significance determinations. Furthermore, the SJVAPCD considers permitted and non-permitted emission sources separately when making significance determinations related to criteria pollutants. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. Emissions resulting from non-permitted and permitted sources during project operations are discussed separately below.

Non-permitted Sources: The emissions modeling results for non-permitted sources from project operation are summarized in Table 4-8.

Table 4-8 Operational Air Pollutant Emissions (Non-permitted Sources)

Phase and Year	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
SoTu Master Plan Residential and Public Land Uses					
Area	12.69	0.79	10.86	0.06	0.06
Energy	0.13	2.22	0.98	0.18	0.18
Mobile	10.68	11.78	94.08	18.57	4.81
Residential and Public Uses Total	**23.50**	**14.79**	**105.92**	**18.81**	**5.05**
SoTu Master Plan Commercial and Industrial Land Uses					
Area	15.37	0.10	12.46	0.02	0.02
Energy	0.26	4.70	3.95	0.36	0.36

Mobile	42.51	62.58	255.49	49.77	13.46
Commercial and Industrial Uses Total	**58.14**	**67.38**	**271.9**	**50.15**	**13.84**
Combined (Full Buildout of the Proposed Master Plan in the Earliest Operational Year)					
Area	28.06	0.89	23.32	0.08	0.08
Energy	0.39	6.92	4.93	0.54	0.54
Mobile	53.19	74.36	349.57	68.34	18.27
Total Proposed Master Plan Emissions (Non-Permitted Sources)	**81.64**	**82.17**	**377.82**	**68.96**	**18.89**
Significance threshold	**10**	**10**	**100**	**15**	**15**
Exceed threshold—significant impact?	**Yes**	**Yes**	**Yes**	**Yes**	**No**

Notes:ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

As shown in Table 4-8, the operational emissions for full buildout of the proposed Master Plan in the earliest operational year exceed the SJVAPCD thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$. Therefore, project operational emissions would result in a potentially significant impact prior to the incorporation of mitigation. MM AIR-2b through MM AIR-2d are recommended to reduce operational emissions from all development under the proposed Master Plan. Projects subject to project-level review would be required to assess residual impacts after incorporation of all applicable measures; however, it is not anticipated that all future development would be subject to discretionary review. These measures would help reduce operational emissions; however, at the time of this analysis, the precise emission reductions associated with these measures cannot be accurately determined because of a lack of sufficient information about how the proposed Master Plan would operate and to what extent the measures would affect those activities. Therefore, the project may continue to exceed the applicable thresholds of significance even after incorporation of mitigation. This represents a significant and unavoidable impact.

Permitted Sources: The SJVAPCD GAMAQI recommends assessing the emissions from permitted sources of emissions separate from non-permitted sources. The SJVAPCD's permitting process ensures that emissions of criteria pollutants from permitted equipment and activities at stationary sources are reduced or mitigated to below the SJVAPCD's thresholds of significance. SJVAPCD implementation of New Source Review (NSR) ensures that there is no net increase in emissions above specified thresholds from new and modified Stationary Sources subject to the rule for all nonattainment pollutants and their precursors. Permitted sources emitting more than the NSR Offset Thresholds for any criteria pollutant must, in general, offset all emission increases in excess of the thresholds.

It is anticipated that individual development projects that would be allowed under the proposed Master Plan could include stationary sources to support project operations that would require SJVAPCD permits; however, any details regarding potential permitted sources are currently unknown. The SJVAPCD will prepare an engineering evaluation of all permitted equipment to determine the controls required to achieve best available control technology (BACT) requirements. The permitted emissions are dependent on the control technology selected and any process limits included in the permit conditions.

Permitted sources will be required to comply with SJVAPCD BACT requirements. Compliance with regulations would ensure that the project's stationary sources would not exceed SJVAPCD thresholds of significance; therefore, the project's estimated permitted emissions would be less than significant.

Criterion 2: Plan Approach

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. The SJVAPCD attainment plans are based on a summary of projections that accounts for projected growth throughout the Air Basin, and the controls needed to achieve ambient air quality standards. This analysis considers the current CEQA Guidelines. The Air Basin is in nonattainment or maintenance status for ozone and particulate matter (PM10 and PM2.5), which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants, or that the standards have recently been attained in the case of pollutants with maintenance status. When concentrations of ozone, PM10, or PM2.5 exceed the ambient air quality standard, then those sensitive to air pollution (such as children, the elderly, and the infirm) could experience health effects such as: decrease of pulmonary function and localized lung edema in humans and animals; increased mortality risk; and risk to public health, implied by altered connective tissue metabolism, altered pulmonary morphology in animals after long-term exposures, and pulmonary function decrements in chronically exposed humans. See Appendix A Section 2.3—Existing Air Quality Conditions for additional correlation of the health impacts with the existing pollutant concentrations experienced in the Porterville area.

Under the CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The geographic scope for cumulative criteria pollution from air quality impacts is the Air Basin because that is the area in which the air pollutants generated by the sources within the Air Basin circulate and are often trapped. The SJVAPCD is required to prepare and maintain air quality attainment plans and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SJVAPCD does not have authority over land use decisions, it is recognized that changes in land use and circulation planning would help the Air Basin achieve clean air mandates. The SJVAPCD evaluated emissions from land uses and transportation in the entire Air Basin when it developed its attainment plans. Emission inventories used to predict attainment of NAAQS must be based on the latest planning assumptions for mobile sources. The plan area is located directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California. The site is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street, consisting of 19 parcels that total approximately 447.30 gross acres. The proposed Master Plan project site has a City of Porterville General Plan land use designation of Low Density Residential, Parks, Public Institutional, and Retail Center. The City of Porterville proposes a General Plan Amendment to change the land use designation to various land uses, as shown in the Master Plan Land Use Map.

In accordance with CEQA Guidelines Section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program.

The history and development of the SJVAPCD's current Ozone Attainment Plan is described in Section 2.4, Air Quality Plans. The 2007 8-Hour Ozone Plan contains measures to achieve reductions in emissions of ozone precursors, and sets plans towards attainment of ambient ozone standards by 2023. The 2012 $PM_{2.5}$ Plan and the 2015 $PM_{2.5}$ Plan for the 1997 $PM_{2.5}$ Standard require fewer NO_X reductions to attain the $PM_{2.5}$ standard than the Ozone Plan, so the Ozone Plan is considered the applicable plan for reductions of the ozone precursors NO_X and ROG. The 2012 $PM_{2.5}$ Plan requires reductions in directly emitted $PM_{2.5}$ from combustion sources, such as diesel engines and fireplaces, and from fugitive dust to attain the ambient standard and is the applicable plan for $PM_{2.5}$ emissions. $PM_{2.5}$ is also formed in secondary reactions in the atmosphere involving NO_X and ammonia to form

nitrate particles. Reductions in NO_X required for ozone attainment are also sufficient for $PM_{2.5}$ attainment. As discussed in Impact AIR-1, the proposed Master Plan is consistent with all applicable control measures in the air quality attainment plans. The proposed Master Plan would comply with any District rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be less than significant with regard to compliance with applicable rules and regulations.

In conclusion, the growth resulting from the project is generally accounted for in the General Plan and the applicable AQP, and the project will comply with applicable rules and regulations implementing the AQP; however, the project exceeds SJVAPCD thresholds for ROG, NOx, CO, PM_{10} and $PM_{2.5}$ and has the potential to continue to exceed thresholds after implementation of applicable mitigation measures; therefore, the project is considered significant for this criterion.

Conclusion

The proposed Master Plan would incorporate design features and required mitigation measures that reduce air quality impacts. In addition, regulations adopted by the SJVAPCD and the State of California provide emission reductions that would align with requirements of the mitigation measures included in the EIR and relevant General Plan policies. For example, Rule 9510 ISR, adopted in 2006, requires projects subject to the Rule to reduce operational NO_X emissions by 33 percent and PM_{10} emissions by 50 percent through the implementation of design features or payment of off-site mitigation fees. Rule 4901 regulates the installation of wood burning devices in project residences. Rule 9401 Employee Trip Reduction requires large employers to prepare plans to reduce employee trips with measures listed in the mitigation measure, among others. Title 24 Building Energy Efficiency Standards are updated every three years and require increasingly stringent energy efficiency measures over time. Solar panels continue to be required under 2022 Title 24 standards that became effective on January 1, 2023. Individual development projects will be subject to the most recent Title 24 in effect that building permits are issued, which will ensure that building energy consumption would not be wasteful or inefficient. Buildout of the proposed Master Plan would provide future residents, visitors, and employees connectivity within the plan area/project site and to adjoining land uses through pedestrian and bicycle connections. The proximity of the proposed new development to existing buildout in the City of Porterville, coupled with the design features of the proposed Master Plan, would increase would improve mobility and connectivity within the plan/project area. Overall, the proposed Master Plan would create a considerable amount of internal capture between its components to reduce VMT compared to the same level of development built with land uses geographically separated from each other.

The project's operational emissions exceed SJVAPCD regional criteria pollutant thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$; therefore, this is considered a significant impact.

Mitigation Measures

Mitigation Measure AIR-2a: *The following measure shall be applied to all development under the proposed Master Plan to reduce emissions from construction.*

Prior to the issuance of a grading permit for the proposed project, the project applicant, project sponsor, or construction contractor shall provide reasonably detailed compliance with the following requirements to the City of Porterville Planning Department:

- *Where portable diesel engines are used during construction, all off-road equipment with engines greater than 75 horsepower shall have engines that meet either EPA or ARB Tier 4 Final off-road emission standards except as otherwise specified herein. If engines that comply with Tier 4 Final off-road emission standards are not commercially available, then the construction contractor shall use the next cleanest piece of off-road equipment (e.g., Tier 4 Interim) that is commercially available. For purposes of this mitigation measure, "commercially available" shall mean the equipment at issue is available taking into consideration factors such as (i) critical-path timing of construction; and (ii) geographic proximity to the project site of equipment. If the relevant equipment is determined by the project applicant to not be commercially available, the contractor can confirm this conclusion by providing letters from at least two rental companies for each piece of off-road equipment that is at issue.*

Mitigation Measure AIR-2b: *Prior to issuance of building permits for non-single-family residential and mixed-use residential development projects in the proposed Master Plan planning area, the project applicant shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.*

- *Electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the California Green Building Standards Code (CALGreen).*
- *Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.*

Mitigation Measure AIR-2c: *Prior to the issuance of building permits for nonresidential development projects in the planning area, project applicants shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.*

- *For buildings with more than 10 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the California Green Building Standards Code (CALGreen).*
- *Preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code.*
- *Facilities shall be installed to support future electric vehicle charging at each nonresidential building with 30 or more parking spaces. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.*

Mitigation Measure AIR-2d: *The following measure shall be applied to all non-residential development under the proposed Master Plan during construction to facilitate the use of electric landscaping equipment during project operations:*

- *Provide electrical outlets on the outside of buildings or in other accessible areas to facilitate the use of electrically powered landscape equipment.*

c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The SJVAPCD considers a sensitive receptor a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest off-site sensitive receptors include existing residences located within approximately 220 feet from the plan area boundary to the north, east, south, and west.

Depending on the order of buildout of development contemplated under the proposed Master Plan, the nearest sensitive receptors for project activities are expected to change as newly developed uses included in plan area would begin to be occupied prior to full buildout.

The ARB Air Quality and Land Use Handbook contains recommendations that will "help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution" (ARB 2005), including recommendations for distances between sensitive receptors and certain land uses. In the *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) (Case No. S213478) the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions." Although the Court ruled that impacts from the existing environment on projects are not required to be addressed under CEQA, land uses such as gasoline stations, dry cleaners, distribution centers, and auto body shops can expose residents to high levels of TAC emissions if they are close to sensitive receptors.

Localized Air Pollutant Emissions and Toxic Air Contaminants

Construction activities are expected to occur over several years as the Project Site and individual developments are gradually built out. For each area, most emissions are expected to occur during the initial site preparation and grading activities and to a lesser extent during ground-up construction. Emissions occurring at or near the plan area have the potential to create a localized impact, also referred to as an air pollutant hotspot. Localized emissions are considered significant if, when combined with background emissions, they would result in exceedance of any health-based air quality standard.

The SJVAPCDs GAMAQI includes screening thresholds for identifying projects that need detailed analysis for localized impacts. Projects with on-site emission increases from construction activities or operational activities that exceed the 100 pounds per day screening level of any criteria pollutant after compliance with Rule 9510 and implementation of all enforceable mitigation measures would require preparation of an Ambient Air Quality Analysis. The criteria pollutants of concern for localized impact in the Air Basin are PM_{10}, $PM_{2.5}$, NO_X, and CO.

Localized emissions from full build out of the proposed Master Plan are provided in Appendix A. The combined localized emissions from buildout of the proposed Master Plan are well over the applicable SJVAPCD-recommended 100-pounds-per-day screening thresholds for several pollutants; however, it is not appropriate to combine all emissions to compare against the screening thresholds as the plan area totals 447.30 gross acres. Localized analyses are only informative when they are conducted at a project level; therefore, a meaningful quantification of localized

impacts is not applicable for this program-level environmental analysis. Therefore, MM AIR-3a is required for implementing developing projects.

Toxic Air Contaminants and Health Risk Impacts

During construction and operation, the development contemplated under the proposed plan would result in emissions of several Toxic Air Contaminants (TACs) that could potentially impact existing and future sensitive receptors. For instance, project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD's latest threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million).

Construction and operational health risk assessments are only informative when they are conducted at a project level; therefore, a meaningful quantification of health risk is not applicable for this program-level environmental analysis. Therefore, MM AIR-3b and MM AIR-3c would be required to ensure that individual development accommodated under the proposed Master Plan would minimize adverse impacts and limit the construction and operational health risks to nearby sensitive receptors under thresholds determined by SJVAPCD. In addition, implementation of MM AIR-2a (see Impact AIR-2) would limit health risk impacts from project construction.

Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley fever. During 2000–2018, a total of 65,438 coccidioidomycosis cases were reported in California; median statewide annual incidence was 7.9 per 100,000 population and varied by region from 1.1 in Northern and Eastern California to 90.6 in the Southern San Joaquin Valley, with the largest increase (15-fold) occurring in the Northern San Joaquin Valley. Incidence has been consistently high in six counties in the Southern San Joaquin Valley (Fresno, Kern, Kings, Madera, Tulare, and Merced counties) and Central Coast (San Luis Obispo County) regions. California experienced 6,490 new cases of Valley fever in 2020. A total of 195 Valley fever cases were reported in Tulare County in 2020.

The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

1) *Rodent burrows (often a favorable site for C. immitis, perhaps because temperatures are more moderate and humidity higher than on the ground surface)*
2) *Old (prehistoric) Indian campsites near fire pits*
3) *Areas with sparse vegetation and alkaline soils*
4) *Areas with high salinity soils*
5) *Areas adjacent to arroyos (where residual moisture may be available)*
6) *Packrat middens*

7) *Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils*
8) *Sandy, well-aerated soil with relatively high water-holding capacities*

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

1) *Cultivated fields*
2) *Heavily vegetated areas (e.g. grassy lawns)*
3) *Higher elevations (above 7,000 feet)*
4) *Areas where commercial fertilizers (e.g. ammonium sulfate) have been applied*
5) *Areas that are continually wet*
6) *Paved (asphalt or concrete) or oiled areas*
7) *Soils containing abundant microorganisms*
8) *Heavily urbanized areas where there is little undisturbed virgin soil (USGS 2000).*

The proposed plan includes urbanization of a site that was formerly used for agricultural purposes.

Construction activities would generate fugitive dust that could contain *C. immitis* spores. Development contemplated under the proposed plan will minimize the generation of fugitive dust during construction activities by complying with the District's Regulation VIII. Therefore, this regulation, combined with the relatively low probability of the presence of *C. immitis* spores, would reduce Valley fever impacts to less than significant.

During operations, dust emissions are anticipated to be negligible, because most of the developed plan area would be occupied by buildings, pavement, and landscaped areas. This condition would preclude the possibility of individual projects providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be less than significant.

Naturally Occurring Asbestos

According to a map of areas where naturally occurring asbestos in California are likely to occur (U.S. Geological Survey 2011), there are no such areas in the plan area. Ultramafic rock that contains asbestos is located at various locations in the foothills of Tulare County, but are not near the plan area. Therefore, development of the proposed Mater Plan is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

Conclusion

The plan area is not in an area with suitable habitat for Valley fever spores and is not in area known to have naturally occurring asbestos. Individual development projects under the proposed Master Plan would be required to implement ***Mitigation Measure AIR-3a*** to ensure localized impacts would not result in significant adverse impacts for any criteria pollutant. Similarly, individual development projects under the proposed Master Plan would be required to implement ***Mitigation Measure AIR-3b*** and ***Mitigation Measure AIR-3c*** to minimize health risk impacts. However, because impacts may remain significant after individual development projects identify all feasible and enforceable mitigation measures required to reduce impacts, the impact from the proposed Master Plan remains significant and unavoidable.

Mitigation Measures

Mitigation Measure AIR-3a: Prior to future discretionary approval for proposed implementing development projects, the City of Porterville shall evaluate potential impacts from localized emissions of criteria pollutants. The project applicant, project sponsor, or construction contractor shall submit an analysis demonstrating that the project would not result in a localized impact from criteria pollutants that follows SJVAPCD guidance. Options for relevant analyses to fulfill this mitigation measure are provided below:

- *Provide a localized screening analysis demonstrating the project would not exceed 100 pounds per day of any criteria pollutant.*
- *Provide an Ambient Air Quality Analysis (AAQA) for the proposed project. An AAQA uses air dispersion modeling to determine if emission increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The SJVAPCD recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.*
- *Supporting documentation approved by the SJVAPCD demonstrating that the proposed project would not have the potential to result in a significant impact from localized criteria pollutant emissions.*

Mitigation Measure AIR-3b: Prior to future discretionary approval for commercial or commercial mixed-use projects, the City of Porterville shall evaluate potential health risk impacts from new development proposals for any individual development projects within 1,000 feet of an existing or planned sensitive land use (e.g., residential, schools, day cares, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit the following to the City of Porterville Planning Department:

- *A Health Risk Prioritization Screening Analysis or a Health Risk Assessment for the project's potential to expose sensitive receptors to elevated levels of Toxic Air Contaminants during project construction and operations prepared in accordance with SJVAPCD guidance. If the Health Risk Assessment shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the project applicant shall be required to identify and incorporate commercially feasible mitigation including appropriate enforcement mechanisms to reduce risks to an acceptable level. The City of Porterville shall submit each Health Risk Screening Analysis or Health Risk Assessment to the SJVAPCD for review. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.*

Mitigation Measure AIR-3c: To identify potential implementing development project-specific impacts resulting from the use of diesel trucks, proposed implementing development projects that include an excess of 10 dock doors for a single building, a minimum of 100 truck trips per day, 40 truck trips with Transport Refrigeration Units (TRUs) per day, or TRU operations exceeding 300 hours per week, and that are with 1,000 feet from existing or planned sensitive land uses; shall have a facility-specific Health Risk Assessment performed to assess the diesel particulate matter impacts from mobile source traffic generated by that implementing development project. If applicable, the results of the Health Risk Assessment shall be included in the CEQA documentation for each implementing development project. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.

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

Less than Significant Impact. Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. According to the *CBIA v. BAAQMD* ruling, impacts of existing sources of odors on the project are not subject to CEQA review. The SJVAPCD has determined the common land use types that are known to produce odors in the Air Basin. These types are shown in Table 4-9.

Table 4-9 Screening Levels for Potential Odor Sources

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD 2015.

According to the SJVAPCD GAMAQI, analysis of potential odor impacts should be conducted for the following two situations:

- *Generators: projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and*
- *Receivers: residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.*

Project as a Generator

Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roasters, asphalt batch plants, and rendering plants. The proposed Master Plan is not anticipated to facilitate any development projects that engage in any of these activities. Therefore, the proposed Master Plan would not be considered a generator of objectionable odors during operations.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the immediate area where construction would be occurring. Therefore, potential for odor impacts from construction of development of the proposed Master Plan would be less than significant.

Project as a Receiver

The buildout of the proposed Master Plan would include the development of sensitive receptor land uses, including schools, parks, and residential uses. With the CBIA v. BAAQMD ruling, analysis of odor impacts on receivers is not required for CEQA compliance unless the project would exacerbate an existing impact. As noted above, the proposed Master Plan would not result in odors that would adversely affect a substantial number of people. Therefore, no further analysis of the proposed Master Plan's as a receiver is required.

4.3.5 Mitigation Measures

The Project shall implement and incorporate, as applicable, the Air Quality related mitigation measures as identified above and in the MITIGATION MONITORING AND REPORTING PROGRAM contained in SECTION 5.

4.4 BIOLOGICAL RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?		X		
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 US Fish and Wildlife Service?			X	
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?		X		
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?			X	
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f)	Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.			X	

4.4.1 Environmental Setting

A biological reconnaissance evaluation of the Project site was conducted on April 27, 2023, by Argonaut Ecological Consulting, Inc. The full report is provided in Appendix B. The biological assessment included assessing the types of habitats present and sensitive species associated with those habitats. The biological evaluation focused on mapping existing habitat types based on a site reconnaissance and reviewing public and commercial databases, aerial photographs (current and historical), and other published information and available data. A summary of the Biological Assessment Report is provided below. Overall, the Biological Assessment Report concludes:

- *The majority of the Project Site has historically been used for agricultural crops (orchards and row crops) continuously for at least the last 50 years. The remainder of the Project Site supports ruderal/non-native and riparian habitats.*
- *An emergent wetland and a forested shrub wetland mapped by the National Inventory Wetland Inventory are located near the center of the Project Site within an agricultural field. Future development would require additional investigation of this area to determine if the wetland feature is intact (based on soils, hydrology, and vegetation).*
- *There are suitable nesting trees for raptors and migratory birds within the Project Site.*
- *The agricultural lands generally do not support special status species breeding or nesting habitats. However, the Project Site could provide some foraging habitat for Swainson's hawk, other raptors, and other species.*

Regulatory Jurisdiction and Background

Several agencies share regulatory jurisdiction over biological resources. The following briefly describes the primary agencies and their respective jurisdiction.

Wetland Protection

- *U.S. Army Corps of Engineers:* Wetlands are a type of Waters of the U.S. The U.S. Army Corps of Engineers (Army Corps) and the U.S. Environmental Protection Agency regulate the placement of fill into the Waters of the U.S. under Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbor Act. For this purpose, the term "Waters of the U.S." is legally defined under Section 404 of the Federal Clean Water Act and includes interstate streams, creeks, and adjacent wetlands. Waters of the United States (WOTUS) does not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency for the Federal Clean Water Act (CWA), the final authority regarding CWA jurisdiction remains with EPA.
- *California State Water Resources Control Board:* In 2020 California adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. The State definition of wetland differs from the Federal definition in that the state definition includes areas with no vegetation, assuming the other criteria are met. Wetlands of the State include 1) natural wetlands, 2) wetlands created by modification of water of the state (at any point in history), and 3) artificial wetlands that meet specific criteria. The State definition only exempts a few types of waters. Examples of water features excluded from the state's definition include industrial or municipal wastewater, certain stormwater treatment facilities, agricultural crop irrigation, industrial processing or cooling, and fields flooded for rice growing.

Listed Protected Species and Habitat Protection

- *U.S. Fish and Wildlife Service (USFWS):*
    - The **Migratory Bird Treaty Act (MBTA)** was first enacted in 1918 to protect migratory birds between the United States and Great Britain (acting on behalf of Canada). The MBTA makes it illegal for anyone to take, possess, import, transport, purchase, barter, offer for sale, or purchase any migratory birds, nests, or eggs unless a federal agency has issued a permit. In January 2021, the USFWS published a new rule in the Federal Register. Under the rule change, the unintentional killing of migratory birds does not violate the MBTA. Only the intentional "pursuing, hunting, taking, capturing, killing, or attempting to do the same ... directed at migratory birds, their nests, or their eggs" would be illegal under the changes.
    - The **Federal Endangered Species Act (FESA)** prohibits "take" "of any federally listed wildlife species (the destruction of federally listed plants on private property is not prohibited and does not require a permit). "Take" under the federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. "Incidental take" is harm or death that may occur during the implementation of an otherwise lawful activity. "Candidate species" do not have the full Protection of FESA. However, the USFWS advises project applicants that it is prudent to address these species since they could be elevated to "listed status" before the completion of projects with long planning or development schedules.
- *California Department of Fish and Wildlife (CDFW):* The CDFW is a Trustee Agency responsible under CEQA to review and evaluate projects impacts on plant and wildlife resources. Game Code Section 1802, the CDFW has jurisdiction over the conservation, Protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations. The California Fish and Game Code also provides authority for the CDFW to regulate projects that could result in the "take" of any species listed by the state as threatened or endangered (Section 2081). CDFW also has authority over all state streams.
- *California Endangered Species Act (CESA):* The CESA protects candidate plants and animal species and those listed under CESA as rare, threatened, or endangered. This Act prohibits the take of any such species unless authorized. Section 2081 authorizes the state to issue incidental take permits. The state definition of taking applies only to acts that result in death or adverse impacts on protected species. The CESA mirrors the federal regulation as it relates to "take"; however, there is no state equivalent definition of "harm" or "harass." Incidental take is also not defined by the CESA statute or regulation. Unlike the federal ESA, CESA does qualify that incidental take" "is not prohibited "if it is the result of an act that occurs on a farm or ranch in the course of an otherwise lawful routine and ongoing agricultural activity." Where disagreement occurs (and in some cases, this has been the subject of court cases) is in the common understanding of “routine and ongoing agricultural activity."

California Environmental Quality Act

The CEQA Guidelines require a review of projects to determine their environmental effects and identify mitigation measures to reduce impacts to a less than significant level. The Guidelines state that an effect may be significant if it affects rare and endangered species. Section 15380 of the Guidelines defines rare to include listed species and allows agencies to consider rare species other than those designated as State or Federal threatened or endangered but that meet the standards for rare under the Federal or State endangered species acts. On this basis, plants

designated as rare by non-regulatory organizations (e.g., California Native Plant Society), species of special concern as defined by CDFW, candidate species as defined by USFWS, and other designations need to be considered in CEQA analyses.

Physical Resources

Topography and Drainage

The Project Site lies within the San Joaquin Valley and is nearly level. In 1923 the topography of the site was at roughly an elevation of 130 mean sea level. The topography has remained relatively unchanged, but the site has been leveled for agricultural use. Historically, an agricultural ditch (Poplar Ditch) crossed through the southwest corner of the Project Site. The Tule River forms the northern boundary of the Project site.

Soils

The site comprises eight soil types, as shown in Table 4-10. The soils are primarily sandy loam, loam, and silt sand, and these soils are generally well-drained. The riverwash soils within the Tule River are hydric, and two other soil types are partially hydric, which means there is a higher potential for wetland formation within these soils. The pits appear to be excavated features that have been filled in. The predominant soil type, Nord fine sandy loam, is located on the west end of the Project Site, along S. Westwood Street.

Table 4-10 Soil Types Within the Project Site

Soil Type	Classified as Hydric?	% of Project Site
Nord fine sandy loam, 0 to 2 percent slopes	No	125.2
Tujunga sand	No	73.4
San Emigdio loam	No	50.3
Yettem sandy loam, 0 to 2 percent slopes	No	41.5
Pits	No	25.9
Tagus loam, 0 to 2 percent slopes	Partially	25.4
Tujunga loamy sand, 0 to 2 percent slopes	Partially	23.2
Riverwash	Yes	39.3

Land Use

The Project Site is in a historically rural, agricultural area of Tulare County. The Project Site is located immediately west of the urbanized area of Porterville. The Project Site is composed of crops and a few rural residences. The cropping pattern has been relatively unchanged since the 1990s, and no lands have been taken out of production since then. The area north of the Project Site has become more densely populated, but the lands south of the Project Site have remained relatively unchanged.

Habitat

There are several California habitat classification systems. Most classification systems describe natural communities without established developed or agricultural habitat classifications. CalVeg is a USDA Forest Service product providing a comprehensive spatial dataset of existing vegetation cover over California. The data were created using a combination of automated systematic procedures, remote sensing classification, photo editing, and field-based observations. Analyses are based "on a crosswalk of the CalVeg classifications to the California Wildlife Habitat Relationships (CWHR)."

Figure 4-3 shows the areas included within the survey boundary and depicts the habitat types in the Project Site. The Project Site has been in agricultural production (orchards and row crops) for at least 50 years, if not longer. CalVeg includes a dataset that shows fallow agricultural land in the San Joaquin Valley by year. From 2011 to 2016, some fallow agricultural land was within the Project Site. The fallow agricultural land was on the west side and in the area shown as "ruderal" in Figure 4-3. CalVeg also shows portions of the Project Site as Prime Farmland. The agricultural habitat provides some wildlife habitat but is subject to frequent habitat disturbance. There are nest trees throughout the agricultural lands.

Other habitats within the Project Site include the riparian habitat along the Tulare River (Figure 4-3Figure 4-3). This habitat supports mature trees (including sycamore), shrubs, and ground cover. The riparian habitat provides important nesting and breeding habitat for wildlife and a vital movement corridor through the region.

There is also an area of ruderal habitat on the eastern side of the Project Site that is composed of non-native grasses surrounding a farm/ranch home and buildings. Additional ruderal habitat surrounds other residential homes and along the surrounding roadways. Ruderal habitat provides some wildlife habitat but is subject to more frequent human disturbance.

Figure 4-3 Habitat Map

Waters/Wetland

According to the National Wetland Inventory Map (Figure 4-4), an emergent wetland and a forested shrub wetland are located near the center of the Project Site within an agricultural field. The emergent wetland and forested shrub wetland have been put into agricultural production since approximately 2007. Prior to that, the wetlands were within an area that appears to be used for pastureland. Agricultural production does not always remove a wetland feature, depending on the remaining crops, plowing technique, and topography. The feature appears to be a topographic depression that may have historically been part of a former tributary to the Tule River. The NWI mapping cannot be used to verify that a wetland is still present but only indicates that a wetland was historically present. A formal wetland delineation would need to be performed to confirm whether a wetland is still present. A formal wetland delineation involves evaluating the plant community, subsurface soils, and hydrology.

The NWI maps also show that the area along the Tule River is mapped as riverine wetland habitat, which supports the river, adjacent wetlands, and riparian habitat.

Special Status Species

The California Natural Diversity Database (CNDDB) and the USFWS IPaC databases were queried to determine which special status species could be present within the Project Site. The database query is summarized in Table 4-11. No critical habitat exists for any species within or near the Project Site. The U.S. Fish and Wildlife Service IPaC list includes numerous migratory birds for the region, including Beldings savannah sparrow, California gull, common yellowthroat, and Nuttal's woodpecker. These strictly migratory species are not included in Table 4-11 but should be considered during future biological evaluations. The CNDDB Bios mapping is shown in Figure 4-5. The BIOs maps show the location of known records of special status species near the Project Site.

As described in Table 4-11, several species could occur within the Project Site based on habitat conditions. The species potentially present include the following:

- *Swainson's hawk (Buteo swainsoni)- nests in mature trees near suitable prey bases. It may occur within mature trees within the Project Site.*
- *San Joaquin kit fox (Vulpes macrotis mutica)- highly mobile species. Dens and forages in a wide range of habitats.*
- *American badger (Taxidea taxus)- occurs in various habitats (cropland, grassland, etc.)*
- *Northern California legless lizard (Anniella pulchra) – occurs in moist sandy soils and may occur within the riparian area or any seasonal wetland.*
- *Vernal pool fairy shrimp (Branchinecta lynchi)- occurs in seasonal wetland habitats.*
- *San Joaquin adobe sunburst (Psuedobahia peirsonii)- plant species found in grasslands and other habitats (including ruderal or non-native grasslands).*

The Project Site supports riparian, potential wetlands, ruderal/non-native grassland, and cropland. These habitats could support these species if other habitat conditions are intact. For example, the San Joaquin kit fox could forage on the site if there is a suitable prey base and denning habitat, as could the American badger. Future projects within the Project Site would need to evaluate each parcel to determine whether species are present based on individual parcel habitat conditions.

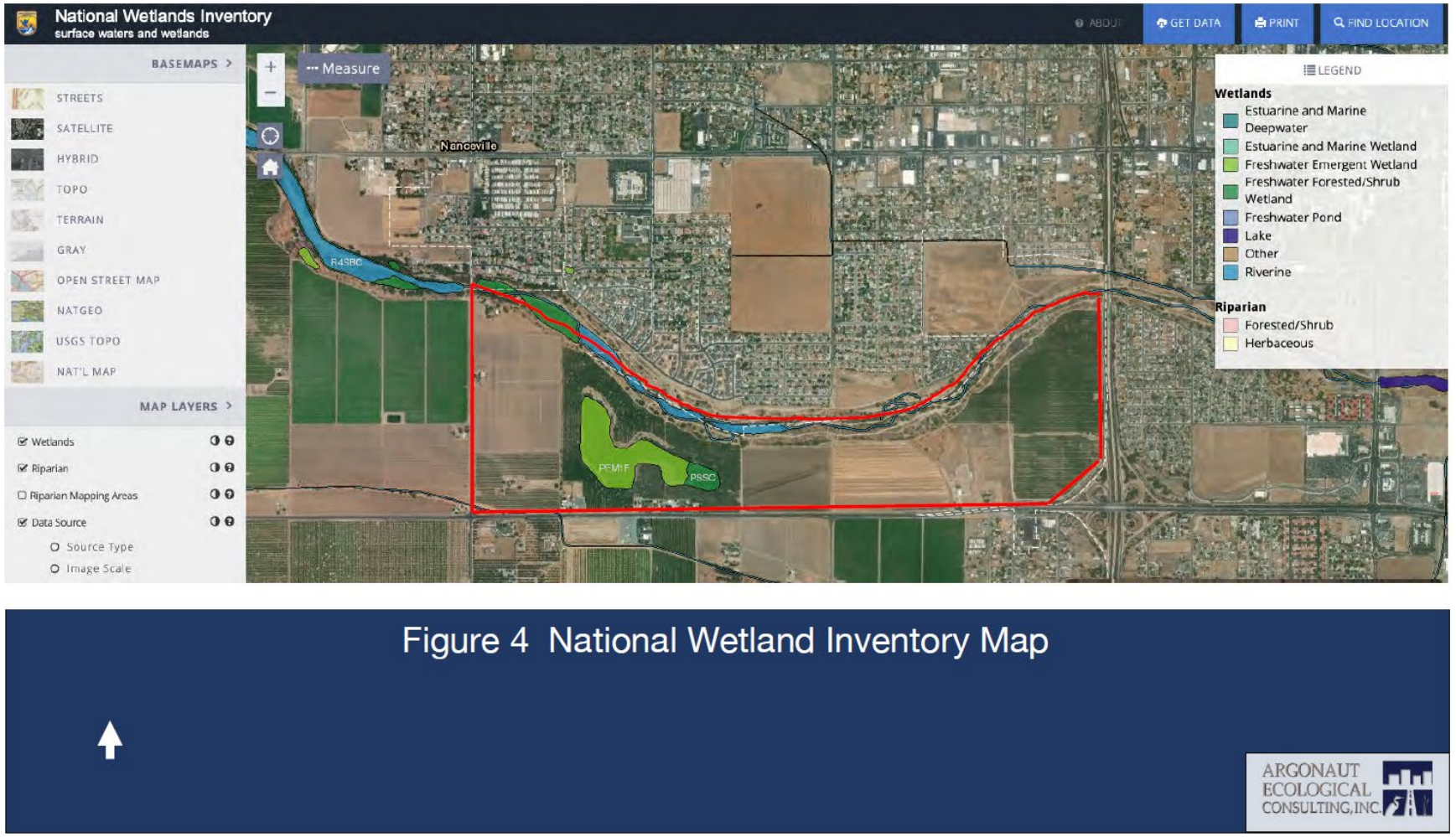

Figure 4-4 National Wetland Inventory Map

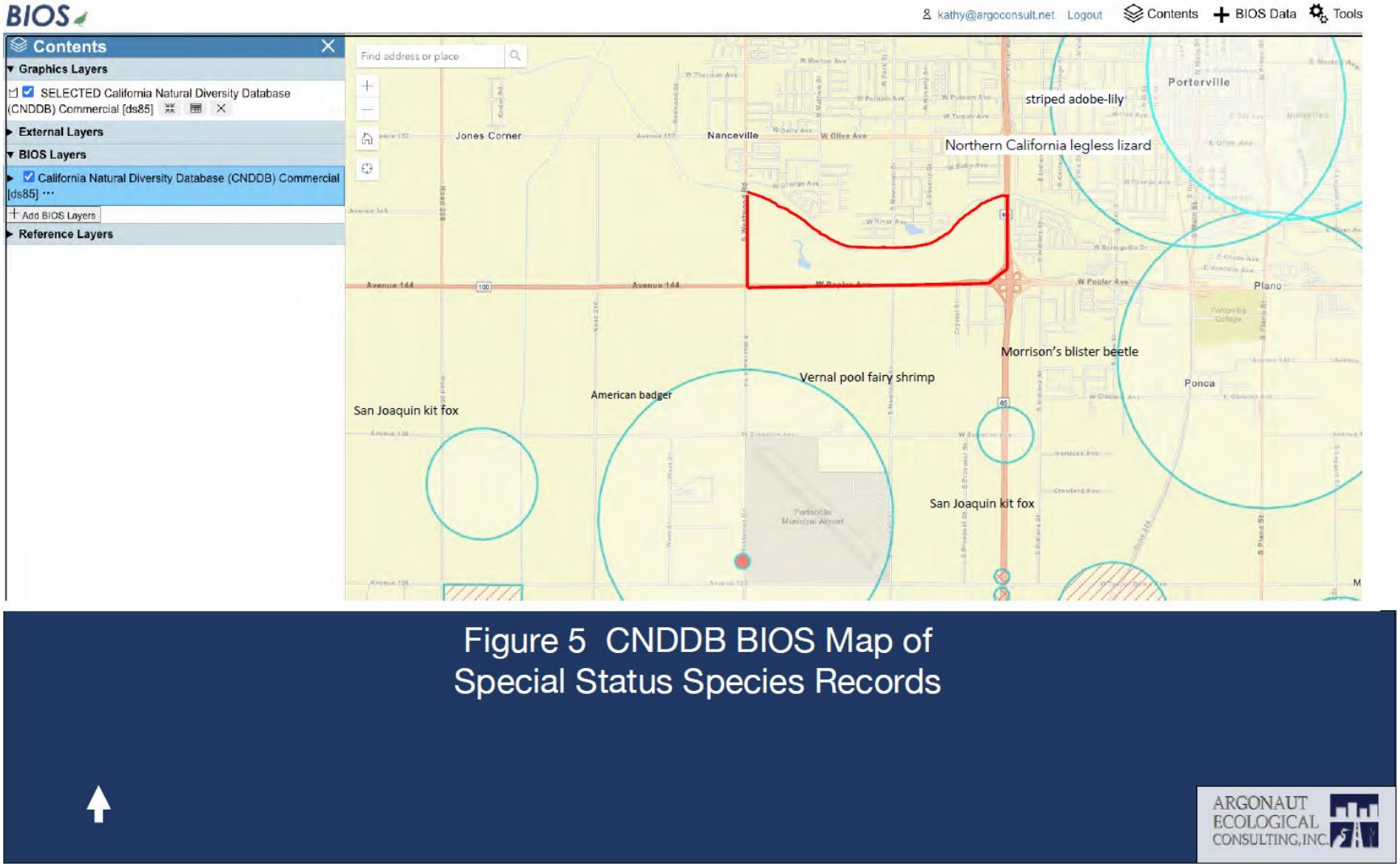

Figure 4-5 CNDDB BIOS Map of Special Status Species Records

Table 4-11 Summary of Special Status Species, Potential Occurrence, and Impact within the SoTu Project Site

Common Name	Scientific Name	Status[1]	Effects[2]	Occurrence in the Project Site [3]
Birds				
Swainson's hawk	*Buteo swainsoni*	--/CT	ME	**Potentially Present.** Nests in mature trees. Suitable nest trees within the Project Site, especially along the riparian corridor. May occasionally forage within the area.
Mammals				
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	FE/--	NE	**Absent.** Grassland and alkali desert scrub habitat. Suitable habitat is not present.
San Joaquin kit fox	*Vulpes macrotis mutica*	FE/CT	ME	**Potentially Present.** Could occasionally forage on the site if the species is in the area. Nomadic species that require underground denning habitat. The CNDDB habitat prediction model shows potentially suitable habitats within the Porterville area and the Project Site. Four records for species occurrence are identified in the CNDDB from the 1970s-1980s and include denning habitat.
Buena Vista Lake ornate shrew	*Sorex ornatus relictus*	FE/--	NE	**Absent.** Requires moist soils and dense vegetative cover below an elevation of 350 msl near the Tulare Basin. Project Site at an elevation above 400 and not near the Tulare Basin.
American badger	*Taxidea taxus*	--/--	ME	**Potentially Present.** Species occur in a variety of habitats and dig underground burrows.
Amphibians, Reptiles, and Invertebrates				
Northern California legless lizard	*Anniella pulchra*	--/--	ME	**Potentially Present.** A small, slender lizard with no legs, eyelids, a shovel-shaped snout, smooth, shiny scales, and a blunt tail. Lives mostly underground, burrowing in loose, moist sandy soil in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Available records in Porterville are from 1939 and 1940. The CNDDB habitat prediction model shows some potential habitat within the Project Site (in the emergent/forested wetland in the center of the site). Other predicted habitat

				occurs along Deer Creek to the southeast and immediately north of the Tule River below Lake Success.
Blunt-nosed leopard lizard	*Gambelia silus*	FE/CE	NE	**Absent.** Occurs in non-cultivated land in sparsely vegetated alkali and desert scrub habitats. Suitable habitat is not present.
Morrison's blister beetle	*Lytta orrisoni*	--/CE	NE	**Likely Absent.** Occurs in Valley and Foothill grasslands. One occurrence within Tulare County, near Plano, was in 1939.
Crotch bumble bee	*Bombus cortchii*	FC/--	NE	**Absent.** One record within the region from 1959-1963, and the exact location is unknown.
Monarch butterfly	*Danaus plexippus*	FC/--	NE	**Likely Absent.** Species cover a widespread region and wherever suitable feeding, breeding, and overwintering habitat exists. Monarchs feed exclusively on milkweed leaves and wildflowers in the genus Asclepia. It is unknown if this species occurs within the Project Site but given the amount of planted land within the Project Site, it is unlikely the species is present.
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT/--	ME	**Potentially Present.** Occurs in vernal pools and seasonal wetlands. The species could be present if there is emergent wetland habitat within the Project Site.
Plants				
Springville clarkia	*Clarkia springvillensis*	-T/-- 1B.2	NE	**Absent.** Found in Chaparral, Cismontane woodland Valley & foothill grassland. One record northeast of Porterville near the Lewis Hill preserve. Suitable habitats are likely, not present within the Project Site because of the extensive agricultural areas.
Striped adobe-lily	*Frittillaria strriata*	--/CT	NE	**Absent.** Occurs only within heavy adobe clay soils. Only one occurrence record from 1927. The Project Site does not support adobe clay soils.
San Joaquin adobe sunburst	*Psuedobahia peirsonii*	FT/CE	ME	**Likely Absent.** Occurs within cismontane and foothill grasslands. Project Site has large tracks of cultivated land and some ruderal habitat. The likelihood of presence is low but cannot be ruled out without additional surveys.

[1] **Status= Listing of special status species, unless otherwise indicated**

CE: California listed as Endangered
CT: California listed as Threatened
SSC: California Species of Special Concern
FE: Federally listed as Endangered
FT: Federally listed as Threatened
1B.1, 1B.2, 2B.2, 2B.3: California Native Plant Society Ranking

Source: *CNDDB = California Natural Diversity Database provided by CDFG and U.S. Fish and Wildlife Service, Information for Planning and Consultation. (IPaC). Accessed online April 23, 2023.*

[2] Effects = Effect determination

NE: No Effect

ME: May Effect, not likely to adversely effect

[3] Definition of Occurrence Indicators:

Present/Potentially: Species recorded in the area and some habitat elements in the Project Site similar to known occurrences.

Absent/Likely Absent: Species not recorded in Project Site and/or suitable habitat or critical habitat components not present.

Recommendations

The following measures are recommended before approval of any development within the Project Site.

- *Conduct parcel species biological evaluation(s) to determine the project-specific impacts. The evaluation(s) may require foot surveys and detailed habitat mapping, wetland delineation, special status plant survey(s), and protocol-level surveys for species of concern.*
- *Incorporate avoidance and minimization measures to protect species of concern and common wildlife as part of the Master Plan design. These design features may include the creation of a buffer zone to protect the riparian habitat from urban development, tree preservation, clustered development, and establishing wildlife movement corridors through the Project Site.*
- *Incorporate avoidance and minimization measures in conditions of approval for construction. Such measures may include but are not limited to, pre-construction surveys, construction crew environmental awareness training, biological monitoring during construction (if needed), the inclusion of avoidance and minimization measures for San Joaquin kit fox following the USFWS Standard Recommendations for the Protection of the San Joaquin kit fox prior to or during ground disturbance (USFWS 2011).*

SoTu Master Plan

The proposed SoTu Master Plan designates land use within the floodplain of the Tule River as Open Space. This area is generally consistent with existing riparian habitat as delineated in Figure 4-3. As such, the designated land use creates a buffer zone to protect the riparian habitat from urban development, tree preservation, clustered development, and establishes wildlife movement corridors through the Project Site, as recommended in the Biological Assessment Report. In addition, the Master Plan also includes goals and policies to conserve and minimize impacts to the natural environment and wildlife habitat as listed below.

1. *Identify critical areas, such as wetlands and wildlife habitats, and develop zoning regulations that restrict development in said areas.*
2. *Require additional biological assessment for any development proposed in sensitive areas, including the emergent wetlands and forested shrub wetlands.*
3. *Prior to any tree removal, require additional biological assessment to ensure that trees*
4. *Incorporate avoidance and minimization measures (AMM) to protect species of concern and common wildlife.*
    a. *AMMs shall include:*
        i. *For Wildlife: creating a buffer zone to protect the riparian habitat from urban development, tree preservation, clustered development, and establishing movement corridors through the Project Site.*

ii. For construction: require pre-construction surveys, construction crew environmental awareness training, biological monitoring during construction, and requiring USFWA Standard Recommendations for the Protection of the San Joaquin Kit Fox prior to ground disturbance. These Master Plan policies have also been incorporated into *Mitigation Measures BIO-1 – BIO-5*.

Porterville Municipal Code

The Porterville Municipal Code (PMC) establishes regulations for the removal of trees, plants, and shrubs, as described below.

Section 7-48: REMOVAL OF TREES; NOTICE REQUIRED: *In the event that the moving of any building for which a permit shall have been granted pursuant to this article makes it necessary to trim, move, remove or replant any tree, plant or shrub belonging to or under the control of the city, the person to whom such permit has been granted, or his authorized representative, shall notify the director of parks and leisure services at least forty eight (48) hours prior to the time that the moving of such building will necessitate the removal of such obstructions.*

Section 7-49: REMOVAL OF TREES; AUTHORIZATION: *The person to whom such permit is granted as required in this article for the removal of buildings shall not, at the expiration of such time of notice or at any time, trim, move, remove, replant or otherwise disturb such trees, plants or shrubs; and such work shall be done only by the authorized workmen of the city unless otherwise approved and so ordered by the director of parks and leisure services.*

Section 7-50: REMOVAL OF TREES; PAYMENT OF COSTS: *The person to whom such permit is granted as required in this article for the removal of buildings shall pay to the city any and all costs or expense for the trimming, moving, removing or replanting of any trees, plants or shrubs or of any damage thereto.*

4.4.2 Impact Assessment

Would the project:

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

Less than Significant with Mitigation Incorporated. The majority of the Project Site has historically been used for agricultural crops (orchards and row crops) continuously for at least the last 50 years. The existing biotic conditions and resources of the site can be defined as agricultural (orchards and row crops), ruderal/non-native, and riparian habitats. There are nest trees throughout the agricultural lands. According to the NWI, an emergent wetland and a forested shrub wetland are located near the center of the Project site within an agricultural field.

According to USFWS IPaC databases, there are numerous migratory birds for the region, including Beldings savannah sparrow, California gull, common yellowthroat, and Nuttal's woodpecker. It is recommended in the biological assessment that these migratory species be considered during future biological evaluations.

The CNDDB database shows the location of known records of special status species near the Project site. As analyzed in Table 4-11, several species could occur within the Project Site based on habitat conditions. The species potentially present include the following:

- *Swainson's hawk (Buteo swainsoni)- nests in mature trees near suitable prey bases. It may occur within mature trees within the Project Site.*
- *San Joaquin kit fox (Vulpes macrotis mutica)- highly mobile species. Dens and forages in a wide range of habitats.*
- *American badger (Taxidea taxus)- occurs in various habitats (cropland, grassland, etc.)*

- *Northern California legless lizard (Anniella pulchra) – occurs in moist sandy soils and may occur within the riparian area or any seasonal wetland.*
- *Vernal pool fairy shrimp (Branchinecta lynchi)- occurs in seasonal wetland habitats.*
- *San Joaquin adobe sunburst (Psuedobahia peirsonii)- plant species found in grasslands and other habitats (including ruderal or non-native grasslands).*

Since there is no development proposed at this time, it is recommended that further biological evaluations and subsequent specific avoidance and minimization measures are incorporated before approval of any development within the Project site. As such, future development within the Project site should incorporate ***Mitigation Measures BIO-1*** through ***BIO-4*** to avoid or minimize adverse effect on raptors/migratory birds and special status species that are potentially present.

Mitigation Measure BIO-1: Special-Status Species Surveys and Avoidance. *The Project shall implement the following measures to avoid and minimize for impacts on special-status species due to construction activities.*

- ***Pre-Construction Surveys.*** *The Project shall conduct parcel species biological evaluation(s) to determine the project-specific impacts. The evaluation(s) may require foot surveys and detailed habitat mapping, wetland delineation, special status plant survey(s), and protocol-level surveys for species of concern, including American badger, Northern California legless lizard, Vernal pool fairy shrimp, and San Joaquin adobe sunburst.*
- ***Environmental Awareness Training.*** *A qualified biologist shall conduct tailgate meeting to train construction staff on special status species that occur/may occur on the project site.*
- ***Biological Monitoring During Construction:*** *In case of the accidental death or injury of a special-status species during construction-related activities, USFWS and CDFW will be contacted immediately by phone and notified in writing within three working days.*

Mitigation Measure BIO-2: Nesting Bird Surveys and Avoidance. *The Project shall implement the following measures to mitigate for loss of nesting habitat of the Project in compliance with the federal Migratory Bird Treaty Act and relevant Fish and Game Codes:*

- ***Avoidance.*** *In order to avoid impacts to nesting raptors and migratory birds, the Project will be constructed, if feasible, from September 16th and January 31st, which is outside the avian nesting season.*
- ***Preconstruction Surveys.*** *If Project activities must occur during the nesting season (February 1-September 15), a qualified biologist will conduct preconstruction surveys for active raptor and migratory bird nests within 10 days prior to the start of these activities. The qualified biologist will conduct pre-construction surveys per the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (2000). The survey will include the proposed work area(s) and surrounding lands within 500 feet, where accessible, for all nesting raptors and migratory birds. If no active nests are found within the survey area, no further mitigation is required.*
- ***Establish Buffers.*** *Should any active nests be discovered near proposed work areas, no disturbance buffers of 250 feet around active nests of non-listed bird species and 500 feet around active nests of non-listed raptors will be established. If work needs to occur within these no disturbance buffers, a qualified biologist will monitor the nest daily for one week, and thereafter once a week, throughout the duration of construction activity. Should the nature of construction activity significantly change, such that a higher level*

of disturbance will be generated, monitoring will occur daily for one week and then resume the once-a-week regime. If, at any time, the biologist determines that construction activity may be compromising nesting success, construction activity within the designated buffer will be altered or suspended until the biologist determines that the nest site is no longer susceptible to deleterious disturbance.

Mitigation Measure BIO-3: Swainson's Hawk Surveys and Avoidance. If Project activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction surveys shall be conducted for Swainson's hawk nests in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, Swainson's Hawk Technical Advisory Committee (CDFG, 2000). The surveys would be conducted on the Project site plus a 0.5-mile buffer. To meet the minimum level of protection for the species, surveys shall be conducted during at least two survey periods.

1. *If no Swainson's hawk nests are found, no further action is required.*
2. *If an active Swainson's hawk nest is discovered at any time within 0.5 miles of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest, but this distance may be reduced depending upon conditions at the site. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist.*

Mitigation Measure BIO-4: San Joaquin Kit Fox Surveys and Avoidance. Pre-construction surveys shall be conducted by a qualified biologist within 10 days prior to the start of any construction activities. Qualified biologist shall conduct pre-construction surveys in accordance with USFWS Standard Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (2011).

1. *If no active or potential den is detected in or adjacent to work area during the survey, no further action is required.*
2. *If active or potential den is detected in or adjacent to work area during the pre-construction survey, the den shall not be disturbed or destroyed. Compliance with USFWS Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (2011) required. USFW and CDFW will be immediately contacted to determine best course of action. Construction activities shall be carried out in a manner that minimizes disturbance to kit foxes.*
3. *In case of the accidental death or injury of a San Joaquin kit fox during construction-related activities, USFWS and CDFW will be contacted immediately by phone and notified in writing within three working days.*

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

Less than Significant Impact. According to the Biological Assessment Report, The Project site supports riparian, potential wetlands, ruderal/non-native grassland, and cropland, as delineated in Figure 4-3. The proposed SoTu Master Plan designates land use within the floodplain of the Tule River as Open Space. This area is generally consistent with existing riparian habitat as delineated in Figure 4-3. As such, the designated land use creates a buffer zone to protect the riparian habitat from urban development, tree preservation, clustered development, and establishes wildlife movement corridors through the Project Site. As such, the Project would have a less than significant impact on riparian habitat within the Project site.

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?

Less than Significant with Mitigation Incorporated. According to the NWI, an emergent wetland and a forested shrub wetland are located near the center of the Project site within an agricultural field (see Figure 4-4). The emergent wetland and forested shrub wetland have been put into agricultural production since approximately 2007. Prior to that, the wetlands were within an area that appears to be used for pastureland. Agricultural production does not always remove a wetland feature, depending on the remaining crops, plowing technique, and topography. The feature appears to be a topographic depression that may have historically been part of a former tributary to the Tule River. The NWI mapping cannot be used to verify that a wetland is still present but only indicates that a wetland was historically present. As such, Mitigation Measure BIO-5 incorporates a formal wetland delineation to confirm whether a wetland is still present. A formal wetland delineation involves evaluating the plant community, subsurface soils, and hydrology.

Mitigation Measure BIO-5: Wetland Delineation. Prior to the start of ground disturbance activities on APN 256-040-044, the applicant shall consult with the California Department of Fish and Wildlife (CDFW) and/or the U.S. Department of Fish and Wildlife Service (USFWS) to conduct a formal Wetland Delineation.

The NWI maps also show the area along the Tule River as freshwater forested shrub wetland and riverine wetland, which supports the river, adjacent wetlands, and riparian habitat. As discussed in criteria b), the Master Plan designates the riparian habitat area along the Tule River as Open Space land use to protect the riparian habitat from urban development, tree preservation, clustered development, and establishes wildlife movement corridors through the Project Site. As such, the NWI-identified wetlands along Tule River would have a less than significant impact from future development of the proposed Project.

Overall, the Project would have a less than significant impact with the incorporation of *Mitigation Measure BIO-5*.

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?

Less than Significant Impact. Wildlife movement corridors are linear habitats that function to connect two (2) or more areas of significant wildlife habitat. These corridors may function on a local level as links between small habitat patches (e.g., streams in urban settings) or may provide critical connections between regionally significant habitats (e.g., deer movement corridors). Wildlife corridors typically include vegetation and topography that facilitate the movements of wild animals from one area of suitable habitat to another, in order to fulfill foraging, breeding, and territorial needs. These corridors often provide cover and protection from predators that may be lacking in

surrounding habitats. Wildlife corridors generally include riparian zones and similar linear expanses of contiguous habitat.

According to the biological assessment, the riparian habitat along the Tulare River provides important nesting and breeding habitat for wildlife and a vital movement corridor through the region. As discussed in criteria b), the Master Plan designates the riparian habitat area along the Tule River as Open Space land use to protect the riparian habitat from urban development, tree preservation, clustered development, and establishes wildlife movement corridors through the Project Site. As such, the Project would have a less than significant impact on interfering with the movement of wildlife.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. PMC *Section 7-48*, *Section 7-49*, and *Section 7-50* establishes standards and regulations related to the noticing, authorization, and removal of any tree, plant, or shrub in the City of Porterville. Trimming, moving, removing, and replanting of existing trees on the Project site would be subject to compliance with these standards and regulations during the city's permitting process. There are no other local policies or ordinances that protect biological resources applicable to the Project. Through compliance, the Project would have no impact.

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?

Less than Significant Impact. There are three (3) habitat conservation plans in Tulare County, including Kern Water Habitat Conservation Plan, Recovery Plan for Upland Species in the San Joaquin Valley (Recovery Plan) [5], and PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (HCP) [6]. The Kern Water Habitat Conservation Plan does not include the Project site.

The Recovery Plan covers 34 species of plants and animals that occur in the San Joaquin Valley of California, including five (5) endangered plants (California jewelflower, palmate-bracted bird's-beak, Kern mallow, San Joaquin woolly-threads, and Bakersfield cactus), one (1) threatened plant (Hoover's woolly-star), five (5) endangered animals (giant kangaroo rat, Fresno kangaroo rat, Tipton kangaroo rat, blunt-nosed leopard lizard, and San Joaquin kit fox) and , 23 candidates or species of concern are addressed. According to the Recovery Plan, the majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. As described in the Biological Assessment Report, the Master Plan designates the riparian habitat area along the Tule River as Open Space land use to protect the riparian habitat from urban development, tree preservation, clustered development, and establishes wildlife movement corridors through the Project Site. In addition, ***Mitigation Measures BIO-1*** through ***BIO-5*** are incorporated to avoid or minimize adverse effects on special status species that are potentially present.

[5] U.S. Fish and Wildlife Service. (1998). Recovery Plan for Upland Species of the San Joaquin Valley, California. Accessed on July 6, 2023, https://esrp.csustan.edu/publications/recoveryplan.php

[6] PG&E. PG&E's Operations and Maintenance (O&M) Habitat Conservation Plans (HCPs). Accessed on July 6, 2023, https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/promoting-stewardship/habitat-conservation-plan.page

The HCP covers PG&E's routine operations and maintenance activities and minor new construction, on any PG&E gas and electrical transmission and distribution facilities, easements, private access routes, or lands owned by PG&E. The Project would not conflict or interfere with HCP. The City, County, and Regional Planning Agency do not have any other adopted or approved plans for habitat or natural community conservation. For these reasons, the Project would have a less than significant impact.

4.4.3 Mitigation Measures

The Project shall implement and incorporate, as applicable, the Biological Resources related mitigation measures as identified above and in the MITIGATION MONITORING AND REPORTING PROGRAM contained in SECTION 5.

4.5 CULTURAL RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource as defined in *Section 15064.5*?		X		
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to *Section 15064.5*?		X		
c)	Disturb any human remains, including those interred outside of formal cemeteries?			X	

4.5.1 Environmental Setting

A Cultural Resource Overview of the Project site was conducted on July 26, 2023, by Peak & Associates, Inc. The full report is provided in Appendix C. The Cultural Resource Overview report is summarized and incorporated in the analysis below.

Regulatory Context

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code *sections 21083.2* and *21084.1* and *sections 15064.5* and *15126.4 (b)* of the CEQA Guidelines). CEQA *Section 15064.5* requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. Public Resources Code *Section 21098.1* further cites: A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

An "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant (Public Resources Code *Section 5020.1*).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR), CEQA and Archaeological Resources, 1994. The technical advice series produced by OPR recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code *Section 7050.5*, California Public Resources Codes *Sections 5097.94 et al*).

Soils Research

The Project site contains a mosaic of approximately a dozen soil series that are all derived from alluvial and deposited relatively recently. The period of deposition overlaps with prehistoric period occupation in the region so

that the potential for encountering buried prehistoric period deposits is thought to be generally "very high" for the overall Project site (Rosenthal and Meyer 2004).

CHRIS Record Search

A record search was conducted for the project area at the Southern San Joaquin Valley Archaeological Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS) on June 26, 2023. There is one (1) recorded site partially in the Project Site: P-54-002208, the Poplar Ditch. This ditch is still in use, and a previous recorder of a segment of the ditch believes this structure is eligible for the California Register of Historical Resources.

There are no other resources recorded within one-quarter mile of the Project site. Seven surveys have been undertaken within the Project site; thirteen (13) other surveys have been undertaken within one quarter mile of the Project site.

Map Research

The earliest map of the area by the General Land Office in 1855 is a plat for Township 21 South Range 27 East showing the layout of the land sections in the area, is difficult to coordinate with modern maps, showing part of the route of the Tule River in section 33 is a dry ravine. No buildings appear on the Project site on this map.

There are several other County maps dating to the early years (1867, 1876, 1883, 1884, 1901) but the small scale (3 miles:1 inch or 2 miles:1 inch), river course changes and lack of detail such as building locations make them difficult to use. The 1892 map by Thomas Thompson provides one (1) building location in the Project site as well as land ownership.

There are four (4) older Porterville USGS topographic maps with the potential to identify locations of buildings and structures over fifty years in age: 1929, 1942, 1951 and 1969. Two (2) buildings are mapped on the 1929 maps are no longer extant today. In 1942, an additional five (5) buildings were present, now no longer extant. Two (2) other buildings appear first on the 1951 map; and are still present on recent maps.

Summary of Existing Resources and Recommendations

Prehistoric Period Resources

The course of the Tule River has changed over time, but the presence of alluvial soils suggests that sites may have been present along the river in the past and been buried during flood events. Archeological field surveys in advance are important, and it may be appropriate to monitor construction in parts of the plan area near the river course. Local Native American groups should be consulted about their concerns with the future projects.

Historic Period Resources

There is only one (1) recorded site in the Project site, the Poplar Ditch, thought to be important under the criteria of the California Register. Older maps show locations of older houses. For the former locations, there may be archeological values associated with the use and occupancy of these sites. A field survey should be a necessary first step before any plans for development are finalized for the Project site. Flooding and the movement of the Tule River may have buried other historic period resources. Should historic period artifacts, deposits or building remnants, research will be greatly aided by the historical maps with identification of ownership.

California Native American Heritage Commission (NAHC)

A consultation list of tribes with traditional lands or cultural places located within Tulare County was requested and received from the California Native American Heritage Commission (NAHC) on April 27, 2023. The listed tribes include Big Sandy Rancheria of Western Mono Indians, Tule River Indian Tribe, and Wuksache Indian Tribe/Eshom Valley Band. The NAHC also conducted a Sacred Lands File (SFL) check which received negative results. Correspondence is provided in Appendix D.

AB 52 and SB 18 Tribal Consultation

The City of Porterville conducted formal tribal consultation pursuant to AB 52 (Chapter 532, Statutes 2014) and SB 18 (Chapter 905, Statutes 2004) on March 31, 2023, utilizing the consultation list of tribes received from the City of Porterville in correlation with the list of tribes received from NAHC. All five tribes listed above were included in the formal consultation. Consultation for AB 52 and SB 18 ended on June 29, 2023. On April 27, 2023, a representative of the Tule River Tribe expressed interest in continued consultation pursuant to SB18. Although the tribal representative did not have knowledge of specific cultural resources or sites within the Project Site, they did request the results of the any record searches and cultural resource surveys; both the results from the SLF search and the cultural resource report have been provided to the tribe as requested.

City of Porterville General Plan

The Porterville General Plan Open Space & Conservation Element identifies the following policies related to historic, archeological, and paleontological resources. There are three (3) National Historic Register resources, including Zalud House, U.S. Post Office - Porterville Main, and First Congregational Church, and two (2) State Historic Register resource, including Tule River Stage Station and First Tule River Reservation. None of the resources are within or adjacent to the Project site. The General Plan established policies to protect these cultural resources, as listed below.

Guiding Policy OSC-G-11 *Identify and protect archaeological, paleontological, and historic resources.*

> ***Implementing Policy OSC-I-71*** *Update the City's inventory of historic resources to determine sites or buildings of federal, State, or local historic significance.*
>
> ***Implementing Policy OSC-I-72*** *Develop an agreement with Native American representatives for consultation in the cases where new development may result in disturbance to Native American sites.*
>
> ***Implementing Policy OSC-I-73*** *Require that new development analyze and avoid any potential impacts to archaeological, paleontological, and historic resources by:*
>
> - *Requiring a records review for development proposed in areas that are considered archaeologically sensitive, including hillsides and near the Tule River;*
> - *Studying the potential effects of development and construction (as required by CEQA);*
> - *Developing, where appropriate, mitigation measures to minimize potential impacts; and*
> - *Implementing appropriate measures to avoid the identified impacts.*
>
> *In the event that historical or archaeological resources are accidentally discovered during construction, the City will require that grading activity in the immediate area cease. A qualified archaeologist will then be required to make an immediate evaluation and recommend avoidance measures or appropriate mitigation.*

4.5.2 Impact Assessment

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less than Significant with Mitigation Incorporated. Based on the CHRIS Records Search conducted on June 26, 2023, there is one (1) recorded site partially in the Project site: P-54-002208, the Poplar Ditch. In addition, the Cultural Resource Overview report identified two (2) buildings on the 1951 map that currently exists on the Project site. In order to ensure that the existing structures are not of historical significance at the time of demolition, the Project shall incorporate *Mitigation Measure CUL-1* to mitigate the destruction or alternation of any potential historical structures.

> *Mitigation Measure CUL-1: Prior to permit approval for development on sites with existing buildings and/or structures that are 45 years or older, a historical resources evaluation shall be completed for that individual site to confirm if the existing buildings and/or structures within these sites qualify as historical resources as defined by Section 15064.5(a) of CEQA Guidelines. The evaluation shall be prepared by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualifications Standards (PQS) in architectural history or history. The qualified architectural historian or historian shall conduct an intensive-level evaluation in accordance with the guidelines and best practices promulgated by the State Office of Historic Preservation to identify any potential historical resources within the proposed project area. All properties 45 years of age or older shall be evaluated within their historic context and documented in a report meeting the State Office of Historic Preservation guidelines. All evaluated properties shall be documented on Department of Parks and Recreation Series 523 Forms. The report shall be submitted to the City for review and concurrence.*
>
> *Any relocation, rehabilitation, or alteration of the resource shall be implemented consistent with the Secretary of the Interior's Standards for the Treatments of Historic Properties (Standards). In accordance with CEQA, a project that has been determined to conform with the Standards generally would not cause a significant adverse direct or indirect impact to historical resources (14 CCR Section 15126.4[b][1]). Application of the Standards shall be overseen by a qualified architectural historian or historic architect meeting the PQS. In conjunction with any development application that may affect the historical resource, a report identifying and specifying the treatment of character-defining features and construction activities shall be provided to the City for review and concurrence, in addition to the historical resources evaluation.*
>
> *If significant historical resources are identified on a development site and compliance with the Standards and or avoidance is not feasible, the applicant or developer shall provide a report explaining why compliance with the Standards and or avoidance is not feasible for the city's review and approval. Site-specific mitigation measures shall be established and undertaken, including, but not limited to, documentation of the historical resource in the form of a Historic American Buildings Survey-Like report. The report shall be commissioned by the project applicant or their consultant to comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation and shall generally follow the Historic American Buildings Survey Level III requirements, including digital photographic recordation, detailed historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified architectural*

historian or historian who meets the PQS and submitted to the City prior to issuance of any permits for demolition or alteration of the historical resource.

The Cultural Resource Overview report also recognized that the flooding and movement of the Tule River over a long period of time could result in buried historic period resources. The soils research assessed a "very high" potential that prehistoric period resources are buried due to the period of deposition that overlaps with the prehistoric period occupation in the region. As such, there is a high possibility that hidden and buried resources may exist with no surface evidence that may be impacted by future physical development of the site. While the Project does not propose development, future redevelopment may include typical construction activities such as demolition of existing buildings, grading, trenching, excavation, etc. In the event of the accidental discovery and recognition of previously unknown historical resources before or during construction activities, the Project shall also incorporate ***Mitigation Measure CUL-2*** to assure construction activities do not result in significant impacts to any potential historical resources discovered below ground surface. Thus, if such resources were discovered, implementation of the required mitigation measures would reduce the impact to less than significant. As a result, the Project would have a less than significant impact with mitigation incorporated.

Mitigation Measure CUL-2: *In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Project:*

a. Cultural Resources Alert on Project Plans. The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.

b. Stop Work Near any Discovered Cultural Resources. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 50 feet of the resources, and City of Porterville shall be notified immediately. The project archaeologist meeting the SOI's PQS for archeology shall immediately evaluate the find pursuant to Public Resources Code Section 21083.2.

c. Mitigation for Discovered Cultural Resources. If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. If the archaeologist and, if applicable, a Native American monitor or other interested tribal representative determine it is appropriate, cultural materials collected from the site shall be processed and analyzed in a laboratory according to standard archaeological procedures. The age of the materials shall be determined using radiocarbon dating and/or other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the site(s) shall be evaluated according to the criteria of the CRHR and if applicable, NRHP. The results of the investigations shall be presented in a technical report following the standards of the California Office of Historic Preservation publication "Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)." Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the City of Salinas. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center

(SSJVIC). The resources shall be photo documented and collected by the archaeologist for submittal to the City of Porterville. The archaeologist shall be required to submit to the City of Porterville for review and approval a report of the findings and method of curation or protection of the resources. This report shall be submitted to the SSJVIC after completion. Recommendations contained therein shall be implemented throughout the remainder of ground disturbance activities. Further grading or sitework within the area of discovery shall not be allowed until the preceding steps have been taken.

d. Data Recovery. Should the results of item c. yield resources that meet CRHR significance standards and if the resource cannot be avoided by project construction, the project applicant shall ensure that all feasible recommendations for mitigation of archaeological impacts are incorporated into the final design and approved by the City prior to construction. Any necessary data recovery excavation, conducted to exhaust the data potential of significant archaeological sites, shall be carried out by a qualified archaeologist meeting the SOI's PQS for archeology. Data recovery shall be conducted in accordance with a research design reviewed and approved by the City, prepared in advance of fieldwork, and using the appropriate archaeological field and laboratory methods consistent with the California Office of Historic Preservation Planning Bulletin 5, Guidelines for Archaeological Research Design, or the latest edition thereof. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with the City and local California Native American tribe(s). As applicable, the final Data Recovery reports shall be submitted to the City prior to issuance of any grading or construction permit. Recommendations contained therein shall be implemented throughout all ground disturbance activities. Recommendations may include, but would not be limited to, Cultural Resources Monitoring, and/or measures for unanticipated discoveries. The final report shall be submitted to the SSJVIC upon completion.

e. Disposition of Cultural Resources. Upon coordination with the City of Porterville, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

f. Cultural Resources Monitoring. If mitigation measures are recommended by reports written under item c. or d., the project applicant shall retain a qualified archaeologist to monitor project-related, ground-disturbing activities which may include the following but not limited to: grubbing, vegetation removal, trenching, grading, and/or excavations. The archaeological monitor shall coordinate with any Native American monitor as required. Monitoring logs must be completed by the archaeologist daily. Cultural resources monitoring may be reduced for the project if the qualified archaeologist finds it appropriate to reduce the monitoring efforts. Upon completion of ground disturbance for the project, a final report must be submitted to the City for review and approval documenting the monitoring efforts, cultural resources find, and resource disposition. The final report shall be submitted to the SSJVIC.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant Impact with Mitigation Incorporated. Based on the CHRIS Records Search conducted on June 26, 2023, there are no known archeological resources pursuant to *Section 15064.5* on the Project site. While there is no evidence that archeological resources exist on the Project site, there is some possibility that existing structures qualify as historical resources or hidden, and buried resources may exist with no surface evidence that may be impacted by future physical development of the site. In the event of the accidental discovery and recognition of

previously unknown historical resources before or during construction activities, the Project shall incorporate *Mitigation Measure CUL-2* as described under criterion a) to assure construction activities do not result in significant impacts to any potential archeological resources discovered above or below ground surface. Thus, if such resources were discovered, implementation of the required mitigation measures would reduce the impact to less than significant. As a result, the Project would have a less than significant impact with mitigation incorporated.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. There is no evidence that human remains exist on the Project site. Nevertheless, there is some possibility that a non-visible buried site may exist and may be uncovered during ground disturbing construction activities which would constitute a significant impact. If any human remains are discovered during construction, then the Project would be subject to CCR *Section 15064.5(e)*, PRC *Section 5097.98*, and California Health and Safety Code *Section 7050.5*. Regulations contained in these sections address and protect human burial remains. Compliance with these regulations would ensure impacts to human remains, including those interred outside of formal cemeteries are less than significant.

4.5.3 Mitigation Measures

The Project shall implement and incorporate, as applicable, the Cultural Resources related mitigation measures as identified above and in the MITIGATION MONITORING AND REPORTING PROGRAM contained in SECTION 5.

4.6 ENERGY

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

4.6.1 Environmental Setting

Appendix A of the CEQA Guidelines provides guidance in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. According to Appendix A of the CEQA Guidelines, the goal of energy conservation implies the "wise and efficient use" of energy through 1) decreasing overall per capita energy consumption, 2) decreasing reliance on fossil fuels such as coal, natural gas, and oil, and 3) increasing reliance on renewable energy sources.

Per Appendix A, a project would be considered inefficient, wasteful, and unnecessary if it violated existing energy standards, had a negative effect on local and regional energy supplies and requirements for additional capacity, had a negative effect on peak and base period demands for electricity and other energy forms, and effected energy resources. Appendix A includes the following criteria to determine whether a threshold of significance is met:

1. The project energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Building Energy Efficiency Standards – Title 24

California's energy code is designed to reduce wasteful and unnecessary energy consumption in newly constructed and existing buildings. The Building Energy Efficiency Standards (Title 24, Parts 6 and 11 of the California Code of Regulations) are updated by the California Energy Commission every three years. The Standards relate to various energy efficiency measures including but not limited to ventilation, air conditioning, and lighting. The 2022 Building Energy Efficiency Standards became effective in January 2023. The state's "green building code" (i.e., CALGreen) is contained within the Building Energy Efficiency Standards, Title 24, Part 11. The CALGreen standards address

environmental and sustainable practices during building construction including energy efficiency. CALGreen applies to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure and additions and alterations on a statewide basis. Compliance with these energy efficiency regulations and programs reduces wasteful, inefficient, or unnecessary consumption of energy sources.

City of Porterville 2030 General Plan

The General Plan Open Space & Conservation Element established policies to reduce energy consumption and increase the rate of using renewable sources of energy, as listed below.

> ***Guiding Policy OSC-G-10*** *Reduce and conserve energy use in existing and new commercial, industrial, and public structures.*
>
> ***Implementing Policy OSC-I-66*** *Adopt guidelines and incentives for using green building standards in new construction.*
>
> *Green building design guidelines may include required and recommended "green" design and construction strategies including: Building Site and Form, Natural Heating or Cooling, Transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.*
>
> ***Implementing Policy OSC-I-67*** *Incorporate cost-effective energy conservation measures into all building programs owned by the City, including construction, operations, and maintenance.*
>
> *Strategies will include conducting periodic energy audits of public buildings.*
>
> ***Implementing Policy OSC-I-68*** *Publish best practices guide to saving energy on the City's website and other City publications.*
>
> ***Implementing Policy OSC-I-69*** *Establish regulations to allow flexibility in site planning, solar orientation, roof design, and landscaping to decrease summer cooling and winter heating needs.*
>
> ***Implementing Policy OSC-I-70*** *Ensure City codes allow for environmentally acceptable alternative forms of energy production and green building techniques.*

Energy Analysis Report

An Energy Analysis of the Project site was conducted on August 17, 2023, by Johnson, Johnson, and Miller Air Quality Consulting Services. The full report is provided in Appendix A. The report is incorporated in the analysis below.

4.6.2 Impact Assessment

Would the project:

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

Less than Significant Impact. Appendix A does not prescribe a threshold for the determination of significance. Rather, Appendix A focuses on reducing and minimizing inefficient, wasteful, and unnecessary consumption of energy. Therefore, for the purposes of this analysis, a significant impact to energy would result if the project would:

1. Result in the wasteful and inefficient use of nonrenewable resources during its construction.

2. Result in the wasteful and inefficient use of nonrenewable resources during long-term operation.
3. Be inconsistent with Adopted Plans and Policies.

Construction Energy Consumption

Project construction associated with buildout of the proposed Master Plan is anticipated to be completed over several years. Construction activities would consume energy through the operation of heavy off-road equipment, trucks, and worker traffic. Construction equipment fuel consumption for each of was based on equipment lists generated using CalEEMod default values and the horsepower, usage hours, and load factors from CalEEMod model runs prepared for the project's air quality analysis. Equipment fuel consumption was calculated using Offroad2017 v1.0.1 for Tulare County. Fuel consumption was estimated assuming all equipment would be diesel-powered.

Based on the anticipated hours of use, off-road construction equipment would result in the consumption of approximately 431,722.08 gallons of diesel fuel over the entire construction period.

Worker, vendor, and haul trips would result in approximately 67,440,611 VMT over the entire construction period. Fuel consumption averages were calculated for worker, vendor, and haul trips separately and per phase based on data from EMFAC 2021 for Tulare County. The results indicate that construction trips would consume approximately 3,719,560 gallons of gasoline and diesel combined over the entire construction period.

Although implementation of the proposed Master Plan would result in the consumption of an estimated 431,722 gallons of diesel from off-road equipment and 3,719,560 gallons of motor vehicle fuels during construction, the project is expected to achieve energy efficiencies typical for mixed-use projects in the City of Porterville and the larger Tulare County area. Construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency, combined with local, state, and federal regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during project construction. Considering these reductions in transportation fuel use, the proposed Master Plan would not result in the wasteful and inefficient use of energy resources during construction, and impacts would be less than significant. Detailed modeling results are provided in Appendix A of this technical report. Construction energy use is summarized in Table 4-12Table 4-12.

Table 4-12 Construction Energy Consumption

Activity		Energy Consumption Activity	Consumption Amount
Project Construction (Buildout of the Proposed Master Plan)			
Construction Equipment Diesel Fuel Use	Off-road Construction Equipment fuel	21,575,701 Horsepower Hours (total)	431,722 gallons (diesel)
On-road Construction Vehicle Fuel	Worker	52,551,881 VMT (miles)	2,047,336 gallons (gasoline and diesel combined)
	Vendor	14,638,730 VMT (miles)	1,629,698 gallons (gasoline and diesel combined)
	Haul	250,000 VMT (miles)	42,526 gallons (diesel)
	Project On-road Construction Vehicle Fuel Subtotal	*67,440,611 VMT (miles)*	*3,719,560 gallons (gasoline and diesel combined)*

Notes: VMT = vehicle miles traveled
Source of data for construction and VMT: CalEEMod 2022.1.
Source of data for consumption rates: EMFAC 2021.

Operation Energy Consumption

Long-term energy consumption associated with the implementation of the proposed Master Plan includes electricity and natural gas consumption by residents and businesses, energy required for water supply, treatment, distribution, and wastewater treatment, and motor vehicle travel.

Electricity and Natural Gas Consumption

During operations, individual developments contemplated under the proposed Master Plan would consume natural gas for space heating, water heating, and cooking associated with the land uses within the plan area. The natural gas consumption was estimated using the CalEEMod default values and results. The results of the analysis indicate that the buildout under the proposed Master Plan would consume approximately 143,971,024 thousand British thermal units (kBTU) of natural gas per year during operation.

In addition to the consumption of natural gas, the development built out under the proposed Master Plan would use electricity for lighting, appliances, and other uses associated with the individual developments. Electricity use during operations was estimated using CalEEMod default values. The results of the modeling indicate that the buildout of the development contemplated under the Master Plan would use approximately 112,006,579 kilowatt-hours (kWh) of electricity per year. Title 24 (2022 standards) requires the installation of solar panels in commercial developments, including most newly constructed shopping center developments. Title 24 (2022 standards) also requires the installation of solar panels in residential developments, including most newly constructed single-family homes and low-rise multi-family developments. Variations in the amount of solar installed can be due to local conditions and project design. In addition, some projects may use community solar instead of rooftop solar installations. Although the energy estimates show total consumption, a portion of the electricity used by the development contemplated under the proposed Master Plan is expected to be generated by zero emission renewable sources. In addition, additional solar panels may be installed voluntarily to take advantage of energy cost savings that are increasingly possible as the cost of solar has declined over time.

As described above, the development under the proposed Master Plan would result in a long-term increase in demand for electricity from Southern California Edison (SCE). However, individual development projects built out under the Master Plan would be designed to meet the most recent Title 24 standards in effect at the time building permits are issued. Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Title 24 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. Therefore, impacts from the wasteful or inefficient use of electricity or natural gas during operation of development under the Master Plan would be less than significant.

Fuel Consumption

During operation of the development built out under the proposed Master Plan, vehicle trips would be generated by the individual developments. Build out of the proposed Master Plan was modeled with CalEEMod using project-specific trip generation rates and default trip lengths (with longer trip lengths applied to the truck trips associated with the industrial park land use). The results show that the vehicle trips generated would result in approximately 188,565,656 annual VMT from build out of the proposed Master Plan. As shown in Table 4-13Table 4-13, the proposed Master Plan would result in the consumption of an estimated 7,914,219 gallons per year of transportation fuel.

Table 4-13 Long-term Operational Vehicle Fuel Consumption

Vehicle Type	Annual VMT	Average Fuel Economy (miles/gallon)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	81,575,631	37.19	2,193,569
Light Trucks and Medium Duty Vehicles (LDT1, LDT2, MDV)	75,053,399	27.76	2,703,846
Light-Heavy to Heavy-Heavy Diesel Trucks (LHD1, LHD2, MHDT, HHDT)	27,944,682	10.02	2,788,812
Motorcycles (MCY)	2,832,794	38.01	74,527
Other (OBUS, UBUS, SBUS, MH)	1,159,149	7.55	153,466
Mater Plan Total	**188,565,655**	**—**	**7,914,220**

Notes: VMT = vehicle miles traveled
"Other" consists of buses and motor homes.
Source of data for vehicle trips and VMT: Appendix A.
Source of Tulare County miles/gallon for an early operational year (2025): EMFAC 2021.

Various federal and state regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the projects' transportation fuel consumption progressively into the future. In addition, the proposed Master Plan would locate a mix of commercial and residential uses, providing connectivity within the community. Therefore, the proposed Master Plan would be designed to avoid the wasteful and inefficient use of transportation fuel during operations, and impacts would be less than significant.

State and federal regulatory requirements addressing fuel efficiency are expected to increase fuel efficiency over time as older, less fuel-efficient vehicles are retired. The efficiency standards and light/heavy vehicle efficiency/hybridization programs contribute to increased fuel efficiency and therefore would reduce vehicle fuel energy consumption rates over time. While build out of the proposed Master Plan would increase the consumption of gasoline and diesel proportionately with projected population growth, the increase would be accommodated within the projected growth as part of the energy projections for the State and the region and would not require the construction of new regional energy production facilities. Therefore, energy impacts related to fuel consumption/efficiency during project operations would be less than significant.

Impact Summary

As described above, the proposed Master Plan would result in less than significant impacts on the wasteful, inefficient, or unnecessary use of energy due to project design features that will comply with the City's design guidelines and regulations that apply to the project such as Title 24 Building Energy Efficiency Standards and the California Green Building Standards Code that apply to newly constructed commercial and residential buildings. The installation of solar panels required by 2022 Title 24 standards is expected to offset some of the electricity used by the development under the proposed Master Plan. Furthermore, various federal and state regulations—including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program—would serve to reduce the transportation fuel demand by the development under the proposed Master Plan.

With the adherence to the increasingly stringent building and vehicle efficiency standards as well as implementation of design features that would reduce energy consumption, the proposed Master Plan would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the proposed Master Plan would not result in a significant environmental impact, due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation of buildout of the proposed Master Plan. A summary of estimated operational energy consumption from build out of the proposed Master Plan is provided in Table 4-14.

Table 4-14 Summary of Estimated Operational Annual Energy Consumption

Energy Consumption Activity	Annual Consumption
Project Operations	
Electricity Consumption	112,006,579 kWh/year
Natural Gas Consumption	143,971,024 kBTU/year
Total Vehicle Fuel Consumption	7,914,219 gallons/year (gallons of gasoline and diesel)

Notes: kWh = kilowatt-hour; kBTU = kilo-British Thermal Unit; VMT = vehicle miles traveled

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

Less than Significant Impact.

The City of Porterville General Plan includes goals and strategies related to energy efficiency. The following policies relate to energy efficiency and are relevant to the proposed Master Plan:

> OSC-G-10: Reduce and conserve energy use in existing and new commercial, industrial, and public structures.
>
> OSC-I-66: Adopt guidelines and incentives for using green building standards in new construction. Green building design guidelines may include required and recommended "green" design and construction strategies including: Building Site and Form, Natural Heating or Cooling, transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.
>
> OSC-I-70: Ensure City codes allow for environmentally acceptable alternative forms of energy production and green building techniques.

Construction

As discussed under Impact ENERGY-1, the proposed Master Plan would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. California Code of Regulations Title 13, Sections 2449(d)(3) and 2485, limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. Individual development under the proposed Master Plan would comply with these regulations. Consistent with required regulations, buildout of the proposed Master would increase the use of energy conservation features and renewable sources of energy within the City of Porterville and Tulare County due to the previously discussed design features. Thus, the proposed Master Plan would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, construction-related energy efficiency and renewable energy standards consistency impacts would be less than significant.

Operation

The proposed Master Plan would be served with electricity provided by SCE. SCE's 2019 Green Rate 50 percent option includes 67.5 percent eligible renewable resources, including wind, geothermal, solar, eligible hydroelectric, and biomass and biowaste; 4 percent large hydroelectric; 8.1 percent natural gas; 4.1 percent nuclear; 0.1 percent other; and 16.3 percent unspecified sources of power SCE's 2019 Green Rate 100 percent option includes 100 percent eligible renewable resources, composed entirely of solar. Approximately 43 percent of the electricity that SCE delivered in 2020 was a combination of renewable and GHG-emissions-free resources. SCE was ahead of

schedule in meeting the California's RPS 2020 mandate of serving their load with at least 33 percent RPS-eligible resources. SCE would be required to meet California's RPS standards of 60 percent by 2030 and carbon-free sourced-electricity by 2045.

Part 11, Chapter 4 and 5, of the State's Title 24 energy efficiency standards establishes mandatory measures for residential and nonresidential buildings, including solar, electric vehicle (EV) charging equipment, bicycle parking, energy efficiency, water efficiency and conservation, and material conservation and resource efficiency. Development under the proposed Master Plan would be required to comply with these mandatory measures. The proposed Master Plan would locate housing next to jobs in order to reduce or eliminate motor vehicle travel for home-to-work trips and provide connectivity through pedestrian and bicycle connections. In addition, the proposed Master Plan's location adjacent to an existing community (built up areas the City of Porterville) allows future development to provide further connectivity. Compliance with the mandatory measures previously mentioned would ensure that the development built out under the proposed Master Plan would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, operational energy efficiency and renewable energy standards consistency impacts would be less than significant.

The proposed Master Plan was reviewed for consistency with local and State of California plans that aim to reduce GHG emissions in GHG impact analysis. These plans also serve as the applicable energy plans. The ARB 2008 Scoping Plan, the ARB 2017 Scoping Plan, and the ARB 2022 Scoping Plan provide the State's strategy for achieving legislated GHG reduction targets. Although the primary purpose of the Scoping Plans is to reduce GHG emissions, the strategies to achieve the GHG reduction targets rely on the use of increasing amounts of renewable fuels under the LCFS and RPS, and energy efficiency with updates to Title 24 and the CalGreen Code. Buildings constructed under implementation of the proposed Master Plan will meet the latest efficiency standards in effect that building permits are issued. In addition, vehicles and equipment will continue to become cleaner over time as new vehicles and equipment are required to adhere to the latest fuel efficiency standards. For instance, vehicles and equipment associated with build out of the proposed Master Plan will use fuels subject to the LCFS.

The proposed Master Plan is consistent with applicable plans and policies and would not result in wasteful or inefficient use of nonrenewable energy sources; therefore, impacts would be less than significant.

4.6.3 Mitigation Measures

None required.

4.7 GEOLOGY AND SOILS

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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.*			X	
	ii. Strong seismic ground shaking?			X	
	iii. Seismic-related ground failure, including liquefaction?			X	
	iv. Landslides?			X	
b)	Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?				X
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

4.7.1 Environmental Setting

The City of Porterville is located along the western slope of a northwest-trending belt of rocks comprising the Sierra Nevada and within the southern portion of the Cascade Range. The city is within the Sierra Nevada geomorphic province, which is primarily composed of cretaceous granitic plutons and remnants of Paleozoic and Mesozoic metavolcanic and metasedimentary rocks, and Cenozoic volcan and sedimentary rocks. The city's Planning Area elevation ranges between 400 and 800 feet, with the eastern portion that is within the Sierra Nevada foothills reaching almost 1,800 feet. Geographically, the city, inclusive of the Project site, has stable geological formation and is in a seismically inactive region. [7] A brief discussion of the likelihood of such activities occurring in or affecting the city's Planning Area, inclusive of the Project site, is provided below. The discussion is based on the 2018 Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (HMP) as well as the City of Porterville 2030 General Plan Draft Environmental Impact Report (EIR). [8]

Faulting

There are no known active faults in the city's Planning Area. [9] No Alquist-Priolo Earthquake Fault zoning has been established for the city's Planning Area. The nearest active faults to the Planning Area are the Owens Valley fault group, 40 miles to the east, and White Wolf fault, 56 miles to the south. [10] Due to the distance from an active fault, there is low potential for ground rupture in the city.

Ground Shaking

The City of Porterville is in Seismic Risk Zone III, which is a zone expected to experience moderate effects from earthquakes. Major historical earthquakes, including the 1906 San Francisco, 1952 Kern County, and 1983 Coalinga, were felt by residents and caused minor to moderate property damage in the city. According to the HMP's hazards ranking, there is a low significance for ground shaking in the city. Earthquake-related damage is often the result of liquefaction.

Liquefaction

Liquefaction primarily occurs in areas of recently deposited sands and silts and in areas of high groundwater levels (where the water table is 30 feet below the surface). Susceptible areas include sloughs and marshes that have been filled in and developed over. Since the city is far from faults and consists of a stable geological formation, the city is in an area with low susceptibility to liquefaction. However, the EIR identifies that liquefaction could occur near the Tule River that is water saturated and loose, sandy soils exist.

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[7] City of Porterville. (2007). Draft Environmental Impact Report 2023 General Plan (SCH No. 2006011033).
[8] Tulare County Office of Emergency Services. (2018). Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan. Accessed on August 2, 2023, https://oes.tularecounty.ca.gov/oes/mitigation/tulare-county-mjlhmp/
[9] According to the California Department of Conservation, *"An active fault, for the purposes of the Alquist-Priolo Act, is one that has ruptured in the last 11,000 years."*
[10] California Department of Conservation. "CGS Seismic Hazard Program: Alquist-Priolo Fault Hazard Zones." Accessed on August 3, 2023, https://gis.data.ca.gov/maps/ee92a5f9f4ee4ec5aa731d3245ed9f53/explore?location=37.213952%2C-117.946341%2C7.19

Erosion

The primary types of erosion identified by the HMP are coastal cliff and shoreline erosion. The city is not susceptible to these erosion types in all sea level rise scenarios (i.e., sea level rise at 25 cm, 75 cm, 200 cm).

Ground Subsidence

Ground subsidence is the settling or sinking of surface soil deposits with little or no horizontal motion. Soils with high silt or clay content are subject to subsidence. According to the HMP, the city is not exposed to earthquake induced landslide risk.

Subsurface Soils

The site comprises eight (8) soil types, as shown in Table 4-10 in Section 4.4. The soils are primarily sandy loam, loam, and silt sand, and these soils are generally well-drained. The riverwash soils within the Tule River are hydric, and two other soil types, Tagus loam (map unit symbol: 137) and Tujunga loamy sand (map unit symbol: 138) are partially hydric, which means there is a higher potential for wetland formation within these soils. The pits appear to be excavated features that have been filled in. The predominant soil type, Nord fine sandy loam, is located on the west end of the Project Site, along South Westwood Street. Figure 4-6 shows the location of all soil composition within the Project site from the Web Soil Survey by the USDA Natural Resources Conservation Service. [11]

California Building Code

The California Code of Regulations (CCR) Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code (CBC) incorporates by reference the International Building Code with necessary California amendments. About one-third of the text within the California Building Standards Code has been tailored for California earthquake conditions. These standards are applicable to all new buildings and are required to provide the necessary safety from earthquake related effected emanating from fault activity.

City of Porterville 2030 General Plan

The General Plan includes objectives and policies relevant to natural hazards in the Public Health & Safety Element since to minimize risks from geologic and seismic hazards:

Guiding Policy PHS-G-1 *Minimize risks of property damage and personal injury posed by geologic and seismic hazards.*

> ***Implementing Policy PHS-I-1*** *Amend the Zoning Ordinance to include provisions for a geologic hazards abatement district for hillside areas to ensure that geologic hazards are properly mitigated by developers or avoided prior to, or during, development.*
>
> ***Implementing Policy PHS-I-2*** *Maintain and enforce appropriate building standards and codes to avoid and/or reduce risks associated with geologic constraints and to ensure that all new construction is designed to meet current safety regulations.*

[11] United States Department of Agriculture Natural Resources Conservation Service. "Web Soil Survey." Accessed on April 6, 2023, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Implementing Policy PHS-I-3 Provide information and incentives for property owners to rehabilitate existing buildings using construction techniques to protect against seismic hazards.

Implementing Policy PHS-I-4 Support continued investigation by State agencies of geologic conditions within the City's Planning Area to promote public awareness of potential geologic and seismic hazards.

Implementing Policy PHS-I-5 Require, as part of the preliminary soil report, a construction dust management plan when it has been determined that soils contain naturally-occurring asbestos.

Implementing Policy PHS-I-6 If asbestos is present require construction work be done when soil moisture is sufficient to adequately compact the tread and prevent visible dust, which may contain airborne asbestos emissions.

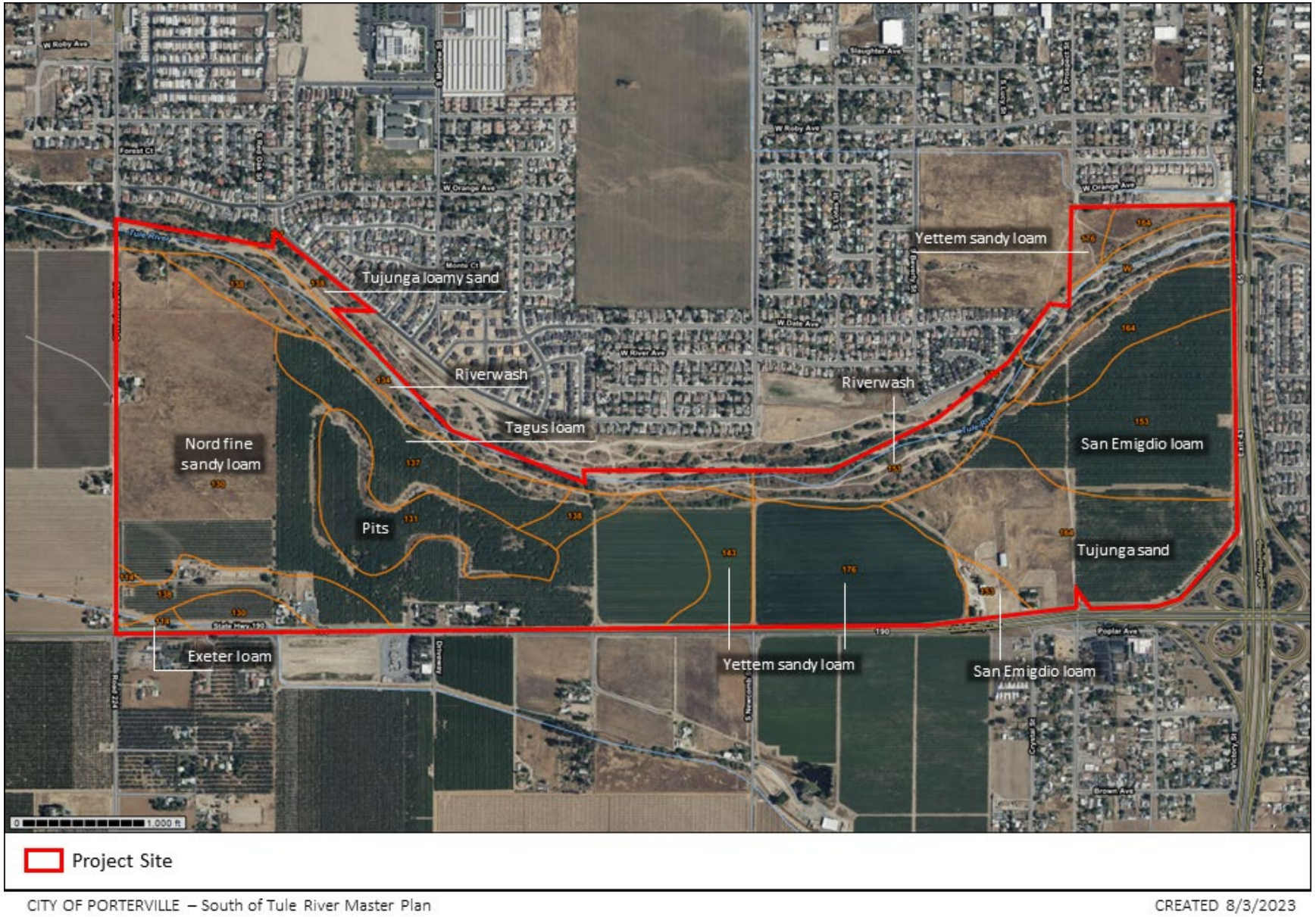

Figure 4-6 Soils Map

4.7.2 Impact Assessment

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.

Less than Significant Impact. There are no known active earthquake faults in the city's Planning Area, inclusive of the Project site, nor is city within an Alquist-Priolo earthquake fault zone as established by the Alquist-Priolo Fault Zoning Act. The nearest active fault to the city is located 40 miles to the east. Due to the distance from an active fault, there is low potential for ground rupture. In addition, the likelihood of the Project rupturing due to an earthquake would be reduced through compliance with current seismic protection standards in the CBC which would significantly limit potential seismic-related hazards such as landslides, lateral spreading, subsidence, liquefaction, or collapse. As a result, the Project would have a less than significant impact.

ii. Strong seismic ground shaking?

Less than Significant Impact. The Project site is in a zone with low seismic risk. In addition, future development of the Project site would be required to comply with current seismic protection standards in the CBC which would significantly limit potential damage to structures and thereby reduce potential impacts including the risk of loss, injury, or death. As a result, the Project would have a less than significant impact.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. The Project site is in an area with low susceptibility to liquefaction with no known geologic hazards or unstable soil conditions. Due to the distance from an active fault, there is low potential for ground rupture. Further, the site is primarily made up of loam and sand soils that are well drained, which are less susceptible to liquefaction than silt or sands. Future development of the site would require compliance with the city's grading and drainage standards that would reduce the likelihood of settlement or bearing loss. In addition, future development would be required to comply with CBC and specific requirements that address liquefaction. For these reasons, the Project does not have any aspect that could result in seismic-related ground failure including liquefaction and a less than significant impact would occur because of the Project.

iv. Landslides?

Less than Significant Impact. The topography of the Project site is relatively flat with stable, native soils. According to the HMP, the city is in a zone with low risk of landslides and mudslides. Therefore, a less than significant impact would occur because of the Project.

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

Less than Significant Impact. Soil erosion and loss of topsoil can be caused by natural factors, such as wind and flowing water, and human activity. Future development of the Project site would require typical site preparation activities such as grading and trenching which may result in the potential for short-term soil disturbance or erosion impacts. Excessive soil erosion could cause damage to existing structures and roadways. In the case of urban

development, erosion would most likely occur during the construction phase and would be reduced once the site is graded and paved or landscaped. According to the General Plan, the Project site mostly consists of moderate erosion susceptibility land.

The likelihood of erosion occurring during construction would be reduced through site grading and surfacing, which would be subject to review and approval by the city for compliance with applicable standards. Future development of the Project site would be required to comply with PMC *Section 25-32.A.10 – Grading Design Plan*, *Section 7-142.7 – Floodways*, *Section 501.10 – Landscaping and Irrigation*, and *Section 407.03 – Design and Construction Standards*, which includes standards to prevent soil erosion and to keep debris and dirt out of the city's storm drain system.

The likelihood of erosion would be further reduced through compliance with regulations set by the State Water Resources Control Board (SWRCB). Namely, the SWRCB requires sites larger than one (1) acre to comply with the General Permit for Discharges of Storm Water Associated with Construction Activity (i.e., General Permit Order No. 2009-0009-DWQ). The General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer (QSD). The SWPPP estimates the sediment risk associated with construction activities and includes best management practices (BMP) to control erosion. BMPs specific to erosion control cover erosion, sediment, tracking, and waste management controls. Implementation of the SWPPP minimizes the potential for the Project to result in substantial soil erosion or loss of topsoil. With these provisions in place, impacts to soil and topsoil by the Project would be considered less than significant.

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

Less than Significant Impact. Ground subsidence is the settling or sinking of surface soil deposits with little or no horizontal motion. Soils with high silt or clay content are subject to subsidence. Subsidence typically occurs in areas with groundwater withdrawal or oil or natural gas extraction. The topography of the site is relatively flat with stable, native soils and no apparent unique or significant landforms. Future development of the Project site would be required to comply with current seismic protection standards in the CBC which would significantly limit potential seismic-related hazards such as landslides, lateral spreading, subsidence, liquefaction, or collapse. Compliance with the CBC would ensure a less than significant impact.

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

Less than Significant Impact. The Project site is relatively flat with primarily native soils of loam, loamy sand, and sandy loam, which are not expansive. According to the General Plan, the Project site is not located in an area with high soil expansion potential. As such, the Project would result in a less than significant impact.

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

No Impact. The Project Site is currently outside of city limits but would require annexation into the City of Porterville when development is proposed. At the time of development, individual parcels would be required to connect to city utility services. Future development would also connect to the city's wastewater services. Thus, no permanent septic tanks or alternative wastewater disposal systems would be installed, and no impact would occur.

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

Less than Significant Impact. As discussed in the Cultural Resources section above, there are no known paleontological resources or unique geological features known on this site. In addition, the Project site is heavily disturbed as it has been previously developed. Nevertheless, there is some possibility that a non-visible, buried resource, site. or feature may exist and may be uncovered during ground disturbing construction activities which would constitute a significant impact. To further assure future development does not result in significant impacts to any potential resources, the Project shall incorporate ***Mitigation Measures CUL-2*** as described in Section 4.5. Additionally, ***Mitigation Measure GEO-1*** requires that if unknown paleontological resources are discovered during construction activities, work within a 25-foot buffer would cease util a qualified paleontologist determined the appropriate course of action. Therefore, if any paleontological resources or geologic features were discovered, implementation of *CUL-2 and GEO-1* would reduce the Project's impact to less than significant.

4.7.3 Mitigation Measures

Mitigation Measure GEO-1: *If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or another appropriate facility regarding any discoveries of paleontological resources.*

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations, and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects or such effects must be mitigated. Construction in that area shall not resume until the resource-appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the City of Porterville, Community Development Department.

4.8 GREENHOUSE GAS EMISSIONS

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

4.8.1 Environmental Setting

A greenhouse gas (GHG) emissions analysis of the Project was conducted on August 17, 2023, by Johnson Johnson and Miller, Inc. The full report is provided in Appendix A. Background information on climate change and modeling parameters and assumptions within the GHG analysis is provided below.

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios. The report also concluded that "[w]arming of the climate system is unequivocal," and that "most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the project participates in the potential for global climate change by its incremental contribution of GHGs—and when combined with the cumulative increase of all other sources of GHGs—constitute potential influences on global climate change.

Consequences of Climate Change in California

In California, climate change may result in consequences such as the following:

- A reduction in the quality and supply of water from the Sierra snowpack. If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier,

reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.

- Increased risk of large wildfires. If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A rise in sea levels resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, NO_X, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. CO_2, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. To describe how much global warming a given type and amount of GHG may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include CO_2, CH_4, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 4-15. A seventh GHG, nitrogen trifluoride, was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. The global warming potential amounts are from IPCC Fourth Assessment Report (AR4). The AR4 GWP amounts, incorporated into CalEEMod, are used in this analysis. Although the newer IPCC Fifth Assessment Report (AR5) includes new global warming potential amounts, ARB continues to use AR4 rates for inventory purposes. Until such time as ARB updates its Scoping Plan inventories to utilize AR5 GWPs, it is appropriate to continue using AR4 GWPs for CEQA analyses, which are based on Scoping Plan consistency.

Table 4-15 Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 124 to 14,800.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 7,390 to 12,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic,	This gas is man-made and used for insulation in electric power transmission equipment, in the magnesium

	nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential of 22,800.	industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.

Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and 2007b.

The State has begun addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the governor on September 14, 2014 required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB was required to complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinated with other state agencies and districts to develop measures. The Short-Lived Climate Pollutant Strategy was approved by the ARB on March 24, 2017. The strategy calls for reductions of 50 percent from black carbon, 40 percent from methane, and 40 percent from HFCs from the 2030 Business as Usual (BAU) inventory for these pollutants.

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 4-15 and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB will include it in its comprehensive strategy.

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NO_X) on a regional scale and CH_4 on a hemispheric scale will be subject of the strategy.

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion sources. Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other GHGs, such that the warming brought about by increased carbon dioxide allows more water vapor to enter the atmosphere.

Emissions Inventories

An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Figure 4-7 shows the contributors of GHG emissions in California between years 2000 and 2019 by Scoping Plan category. The main contributor was transportation. The second highest sector in 2019 was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019 due to increases in renewables. ARB reported that California's GHG emissions inventory was 418.2 $MMTCO_2e$ in 2019.

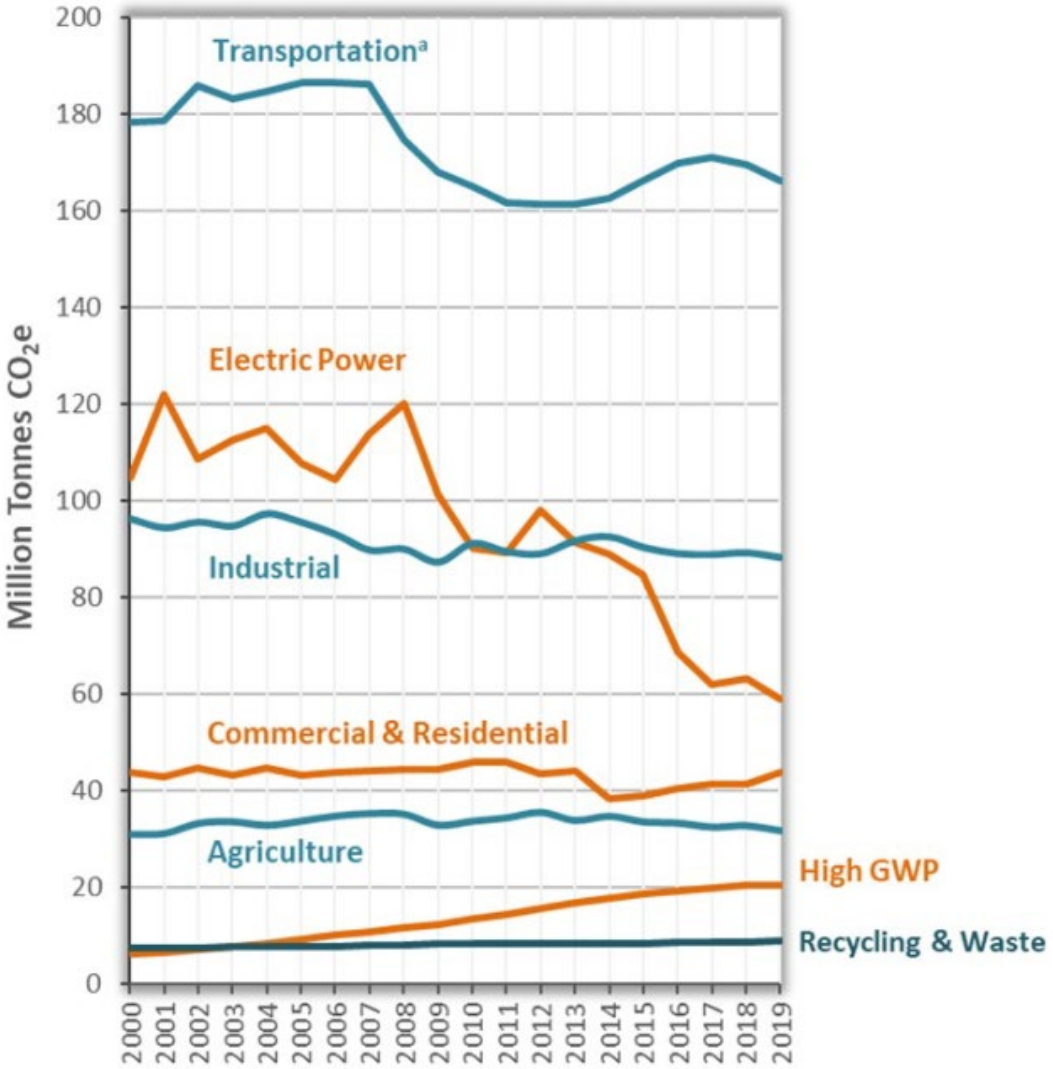

Figure 4-7 Greenhouse Gas Emission Trends by Scoping Plan Category in California

Regulatory Setting

See plans, regulations, and policies related the GHG emissions including California (California Air Resources Board Scoping Plans, Building Codes, California Supreme Court GHG Ruling), San Joaquin Valley Air Pollution Control District (Climate Change Action Plan), and the City of Porterville (General Plan) detailed in Appendix A Section 3.3.

4.8.2 Modeling Parameters and Assumptions

Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include carbon dioxide, methane, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of GHGs, including several defined by AB 32 such as carbon dioxide, methane, and NO_X.

The project may emit GHGs that are not defined by AB 32. For example, the project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty.

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

See Section 4.3.2 for modeling assumptions.

4.8.3 Impact Assessment

Would the project:

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

Less than Significant Impact. Section 15064.4(b) of the CEQA Guidelines' 2018 amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

- Consideration #3: 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. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The *SJVAPCD's Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* provides guidance for preparing a 'business as usual' (BAU) analysis. Under the SJVAPCD guidance, projects meeting one of the following would have a less than significant impact on climate change:

- Exempt from CEQA;
- Complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project achieves 29 percent GHG reductions by using approved Best Performance Standards; and
- Project achieves AB 32 targeted 29 percent GHG reductions compared with "business as usual."

The SJVAPCD has not yet adopted BPS for development projects. For development projects, BPS means, *"Any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual."*

The 29 percent GHG reduction level is based on the target established by ARB's AB 32 Scoping Plan, approved in 2008. The GHG reduction level for the State to reach 1990 emission levels by 2020 was reduced to 21.7 percent from BAU in 2020 in the 2014 First Update to the Scoping Plan to account for slower than projected growth after the 2008 recession. First occupancy at the project site is expected to occur in 2024, which is after the AB 32 target year. The SJVAPCD has not updated its guidance to address SB 32 2030 targets or AB 1279 2045 targets.

The analysis also addresses consistency with the SB 32 targets and the 2017 Scoping Plan Update with an assessment of the project's reduction from BAU based on emissions in 2030 compared with the 21.7 percent reduction and with a consistency analysis. This approach provides estimates of project emissions in the new 2030 milestone year with the existing threshold to address Considerations 1 and 2 above. Therefore, whether the project's GHG emissions would result in a significant impact on the environment is determined by assessing consistency with relevant GHG reduction plans.

The following analysis assesses the proposed Master Plan's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Porterville has not adopted a GHG reduction plan. In addition, the City has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines amendments adopted for SB 97 and clarifications provided in the CEQA Guidelines amendments adopted on December 28, 2018. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are

applicable to the proposed Master Plan. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the proposed Master Plan. Since no other local or regional Climate Action Plan is in place, the proposed Master Plan is assessed for its consistency with ARB's adopted Scoping Plans.

Consistency with ARB's Adopted Scoping Plans

The State's regulatory program implementing the 2008 Scoping Plan is now fully mature. All regulations envisioned in the Scoping Plan have been adopted, and the effectiveness of those regulations has been estimated by the agencies during the adoption process and then tracked to verify their effectiveness after implementation. The combined effect of this successful effort is that the State now projects that it will meet the 2020 target and achieve continued progress toward meeting post-2020 targets. Governor Brown, in the introduction to Executive Order B-30-15, stated "California is on track to meet or exceed the current target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32)."

Consistency with SB 32 and the 2017 Scoping Plan

Table 4-16 provides an analysis of the proposed Master Plan's consistency with the 2017 Scoping Plan Update measures. The 2017 Scoping Plan addresses SB 32 and California's 2030 GHG reduction goals. Since build out of the Project would begin prior to 2030, the project is assessed for consistency with the 2017 Scoping Plan. There are several relevant measures from the 2017 Scoping Plan that are relevant to the project.

Table 4-16 Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50% Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent**: The individual development projects built out under the proposed Master Plan will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels	**Not Applicable**. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency until new development achieves zero net energy. While there are currently existing structures in the plan area, they are not a part of the individual development projects that would be built out under the proposed Master Plan.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Consistent**. Vehicles accessing the plan area will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario) Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent**. Future project occupants and visitors can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The 2022 CALGreen Code requires commercial developments to include EV infrastructure and requires electrical service in new single-family housing to be EV charger-ready. In addition, deliveries will be made by increasing numbers of ZEV delivery trucks.
Sustainable Freight Action Plan The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission	**Not Applicable**. The measure applies to owners and operators of trucks and freight operations. Deliveries to the proposed commercial development are expected to be made by increasing number of ZEV delivery trucks.

freight vehicles and equipment powered by renewable energy by 2030.	
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent**. The future Master Plan residences will include only natural gas hearths that produce very little black carbon compared to woodburning fireplaces and heaters. Additionally, commercial uses contemplated as part of the proposed Master Plan are not expected to be sources of black carbon.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	**Consistent**. The proposed Master Plan will provide mixed-use residential and commercial development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT. The proposed Master Plan includes mixed-use development including schools, residential, and commercial within the same area, which will also contribute to reductions in VMT.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Consistent.** The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not Applicable**. The proposed Master Plan includes a mix of residential and commercial development and will not be considered natural or working lands.

Source: ARB 2017 Scoping Plan Update.

As described in Table 4-16, the proposed Master Plan would be consistent with applicable 2017 Scoping Plan Update measures and would not obstruct the implementation of others that are not applicable. The State's regulatory program is able to target both new and existing development because the two most important strategies, motor vehicle fuel efficiency and emissions from electricity generation, obtain substantial reductions from both existing sources and new sources. This is because all vehicle operators use cleaner low carbon fuels and buy vehicles subject to the fuel efficiency regulations and all building owners or operators purchase cleaner energy from the grid that is produced by increasing percentages of renewable fuels. This includes regulations on mobile sources such as the Pavley standards that apply to all vehicles purchased in California, the LCFS (Low Carbon Fuel

Standard) that applies to all fuel sold in California, and the Renewable Portfolio Standard and Renewable Energy Standard under SB 100 that apply to utilities providing electricity to all California end users.

Moreover, the Scoping Plan strategy will achieve more than average reductions from energy and mobile source sectors that are the primary sources related to development projects and lower than average reductions from other sources such as agriculture. Operational GHG emissions from development projects contemplated under the proposed Master Plan would principally be generated from electricity consumption and vehicle use (including heavy trucks), which are directly under the purview of the Scoping Plan strategy and have experienced reductions above the State average reduction. Considering the information summarized above, the proposed Master Plan would be consistent with the State's AB 32 and SB 32 GHG reduction goals. As such, the proposed Master Plan's GHG impacts would be less than significant.

Consistency Regarding GHG Reduction Goals for 2050 under Executive Order S-3-05 and GHG Reduction Goals for 2045 under the 2022 Scoping Plan

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the development projects built out under the proposed Master Plan would comply with whatever measures are enacted that State lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, ARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update; however, ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."

The ARB recognized that AB 32 established an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

- Energy Sector: Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.
- Transportation Sector: Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.
- Water Sector: The project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.

- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

For the reasons described above, the project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 4-8Figure 4-8Figure 4-8 California's Path to Achieving the 2050 Target.

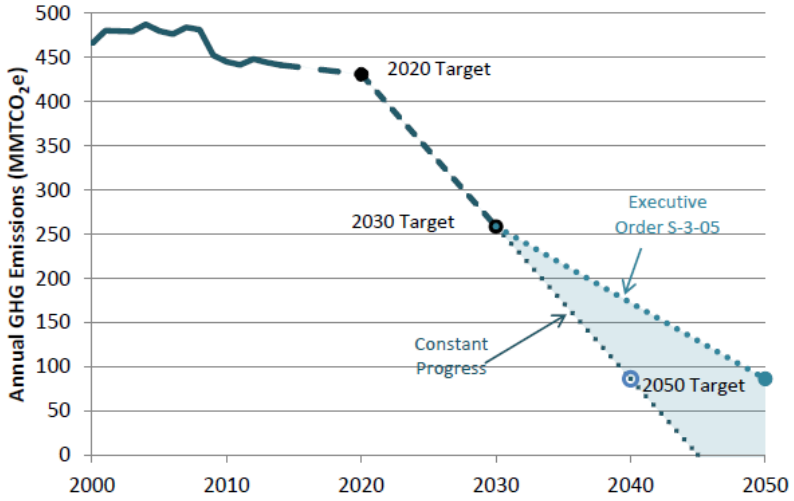

Figure 4-8 California's Path to Achieving the 2050 Target

In his January 2015 inaugural address, former Governor Brown expressed a commitment to achieve "three ambitious goals" that he would like to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For

the reasons described above, the proposed Master Plan future emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target. In addition, the 2022 Scoping Plan outlines objectives, regulations, planning efforts, and investments in clean technologies and infrastructure that outlines how the State can achieve carbon-neutrality by 2045. Accordingly, taking into account the proposed Master Plan's design features (including strategically planning new mixed-use development in such a way that minimizes VMT) and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the proposed Master Plan would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, carbon neutral by 2045, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment.

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

Less than Significant Impact. The following analysis assesses the proposed Master Plan's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Porterville has not adopted a GHG reduction plan. In addition, the City has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines amendments adopted for SB 97 and clarifications provided in the CEQA Guidelines amendments adopted on December 28, 2018. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are applicable to the project. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the project. Since no other local or regional Climate Action Plan is in place, the project is assessed for its consistency with ARB's adopted Scoping Plans. This assessment is included under criteria a) above. As demonstrated in the analysis contained under Impact GHG-1, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.

4.8.4 Mitigation Measures

None required.

4.9 HAZARDS AND HAZARDOUS MATERIAL

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
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?				X
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 for people residing or working in the project area?			X	
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

4.9.1 Environmental Setting

For the purposes of this section, the term “hazardous materials” refers to "injurious substances," which include flammable liquids and gases, poisons, corrosives, explosives, oxidizers, radioactive materials, and medical supplies and waste. These materials are either generated or used by various commercial and industrial activities. Hazardous

wastes are injurious substances that have been or will be disposed. Potential hazards arise from the transport of hazardous materials, including leakage and accidents involving transporting vehicles. There also are hazards associated with the use and storage of these materials and wastes. Hazardous materials are grouped into the following four categories based on their properties:

- Toxic: causes human health effect
- Ignitable: has the ability to burn
- Corrosive: causes severe burns or damage to materials
- Reactive: causes explosions or generates toxic gases

"Hazardous wastes" are defined in California Health and Safety Code *Section 25141(b)* as wastes that: "…because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause or significantly contribute to an increase in mortality or an increase in serious illness or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed." Hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. If improperly handled, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, *Sections 66261.20-24* contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

Hazardous waste generators may include industries, businesses, public and private institutions, and households. Federal, state, and local agencies maintain comprehensive databases that identify the location of facilities using large quantities of hazardous materials, as well as facilities generating hazardous waste. Some of these facilities use certain classes of hazardous materials that require risk management plans to protect surrounding land uses. The release of hazardous materials would be subject to existing federal, State, and local regulations and is similar to the transport, use, and disposal of hazard materials.

Regulatory Setting

The California Environmental Protection Agency (CalEPA) was established in 1991 to protect the environment. CalEPA oversees the Unified Program through Certified Unified Program Agencies (CUPAs), which consolidates six (6) environmental programs to ensure the handling of hazardous waste and materials in California. The local CUPA in Tulare County Environmental Health Division (TCEHD) is responsible for inspecting facilities that handle hazardous materials, generate hazardous waste, treat hazardous waste, own/operate underground storage tanks, own/operate aboveground petroleum storage tanks, or handle other materials subject to the California Accidental Release Program. [12] TCEHD inspects businesses for compliance with the Hazardous Waste Control Act through their Hazardous Waste Generator Program. TCEHD also issues permits to businesses that handle hazardous materials or waste no less than 55 gallons, 500 pounds, or 200 cubic feet of compressed gas, whichever larger. These businesses are required to prepare a Hazardous Materials Management Plan (HMMP) to assess inventory of hazardous

[12] Tulare County Environmental Health Division. Hazardous Materials/Certified Unified Program Agency (CUPA). Accessed on August 3, 2023, https://tularecountyeh.org/eh/our-services/hazardous-materials-cupa/

materials, hazardous waste, and provide emergency response related to incidents involving these hazardous materials/waste.

The Department of Toxic Substances Control (DTSC) is another agency in California that regulates hazardous waste, conducts inspections, provide emergency response for hazardous materials-related emergencies, protect water resources from contamination, removing wastes, etc. DTSC acts under the authority of Resource Conservation and Recovery Act (RCRA) and California Health and Safety Code. The DTSC implements California Code of Regulations (CCR) Title 22 Division 4.5 to manage hazardous waste. Government Code *Section 65962.5* requires that DTSC shall compile and update at least annually a list of:

> *(1) All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code ("HSC").*
>
> *(2) All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.*
>
> *(3) All information received by the Department of Toxic Substances Control pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.*
>
> *(4) All sites listed pursuant to Section 25356 of the Health and Safety Code.*
>
> *(5) All sites included in the Abandoned Site Assessment Program.*

This list of hazardous waste sites in California, referred to as the Cortese List, is then distributed to each city and county. According to the CCR Title 22, soils excavated from a site containing hazardous materials is considered hazardous waste, and remediation actions should be performed accordingly. Cleanup requirements are determined case-by-case by the jurisdiction.

Record Search

The United States Environmental Protection Agency (EPA) Superfund National Priorities List (NPL)[13], California Department of Toxic Substance Control's EnviroStor database [14] , and the State Water Resources Control Board's GeoTracker database [15] include hazardous release and contamination sites. A search of each database was conducted on August 3, 2023. The searches revealed no hazardous material release sites on the Project site or within the vicinity of the Project site.

City of Porterville 2030 General Plan

The General Plan Public Health & Safety Element included policies to protect soils, surface water, and groundwater from contamination from hazardous materials. Policies that could be applicable to the Project are listed below.

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[13] United States Environmental Protection Agency. Superfund National Priorities List. Accessed August 3, 2023, https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=33cebcdfdd1b4c3a8b51d416956c41f1

[14] California Department of Toxic Substances Control. Envirostor. Accessed August 3, 2023, https://www.envirostor.dtsc.ca.gov/public/

[15] California State Water Resources Control Board. GeoTracker. Accessed August 3, 2023, https://geotracker.waterboards.ca.gov/

Implementing Policy PHS-I-17 Require remediation and cleanup of sites contaminated with hazardous substances.

Implementing Policy PHS-I-19 Ensure that all specified hazardous facilities conform to the Tulare County Hazardous Waste Management Plan.

Implementing Policy PHS-I-20 Prohibit specified hazardous waste residual repositories and onsite facilities utilizing incineration methods unless the facility demonstrates that it will produce insignificant levels of emissions.

Implementing Policy PHS-I-23 Require applicants of projects in areas of known or suspected hazardous materials occurrences such as petroleum hydrocarbon contamination, CAM 17 metals, USTs, location of asbestos rocks and other such contamination to perform comprehensive soil and groundwater contamination assessments in accordance with regulatory agency testing standards, and if contamination exceeds regulatory action levels, require the project applicant to undertake remediation procedures prior to grading and development under the supervision of appropriate agencies, such as Tulare County Department of Environmental Heath, Department of Toxic Substances Control, or Regional Water Quality Control Board.

Implementing Policy C-I-28 Designate specific truck routes to provide for the safe movement of goods and hazardous materials throughout the City, ensure that adequate pavement depth, lane widths, and turn radii are maintained on the designated truck routes, and prohibit commercial trucks from non-truck routes except for deliveries.

The Porterville 2030 General Plan also includes policies to reduce the potential impact on adopted emergency response plans and emergency evacuation plans, as listed below.

Implementing Policy PHS-I-29 Maintain and periodically update the City's Emergency Management Plan.

This plan will be updated as necessary in consultation with City departments, community leaders, the school districts, Sierra View District Hospital, SCE, and relevant regional and State agencies.

Implementing Policy PHS-I-30 Initiate periodic public information programs that explain the City's emergency preparedness programs and evacuation routes and encourage each household to be self-sufficient for 72 hours after a manmade or natural disaster.

Implementing Policy PHS-I-31 Maintain multi-jurisdictional communication systems and cooperation for emergency training, planning and management.

Implementing Policy PHS-I-32 Work with owners and operators of critical use facilities to ensure that they can provide alternate sources of electricity, water, and sewerage in the event that regular utilities are interrupted in a disaster.

Public utilities are lifeline services for Emergency Command Centers, police and fire departments, and hospitals. Keeping them open and operative is especially crucial in the 72 hours after a major disaster.

Implementing Policy C-I-3 Provide for greater street connectivity by:

- *Incorporating in subdivision regulations requirements for a minimum number of access points to existing local or collector streets for each development;*

- *Encouraging roundabouts over signals, where feasible and appropriate;*
- *Requiring the bicycle and pedestrian connections from cul-de-sacs to nearby public areas and main streets; and*
- *Requiring new residential communities on undeveloped land planned for urban uses to provide stubs for future connections to the edge of the property line. Where stubs exist on adjacent properties, new streets within the development should connect to these stubs.*

Emergency Operations Plan

The city adopted an Emergency Operations Plan (EOP) in 2004, pursuant California Government Code *Section 8550-8668*, California Emergency Services Act, which requires all cities to prepare and maintain an emergency plan for natural and manmade emergencies. The EOP works in conjunction with the Tulare County Emergency Operations Plan and the State Emergency Plan. In addition, the city's Fire Department includes specific procedures for emergency response to incidents involving hazardous materials and waste.

Porterville Municipal Airport

The Porterville Municipal Airport is owned by the City of Porterville and occupies 940 acres with one (1) runway, Runway 12-30, measuring 5,908 feet long and 150 feet wide. The *Airport Layout Plan Narrative Report* in 2006 proposed to extend Runway 12-30 to the northeast by 1,742 feet and relocated by 650 feet to the southeast for a total length of 7,000 feet. The Airport Layout Plan also proposed to acquire 206 acres of land and over 30 acres of avigation easements for this future extension. The applicable airport land use plan is the 2012 Tulare County Comprehensive Airport Land Use Plan (CALUP) adopted by the Tulare County Airport Land Use Commission (ALUC) on November 28, 2012.[16] The CALUP identifies Airport Influence Area (AIA), Safety Zones, Height Restriction Zones, Noise Restriction Zones, Aircraft Overflight Zones, and provides a Land Use Compatibility Matrix to establish compatible and prohibited land use categories within the AIA and Safety Zones. A portion of the Matrix is shown in Table 4-17.

Table 4-17 Tulare County Airport Land Use Compatibility (portion)

Land Use Category	Safety Zone 1[1]	Safety Zone 2[1]	Safety Zone 3[1]	Safety Zone 4[1]	Safety Zone 5[1]	Safety Zone 6[2]	Remainder Areas within AIA[3]
***Residential*[4]**							
Single-Family	P	P	P	P	P	C [5]	C [5]
Multi-Family, Mobile Home Parks	P	P	P	P	P	P	C [5]
Group Homes, Nursing Homes	P	P	P	P	P	P	C [5]
Granny Flat (1,200 sf. or less)	P	P	P	P	P	P	C [5]
Caretaker Residence (1,200 sf. or less)	P	C [5]	C [5]	C [5]	C [5]	C [5]	C [5]
Institutional, Public, and Quasi-Public							
Schools and Hospitals	P [6]	P [6]	P [6]	P [6]	P [6]	C [6]	C [6]
Libraries, Day Care Centers, Social Clubs/Lodges, Churches	P	P	P	P	P	P	C
Parks, Playgrounds, Picnic Areas	P	C [7]	C [7]	C [7]	C [7]	C [7]	C [7]

[16] Tulare County Airport Land Use Commission. (2012). Tulare County Comprehensive Airport Land Use Plan. Accessed on August 4, 2023, https://tularecounty.ca.gov/rma/rma-documents/planning-documents/tulare-county-comprehensive-airport-land-use-plan/

Athletic Fields	P	C [7]	C [7]	C [7]	C [7]	C [7]	C [7]
Cemeteries - People or Pets	P	C	C	C	C	C	C
Public Utility Facilities (except Electric Plants)	P	C [8]	C [8]	C [8]	P	C	C
Electric Power Plants (including wind turbines and solar) and overhead transmission lines	P	P	P	P	P	C	C
Correctional Facilities	P	P	P	P	P	C	C
Communications							
Broadcast Studios	P	C	C	C	P	C	C
Transmission Stations, Towers, Antennas	P	P	P	P	P	C [9]	C
Commercial Recreational							
Arcades, Bowling Alleys, Skating Rinks, Dance and Pool Halls, Card Rooms, Gaming Facilities, Gyms, Health Spas, Indoor Theaters and Auditoriums, Go-cart track, Dirt track	P	P	C [7]	C [7]	P	C [7]	C
Outdoor Theaters, Amusement Parks, Carnivals, Fairs	P	C	C	C	C	C	C
Golf Courses, Tennis Courts	P	P	P	P	P	C	C
Multi-Use Stadium/Motor Speedway	P	P	P	P	P	C [7]	C
Swimming Pools, Water Slides	P	P	C [7]	P	P	C	C
Retail Commercial							
Aircraft Fuel, Aircraft Sales, Aircraft Repairs and Aircraft Flying Schools	P	P	P	P	C	P [10]	C
Vehicles and Parts Sales, Building Materials, Food and Beverage Sales	P	C [5]	C [5]	C [5]	P	C [5]	C
Shopping Centers	P	P	P	P	P	C [5]	C
Banks	P	P	P	P	P	C [5]	C
Small Retail Commercial Center	P	P	C [5]	C [5]	P	C [5]	C
Gasoline Service Stations	P	P	C	C	P	C	C
Restaurant and Food Take-Out, General Retail Stores, Tasting Rooms	P	P	C [5]	C [5]	P	C [5]	C
Convention and Conference Centers	P	P	C [5]	P	P	C [5]	C
Fuel Dealers, Fuel Storage	P	C [11]	C [11]	C [11]	P	C [11]	C
Service Commercial							
Office Buildings, Public Buildings, Research Laboratories	P	C [5]	C [5]	C [5]	C [5]	C	C
Appliance and Equipment Repair, Car Wash	P	C	C	C	P	C	C
Personal Services, Health Clinics	P	C [5]	C [5]	C [5]	P	C [5]	C
Recycling	P	C [8,11]	C [8,11]	C [8,11]	P	C	C
Transient Lodgings							
Hotels and Motels, Bed and Breakfast	P	P	C [4]	C [4]	C [4]	C [4]	C

RV Parks	P	P	C [4]	C [4]	C [4]	C [4]	C
Wholesale & Storage							
Mini-Storage	P	P	P	P	C	C	C
Ammonium Nitrates	P	P	P	P	P	P	P
Warehouse, Wholesale and Distributing	P	C [12]	C	C [12]	C [13]	C	C
Landfills	P	P	P	P	P	P	P
Petroleum and Chemical Products – Bulk Storage	P	P	C [11]	C [11]	C	C	C
Manufacturing & Processing							
Indoor Processes	P	C [14]	C [14]	C [14]	C [14]	C [14]	C
Industrial Manufacturing	P	C [14]	C [14]	C [14]	C [14]	C [14]	C
Warehousing & Distribution	P	C [14]	C [14]	C [14]	C [14]	C [14]	C
Transportation							
Vehicle Storage and Parking	C [12]	C	C [12]	C	C	C	C
Taxi Stands, Bus Stations/Terminals	P	C [15]	C [15]	C [15]	C [15]	C	C
Truck Terminals	P	C	C	C	C [13]	C	C

Land uses are identified as being "C" – compatible, or "P" – prohibited based upon the following interpretations:

- *Compatible - Compatible land uses are designated by the symbol "C". This designation means associated land use groups are at a level of intensity or density, or location, which does not present a significant risk to the safety of persons on the ground or to persons in aircraft over-flying the proposed use, nor is the land use type sensitive to anticipated aircraft noise or frequent aircraft over-flights.*
- *Prohibited - Prohibited land uses are designated by the symbol "P". The associated land use groups are at a level of intensity or density, or location, which presents a significant risk to the safety of persons on the ground or to persons in aircraft over-flying the proposed use, or the land use groups are sensitive to anticipated aircraft noise or frequent aircraft over-flights.*

The land use categories illustrated provide a representative sample of land uses found in Tulare County for the purpose of identifying any associated noise, safety, height, or overflight issues within the various zones of the Airport Influence Area. Other land use types that exhibit functional characteristics similar to the uses listed are likely to receive a similar compatibility rating. When it is not clear how a particular land use type might be rated for compatibility the referring agency, landowner or developer should contact ALUC Staff.

1. *Safety Zones 1 through 5 represent areas of greatest risk with respect to aircraft accidents. All uses that constitute a hazard to flight, including physical objects in the navigable airspace, activities that create a glare or visual interference to a pilot, or electronic interference with aircraft operations are specifically excluded from these zones regardless of whether they meet other qualifying criteria, unless such prohibition is precluded by applicable state statutes. Land use development that may cause the attraction of birds is also prohibited. In locations under portions of established instrument approach or departure routes, object heights may be restricted to less than that indicated by FAR Part 77 imaginary surfaces. An FAA aeronautical study may be required. All new development within Safety Zones 1 through 6 must dedicate an avigation easement to the airport sponsor.*
2. *Safety Zone 6 includes considerable overflight activity and although safety concerns are diminished, aircraft noise and objects within the navigable airspace are of primary concern.*
3. *The Airport Influence Area is defined by the outer edge of the conical surface as described in FAR Part 77, plus aircraft noise areas outside the conical surface that exceed 60 dB CNEL. The Remainder areas include portions of the FAR Part 77 horizontal surface not included within the safety zones, together with the conical surface and any 60 dB CNEL noise zones that project beyond the conical surface.*
4. *As a general policy, new residential development is an undesirable land use within Safety Zones 1 to 5. It is the intent of the ALUC to prohibit further residential subdivision of land within these Safety Zones, or to allow changes to land use or zoning in a manner that would accommodate additional dwelling units. Dwelling units already approved in accordance with current General Plans or Zoning and property owners allowed development of a single-family house by right are not affected.*

5. *In areas where aircraft noise is expected to exceed 60dB CNEL; inhabited residential structures must meet California Noise Standards and be designed to achieve an interior noise level of 45 dB CNEL or less. Non-residential structures such as offices, restaurants and retail stores must meet an interior noise level of 50 dB CNEL or less.*
6. *No local schools (K-12) or hospitals are permitted in Safety Zones 1 to 6. School locations must meet California Education Code standards.*
7. *Any activities located in Safety Zones 1 through 6 must meet nonresidential intensity standards – See Table 4-18Table 4-18 below.*
8. *No structures, congregations of equipment or vehicles, or public venues shall be located within 500 feet of runway centerline.*
9. *Subject to location and height limits.*
10. *Retail Commercial (Aircraft Fuel, Aircraft Sales, Aircraft Repairs and Aircraft Flying Schools) are a compatible use on airport property within Safety Zone 6.*
11. *For otherwise acceptable land uses, the limit for aboveground storage of hazardous materials is 2,000 gallons.*
12. *Allowed as a temporary use of Airport lands provided the activity does not attract birds or interfere with Airport operations.*
13. *A compatible use only when the activity is an integral part of an acceptable on-Airport use.*
14. *Allowed if dust, fumes, and other aspects of the process are carried out in a controlled environment.*
15. *Allowed only to the extent that such uses support the flow of passengers to and from the Airport.*

Table 4-18 Maximum Allowed Densities

Current Setting	Safety Zone 1	Safety Zone 2	Safety Zone 3	Safety Zone 4	Safety Zone 5	Safety Zone 6	Remainder Areas within AIA
Maximum Residential Densities (average number of dwelling units per gross acre)							
Rural	0	Note A	Note A	Note A	Note A	No Limit Note B	No Limit Note B
Suburban	0	1 per 10-20 ac	1 per 2-5 ac	1 per 2-5 ac	1 per 1-2 ac	No Limit Note B	No Limit Note B
Urban	0	0	Note C	Note C	Note C	No Limit Note B	No Limit Note B
Dense Urban	0	0	Note C	Note C	Note C	No Limit Note B	No Limit Note B
Maximum Nonresidential Intensities (average number of people per gross acre)							
Rural	0 Note D	10-40	50-70	70-100	50-70	150-200	No Limit
Suburban	0 Note D	40-60	70-100	100-150	10-100	200-300	No Limit
Urban	0 Note D	60-80	100-150	150-200	100-150	No Limit Note E	No Limit
Dense Urban	0 Note D	Note F	Note F	Note F	Note F	No Limit Note E	No Limit
Maximum Single Gross Acre Intensity (numbers of people)							
Rural	0	50-80 Note G	150-210 Note H	210-300 Note H	150-210 Note H	600-800 Note I	No Limit
Suburban	0	80-120 Note G	210-300 Note H	300-450 Note H	210-300 Note H	800-1200 Note I	No Limit
Urban	0	120-160 Note G	300-450 Note H	450-600 Note H	300-480 Note H	No Limit Note E	No Limit
Dense Urban	0	Note F	Note F	Note F	Note F	No Limit Note E	No Limit

A Maintain current zoning if less than density criteria for suburban setting.

B Noise and overflight should be considered. Affected jurisdictions may impose greater density restrictions through their general plan and/or zoning.
C Allow infill at up to the average density of surrounding residential area.
D Exceptions can be permitted for agricultural activities, roads and automobile parking provided that FAA criteria are satisfied.
E Large stadiums and similar uses should be prohibited.
F Allow infill at up to the average intensity of comparable surrounding uses.
G Based on 2x the Maximum Nonresidential Density.
H Based on 3x the Maximum Nonresidential Density.
I Based on 4x the Maximum Nonresidential Density.

The General Plan also established the following policy related to the ALUC.

> ***Implementing Policy LU-I-13*** *Discourage residential development within the Airport Safety Zone. If residential development is approved in the County within the Airport Safety Zone, it must comply with Tulare County Airport Land Use Commission's land-use compatibility standards and density restrictions.*

4.9.2 Impact Assessment

Would the project:

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

Less than Significant Impact. Although no development is proposed, future development of the Project site resulting from Project implementation would result in various land uses, including residential, commercial, office, institutional, industrial, recreational uses, etc. Of these uses, industrial development and gas stations could include production or services that would require the routine transport, use, or disposal of hazardous materials. Transportation of hazardous materials during operations are regulated by the U.S. Department of Transportation. Future development or businesses that would involve use, storage, and disposal of hazardous materials would be subject to hazardous materials programs administered by the Tulare County Environmental Health Division, including review for compliance with the Hazardous Waste Control Act, providing a Hazardous Materials Management Plan (HMMP), and obtaining permits. In addition, the General Plan includes policies *PHS-I-19* and *PHS-I-20* to ensure that hazardous facilities do not pose significant impacts to the environment. Compliance would ensure that operational-related impacts would be less than significant.

Future demolition and construction activities that includes temporary transport, storage, use or disposal of potentially hazardous materials (e.g., fuels, lubricating fluids, cleaners, solvents, etc.) would be regulated by the Department of Toxic Substances Control through the California Hazardous Waste Control Law and Hazardous Waste Control Regulations. Compliance would ensure that construction-related impacts would be less than significant.

For these reasons, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and a less than significant impact would occur.

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?

Less than Significant Impact. As described under criterion a), the Project is not anticipated to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, the Project would not 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. In addition, during the incidents involving hazardous materials and waste, the Fire Department would respond with specific procedures. Due to the Fire Department emergency response, a less than significant impact would occur.

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

Less than Significant Impact. There are no existing schools within one-quarter mile of the Project site. Buildout of the proposed Master Plan would result in increased population, including the increase of students. As such, the Master Plan anticipates the need to construct additional school facilities, including approximately 15.9 acres for a future elementary school within the Porterville Unified School District. This site is planned for in the City's 2030 General Plan. At full build out, the future school site is anticipated to be surrounded by low and medium density residential, as well as professional office to the north; low density residential to the east; and industrial park and neighborhood commercial to the west. Future school acquisition and development projects funded under the State School Facilities Program are subject to specific requirements established under the California Education Code and California Code of Regulations, including addressing potential school hazards relating to soils, seismicity, hazards and hazardous materials, and flooding during the school site selection process. Compliance with these requirements will address hazardous conditions associated with the siting of new public schools within the Master Plan. In addition, the Master Plan includes policies to ensure that new school sites are not located within one-quarter of an existing or proposed potentially hazardous site. Under compliance with the existing regulations and Master Plan policies, buildout of the Project would not expose hazardous, 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?

No Impact. According to NPL, EnviroStor, and GeoTracker, the Project site does not include any hazardous material release sites pursuant to Government Code *Section 65962.5*. As such, the Project would not create a significant hazard to the public of the environment and no impact 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 for people residing or working in the project area?

Less than Significant Impact. The nearest public airport or public use airport is the Porterville Municipal Airport located approximately 1.1 miles south of the Project site. According to CALUP, the southwest corner of the Project site is located within the Safety Zone 6 – Traffic Pattern Zone, and the whole Project site is within the Airport Influence Area. According to the Matrix shown in Table 4-17Table 4-17, multi-family residential, schools (K-12), hospitals, libraries, daycare, churches, etc., are prohibited within Zone 6. In accordance with California Public Utilities Code (PUC) *Section 21676(b)*, prior to the adoption or amendment of general plan, specific plan, zoning ordinance, or building regulation that affects lands within the AIA defined in the CALUP, the referring agency shall first refer the proposed action to the Airport Land Use Commission (ALUC). The ALUC will make a finding of whether the action is consistent with the CALUP. As such, the SoTu Master Plan would also be subject to review of the ALUC to ensure land use consistency with the CALUP.

Regarding future development within the Project site, any changes to the land use map proposed by the SoTu Master Plan would be subject to review for compliance by the ALUC.

Since the SoTu Master Plan would be reviewed by the ALUC to ensure compliance with the CALUP, the Project would not result in a safety hazard for people residing or working in the Project site and a less than significant impact would occur.

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

Less than Significant Impact. Although no development is proposed at this time, buildout of the Project would result in the construction of public roadways within the Project site that connects to existing roadways. Implementation of the Project would increase the number of vehicle trips within the Project Site, which could lead to deterioration in the level of service (LOS) of existing roadways. However, as described in Section 4.17, the LOS would remain at an acceptable standard under the planned roadway improvements, project design, and mitigation measures. In addition, future development of the Project site would be reviewed and conditioned to compliance with applicable standards for on-site emergency access including turn radii and fire access, including the Porterville Fire Department requirement to provide a mandatory secondary vehicular access point between Newcomb Street and SR65. This mandatory access point would be required to support a fire apparatus and ensure that emergency vehicle access is provided for the entirety of the Project site. Future developments would also be required to comply with General Plan *Policy C-I-3*, which establishes that greater street connectivity be provided by incorporating subdivision regulations for a minimum number of access points, encouraging roundabouts, requiring bicycle and pedestrian to main streets, and providing stubs for future connections. For these reasons, it can be determined that Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

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

Less than Significant Impact. The Project site is not identified by Cal Fire to be in a Moderate, High, or Very High Fire Hazard Severity Zone (FHSZ). The Project site is adjacent to the city's urbanized area primarily surrounded by agricultural and residential uses. Future development of the site would result in the construction of structures and installation of infrastructure that would be reviewed and conditioned by the city and Porterville Fire Department for compliance with all applicable standards, specifications, and codes. In addition, any structure occupied by humans would be required to be constructed in adherence to the Wildland Urban Interface Codes and Standards of the CBC Chapter 7A. Compliance with such regulations would ensure that future development of the Project site meets standards to help prevent loss, injury, or death involving wildland fires. For these reasons, the Project would have a less than significant impact.

4.9.3 Mitigation Measures

None required.

4.10 HYDROLOGY AND WATER QUALITY

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?		X		
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 a substantial erosion or siltation on- or off-site;			X	
	ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site:			X	
	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			X	
	iv. Impede or redirect flood flows?			X	
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

4.10.1 Environmental Setting

The Project site is outside of city limits of Porterville but within the Urban Development Boundary (UDB) and currently city municipal services infrastructure is available in the area for connection through the annexation process. This service area is classified as having a semi-arid Mediterranean climate which results in moderate rainfall, cold winters, and warm summers[17]. The city's water and stormwater services are described as follows.

Water

The City of Porterville's water system is municipally owned. The Porterville Public Works Department maintains and operates the City's water system. The City's water system consists of about 276 miles of distribution pipeline ranging from four-inches to 16-inches in diameter, 36 active municipal wells, and three hillside reservoirs with a total of 6,300,000 gallons of capacity. The City has purchased a site for an additional three million gallon reservoir. The City has approximately has a service 11,904 acres.[18]

Porterville meets its demand for domestic water entirely from groundwater sources, which is recharged from the Tule Basin Aquifer, which gets water from the Tule River. Rainfall also contributes to groundwater recharge at an annual average rainfall of 11.63 inches. The City does not receive raw or potable water, either by import or purchase, to supply their municipal distribution system. Although the City doesn't purchase water to service their system, the City has acquired water rights for approximately 900-acre feet annually from the Pioneer Ditch Company and Porter Slough Ditch Company. [19]

Porterville's 2030 General Plan establishes a goal of reducing groundwater pumping to match the aquifer safe yield. Additionally, the General Plan aims to reduce per capita demand by ten percent. The current per capita demand per day figure of 250 gallons was established in the 2001 Water System Master Plan and aims to be reduced to 225 gallons per capita per day. The General Plan includes the following goals and policies in its Open Space and Conservation Element and Public Utilities Element to promote water quality and conservation, as listed below.

Guiding Policy OSC-G-8: Ensure adequate water quality and supply for the entire Porterville community.

> Implementation Policy OSC-I-37: Establish watershed protection standards and review procedures in the Zoning Ordinance to protect groundwater resources.
>
> Implementation Policy OSC-I-40: Support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.
>
> Implementation Policy OSC-I-45: Work with the Regional Water Quality Control Board to ensure that all point source pollutants are adequately mitigated (as part of the CEQA review and project approval process) and monitored to ensure long-term compliance.

Guiding Policy PU-G-1: Ensure an adequate supply of fresh water to serve existing and future needs of the City.

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[17] City of Porterville 2020 Urban Water Management Plan. April 2022. 2020 Urban Water Management Plant (revize.com). Accessed January 17, 2024.
[18] City of Porterville 2020 Urban Water Management Plan. April 2022. 2020 Urban Water Management Plant (revize.com). Accessed January 17, 2024.
[19]

Guiding Policy PU-G-2: Promote the conservation of water within Porterville.

Implementation Policy PU-I-3: Periodically review and update development impact fees, water connection charges, and monthly service charges to ensure that adequate funds are collected to operate and maintain existing facilities and to construct new facilities.

Implementation Policy PU-I-4: Support efforts to expand surface water supply and storage that benefits the City.

Implementation Policy PU-I-5: Require that necessary water supply infrastructure and storage facilities are in place coincident with new development, and approve development plans only when a dependable and adequate water supply to serve the development is assured.

Implementation Policy PU-I-7: Continue to require water meters in all new development.

Stormwater

Within the City of Porterville, storm water runoff drainage is provided by natural watercourses, such as streams and rivers, reservoirs, ditches, and discharge locations. The City's Public Works Department manages drainage facilities on city-owned property such as public right-of-way, public easements, city-owned property. Drainage on private property or within privately held easements are typically managed by the underlying property owner. The stormwater collection system in the City is separated from its sanitary sewer collection system. The City's stormwater system consists of a system of natural water channels, drains, and ponding basins located throughout the City.

The City owns approximately 25 stormwater basins that provide groundwater recharge and are currently sized to only accept floodwater. The City's storm water system operates by conveying captured runoff to recharge basins or directly to flood channels throughout the City. However, it should be noted that stormwater has minimal benefit to the City's water supply and as a result is not reused for potable water supply[20].

4.10.2 Impact Assessment

Would the project:

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

Less than Significant Impact. Although no development is currently proposed, implementation of the Project would require grading, excavation, and loading activities associate with construction to facilitate future residential and commercial development. If a future development on the Project site is greater than one (1) acre in size, the developer would be required to prepare a SWPPP (Section 4.7) in compliance with the General Permit for Discharges of Storm Water Associated with Construction Activity (i.e., General Permit Order No. 2009-0009-DWQ). The SWPPP estimates the sediment risk associated with construction activities and includes best management practices (BMP) to control erosion. BMPs specific to erosion control cover erosion, sediment, tracking, and waste management controls. Implementation of the SWPPP minimizes the potential for the Project to result in substantial

[20] City of Porterville 2020 Urban Water Management Plan. April 2022. 2020 Urban Water Management Plant (revize.com). Accessed January 17, 2024

soil erosion or loss of topsoil. These provisions minimize the potential for future development of the Project site to violate any waste discharge requirements or otherwise substantially degrade surface or ground water quality. Further, runoff resulting from future development would be managed in compliance with approved grading and drainage plans in addition to the City of Porterville's Storm Water Management Program. Thus, compliance with regulations including the General Construction Permit, BMPs, approved grading and drainage plans, and Storm Water Management Program would reduce potential impacts related to water quality and waste discharge to less than significant levels.

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

Less than Significant with Mitigation Incorporated. The City's long-term water resource planning for existing and future demand is addressed in the City's 2020 Urban Water Management Plan (UWMP).[21] The City's sole source of water supply is the underlying groundwater basin, Tule Basin Aquifer, which gets water from the Tule River. This groundwater is extracted through the City's existing 36 wells throughout the community which distribute water to meet the current demands of the City. As of 2020, the City had 17,093 water connections and 98.5%, or 16,814, were metered connections.

Existing and future population projections as well as current and projected water use are shown in Table 4-19. As shown, the City anticipates a population of 87,901 to be supported by 5,731 million gallons per year.

Table 4-19 City of Porterville – Current and Projected Population and Total Water Use

Use Type	2020	2025	2030	2035	2040
Population Served	74,907	87,901	99,452	112,521	127,307
Total Water Use	3,647	5,731	6,497	7,337	8,322

Source: *City of Porterville, 2020 UWMP, Table 3.2 Retail Population – Current and Projected; Table 4.3 – Total Gross Water Use (Potable and Non-Potable)*

It is important to note that although the growth projections are based on a 2.5% growth however, the City has not grown as quickly as projected. According to the U.S. Department of Finance, the City of Porterville has an estimated population of 62,588 in 2023, with a total of 19,212 housing units and an average household size of 3.32.[22] This figure is significantly less than the projected population identified by the City's UDWM. This would indicate that even with the increase in population and density anticipated by the Project at full buildout, it would not increase the water demand beyond the projections considered in the UWMP.

As population and development within the city increases, the UWMP indicates that additional wells and storage tanks will be added to the water system to meet the growing demand. These increases are accounted for in the UWMP projections, which are based on the California Department of Water Resources (DWR) Simplified California Urban Water Service Area Population Methodology. However, the DWR population estimates projected atypical persons per connection at 4.98 persons per each water connection. The reflect the historical population growth in

[21] City of Porterville 2020 Urban Water Management Plan. April 2022. 2020 Urban Water Management Plant (revize.com). Accessed January 17, 2024

[22] U.S. Department of Finance (2023). E-5 City/County Population and Housing Estimates. Accessed on January 16, 2024, https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/

the City of 2.2% annual growth, the persons per connection number was modified to 4.39 which was determined to be an acceptable modification based on DWR's population tool guidelines.

Overall, based on the information collected from the UWMP and the City of Porterville 2030 General Plan, the proposed Project would not generate significantly greater water demand than would otherwise occur with a higher intensity land use. As a result, it can be presumed that the existing and planned water distribution system and supplies should be adequate to serve the Project, and the Project would thereby not interfere substantially with groundwater recharge or impede sustainable groundwater management of the basin. In addition, adherence to connection requirements and recommendations pursuant to the City's water supply planning efforts (i.e., compliance with California Plumbing Code, efficient appliances, efficient landscaping, etc.) should not negatively impact the City's water provision. Lastly, compliance with approved grading and drainage plans would ensure impacts to groundwater recharge are less than significant. For these reasons, a less than significant impact would occur.

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?

Less than Significant Impact. Erosion is a natural process in which soil is moved from place to place by wind or from flowing water. The effects of erosion within the Project site can be accelerated by ground-disturbing activities associated with development. Siltation is the settling of sediment to the bed of a stream or lake which increases the turbidity of water. Turbid water can have harmful effects to aquatic life by clogging fish gills, reducing spawning habitat, and suppress aquatic vegetation growth.

Soil erosion and loss of topsoil can be caused by natural factors, such as wind and flowing water, and human activity. Although no development is proposed, future development of the Project site would require typical site preparation activities such as grading and trenching which may result in the potential for short-term soil disturbance or erosion impacts. Soil disturbance during construction is largely caused by the use of water. Excessive soil erosion could cause damage to existing structures and roadways.

The likelihood of erosion occurring during construction would be reduced through site grading and surfacing, which would be subject to review and approval by the City for compliance with applicable standards. The likelihood of erosion would be further reduced through compliance with regulations including the General Construction Permit, BMPs, approved grading and drainage plans, and MS4 Permit as described under criterion a). As discussed in Section 4.7, all new construction requires the development of a Storm Water Pollution Prevention Plan (SWPPP) which would reduce the likelihood of soil erosion and its impacts. With these provisions in place, the impact to soil and topsoil by the Project would be considered less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

Less than Significant Impact. Although no development is proposed, future development of the Project site resulting from implementation of the Project would be subject to the entitlement review and approval process through the City of Porterville. Through the entitlement review and approval process, future development would be reviewed and conditioned for compliance with the General Construction Permit, BMPs, approved grading and drainage plans,

and MS4 Permit as described under criteria a) and c)-i. Further, if onsite retention facilities are required to manage surface runoff so as not result in flooding on- or off-site, then the size and capacity of such facilities would be determined through the site design, review, and conditioning of future development. Therefore, the entitlement review and approval process conducted by the City would ensure that surface runoff is controlled in a manner which would not result in flooding on- or off-site. For this reason, a less than significant impact would occur because of the Project.

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?

Less than Significant Impact. Although no development is proposed, future development of the Project site resulting from implementation of the Project would be subject to the entitlement review and approval process through the City of Porterville. Through the entitlement review and approval process, future development would be reviewed and conditioned for compliance with the General Construction Permit, BMPs, approved grading and drainage plans, and MS4 Permit as described under criteria a) and c)-ii. Further, if onsite retention facilities are required to manage surface runoff so as not result in exceedance of the capacity of existing or planned stormwater drainage systems or substantial additional sources of polluted runoff. Therefore, the entitlement review and approval process conducted by the City would ensure that surface runoff is controlled in a manner which would not exceed capacity or contribute to additional sources of polluted runoff. For this reason, a less than significant impact would occur because of the Project.

iv. Impede or redirect flood flows?

Less than Significant Impact. The Project site is located directly adjacent to the Tule River which is designated by FEMA as a regulatory floodway. However, the lands immediately adjacent to the Tule River within the floodway are designated as Open Space land use, thus would not be subject to future urban development since this land use largely prohibits the type of development that could occur in this land use designation. In the event the limited development did occur in the open space land use, it may require the approval from CDFW prior to any entitlement approval. The remainder of the Project site is located in a 1% Annual Chance Flood Hazard or 0.2% Annual Chance Flood Hazard. Given the existing stormwater drainage systems surrounding the site, future development of the site is not expected to substantially change the topography of the site and therefore would not be expected to impede or redirect flood flows.

Although no development is proposed, future development of the Project site resulting from implementation of the Project would be subject to the entitlement review and approval process through the City of Porterville. Through the entitlement review and approval process, future development would be reviewed and conditioned for compliance with the General Construction Permit, BMPs, approved grading and drainage plans, and MS4 Permit as described under criteria a) and c)-ii. Further, if onsite retention facilities are required to manage surface runoff so as not to impede or redirect flood flows. Therefore, the entitlement review and approval process conducted by the City would ensure that surface runoff is controlled in a manner which would not impede or redirect flood flows. For this reason, a less than significant impact would occur because of the Project.

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

Less than Significant Impact. The Project site is designated as Zone X on the most recent Flood Insurance Rate Map (FIRM) No. 06107C1637E and 06107C1637E dated June 16, 2009 (see Figure 4-9). Although the 2022-2023 rainfall

year resulted in record breaking annual rainfall that caused the Tule River to flood, Zone X is a flood hazard area with a 0.2 percent annual chance of flood hazard and one (1) precent annual chance flood with average depth less than one foot or with drainage areas of less than one (1) square mile. Furthermore, the Project site is not in a tsunami or seiche zone (i.e., standing waves on rivers, reservoirs, ponds, and lakes), therefore the risk of inundation is unlikely. For these reasons, the Project would have a less than significant impact.

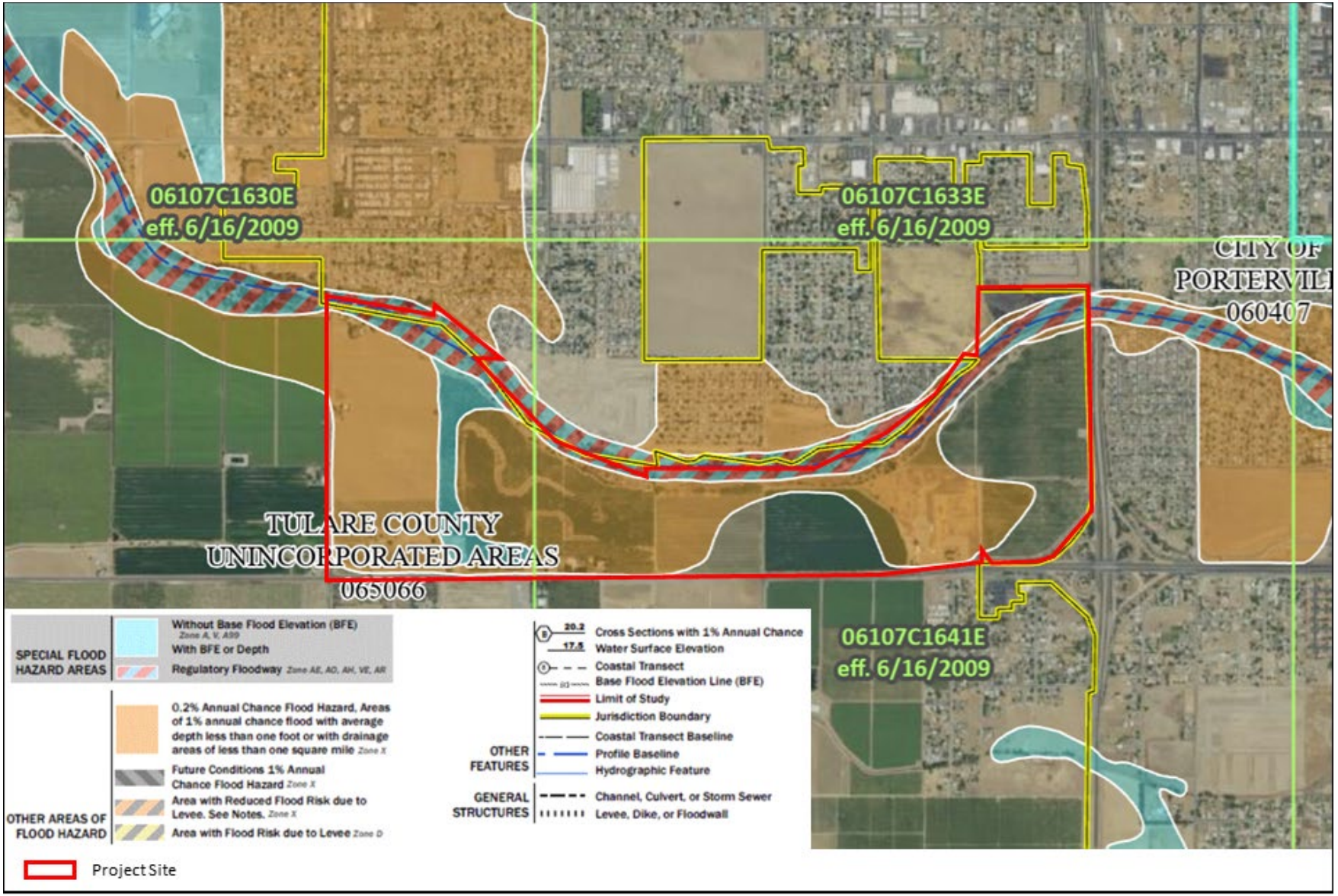


Figure 4-9 Flood Zone Map

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

Less than Significant Impact. The Project site is entirely within the Tule Subbasin. The Tule Subbasin has been identified by the California Department of Water Resources as a high-priority groundwater basin, which is subject to the provisions of the Sustainable Groundwaters Management Act (SGMA) and required to be managed through a groundwater sustainability plan. The City of Porterville is a member agency of the Eastern Tule Groundwater Sustainability Agency (ETGSA), which has an adopted Eastern Tule Groundwater Sustainability Plan (ETGSP).[23] Generally, the GSPs outline how groundwater sustainability will be achieved in 20 years and then maintained for an additional 30 years.

The ETGSP has existing monitoring programs for groundwater level, reductions in groundwater storage, seawater intrusion, groundwater quality, land subsidence, and interconnected surface water carried out by the Tule Subbasin Groundwater Sustainability Plans which municipal and community water purveyors are required to comply with in order to fulfill groundwater quality regulatory requirements. Compliance with the existing GSPs would ensure the Project would not substantially deplete groundwater resources. For these reasons, a less than significant impact would occur because of the Project.

4.10.3 Mitigation Measures

None required.

[23] Eastern Tule Groundwater Sustainability Agency (2023). Eastern Tule Groundwater Sustainable Plan 2022 Amended GSP. Accessed on February 15, 2024, https://easterntulegsa.com/gsp/

4.11 LAND USE AND PLANNING

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Physically divide an established community?			X	
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?			X	

4.11.1 Environmental Setting

The Project is located outside of Porterville's city limits and within Porterville's General Plan Planning Area, or the city's Urban Area Boundary (UAB). The eastern half of the site is within the city's Urban Development Boundary (UDB) while the western half of the site is outside of the UDB. The site is currently planned for primarily Low Density Residential with Retail Centers, Elementary School, and Parks and Recreation on the eastern portion. The Project proposes a Master Plan, including a General Plan Amendment (GPA) and Pre-zone/Rezone (RZ) to change the land use designation and zoning to a mix of 10 different land uses. The Project does not include annexation into the city. No physical development is proposed.

4.11.2 Impact Assessment

Would the project:

a) Physically divide an established community?

Less than Significant Impact. Typically, physical division of an established community would occur if a project introduced new incompatible uses inconsistent with the planned or existing land uses or created a physical barrier that impeded access within the community. Typical examples of physical barriers include the introduction of new, intersecting roadways, roadway closures, and construction of new major utility infrastructure (e.g., transmission lines, storm channels, etc.). The surrounding land uses, proposed roadways, and proposed utility infrastructure is described below.

Surrounding Land Uses: Currently, the site is occupied primarily by agricultural and rural residential uses. The Project, the adoption of the SoTu Master Plan, is being initiated by the City of Porterville to guide future development in the area. Although there is no physical development proposed with the SoTu Master Plan, the Project's goal is to provide the necessary framework to guide development in this area as it transitions from agricultural land to a vibrant, distinct, and multi-modal district of mixed densities and uses that is attractive to residential and visitors to live, work, explore, and shop. Implementation of the Project would thereby facilitate future development in line with the envisioned transformation of the Project site. The Project proposes to utilize existing development standards and zoning regulations, including height, parking, building setbacks, right-of-way dedications, and open space, etc. As such, the Project would be consistent and therefore compatible with the existing surrounding uses of the Project site. Therefore, implementation of the Project would be consistent with existing planned land uses of the surrounding area and a less than significant impact would occur.

Circulation System: The Project is being proposed in compliance with the Porterville 2030 General Plan Circulation Diagram with the addition of two (2) new collector streets within Project site that would result in a physical barrier. Proposed A Street is configured to be similar to the General Plan's existing 2030 Circulation Network. Proposed B Street is on the west of the site, with access to Westwood Street and Proposed A Street. While no development is proposed, implementation of the Project would result in future development of the Project site with a mix of urbanized uses. In addition to the collector streets, future development of the Project is expected to construct local roadways to connect to the collector streets. Additionally, the Master Plan considers and includes all planned improvements in or adjacent to the Project site outlined in the Porterville 2030 General Plan Circulation Element, which include widening SR 65 to a 4-lane expressway/freeway from city limits to SR 190, widening Westwood Street to a 4-lane arterial from Olive Avenue to SR 190, interchange improvements at the SR 190 and Westwood Street intersection, and a grade separation at SR 190 and Newcomb Street. Although implementation of the Project may require road closures associated with construction, these closures would be temporary and obtain the necessary encroachment permits from the City and Caltrans and therefore would result in a less than significant impact.

Utility Infrastructure: Future development resulting from Project implementation would be required to connect to the city's water, sewer, stormwater, and wastewater services at the time of annexation and development with urbanized uses in accordance with the proposed SoTu Master Plan. Natural gas, electricity, and telecommunications would be provided by private companies. Utility systems are described and analyzed in Section 4.10 and Section 4.15.

The Project is being proposed in compliance with existing land use, circulation and utility policies. As such, the Project is compatible with surrounding uses and existing development and would not result in the division of an established community. An established community refers to a group of people with an accepted commonality such as norms, religion, values, customs, or identity that is situated within a geographic area. The existing character of the site does not include an established community since the site is primarily agricultural operations with only several single-family residences on the south of the site along SR 190. As a result, the Project would facilitate development in a currently underutilized and undeveloped portion of the City's planning area. Therefore, the Project would not result in the physical separation of the established community. For these reasons, a less than significant impact would occur because of the Project.

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

Less than Significant Impact. Generally, policy conflicts are environmental impacts when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. As such, associated physical environmental impacts are discussed in this document under specific topical sections, such as Biological Resources, Cultural Resources, and Tribal Cultural Resources. The Project includes the adoption of a Master Plan, including a General Plan Amendment and Pre-zone/Rezone to provide guidance for the development of a mix of urbanized uses in the future. Although no development is proposed, future development of the Project would result in a mix of urbanized uses in the City of Porterville. During the entitlement process of the SoTu Master Plan, the Project is reviewed and conditioned to be generally compliant with General Plan land use policies. A discussion of land use land use policies that are applicable to the Project are included in Table 4-20. As discussed below, the Project is generally consistent with the General Plan.

Table 4-20 General Plan Policy and Project Consistency

General Plan Policy	Project Consistency
Policy LU-G-1. Promote a sustainable, balanced land use pattern that responds to existing needs and future needs of the City.	**Consistent.** The Project proposes a mix of uses in an underutilized and undeveloped portion of the City's planning area to meeting current and future needs of the City.
LU-G-7. Guide new development into compact neighborhoods with a defined, mixed-use center including public open space, a school or other community facilities, and neighborhood commercial.	**Consistent.** The Project includes a mix of residential densities, as well as non-residential uses such as commercial, office, and industrial. There is also a school site planned within the Project site to serve the area. Further, the Project utilizes the Tule River to create a trail feature that connects the area and provides protected open space for the proposed compact neighborhoods.
LU-G-9. Provide sufficient land with appropriate parcel sizes to support a full range of housing types and prices.	**Consistent.** The Project proposes a variety of residential densities that range six maximum dwelling units an acre to 24 maximum units an acre to support a full range of types of housing provided as well as price points and levels of affordability.
LU-G-19. Provide sufficient land for parks and open space to meet future demand.	**Consistent.** The Project proposes approximately 110 acres of land for parks and recreation. Some of this land is in the floodplain of the Tule River and not developable and some of it is intended for future trails. Additional 'pocket parks' or neighborhood parks may also be included on a project-by-project basis to ensure adequate open space is provided.
C-G-1. Promote safe and efficient vehicular circulation.	**Consistent.** The proposed Circulation Plan for the Project has been routed to Caltrans, Tulare County, and the City of Porterville to ensure that vehicular circulation is safe and efficient and does not conflict with any existing safety standards.
C-G-9. Promote the use of bicycles to alleviate vehicle traffic and improve public health.	**Consistent.** The Project proposes an integrated trail system that not only promotes safe and efficient vehicular traffic, but also encourages and protects alternative modes of transportation such as bicycle and pedestrian transportation.
C-G-10. Promote pedestrian activity.	

The SoTu Master Plan also includes several policies that future development in the area is required to comply with, including those established for the purpose of avoiding or mitigating an environmental effect. Through the entitlement process, future development would be reviewed for compliance with applicable regulations, including the Porterville 2030 General Plan and the SoTu Master Plan, inclusive of those adopted for the purpose of avoiding or mitigating environmental effects. Overall, the entitlement process would ensure that the Project complies with the General Plan, PMC, and any other applicable policies and regulations. As such, a less than significant impact would occur.

4.11.3 Mitigation Measures

None required.

4.12 MINERAL RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?			X	
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?			X	

4.12.1 Environmental Setting

For the purposes of CEQA, mineral resources are land areas or deposits deemed significant by the California Department of Conservation (DOC). Mineral resources include oil, natural gas, and metallic and nonmetallic deposits, including aggregate resources.

Mineral Resources

The California Geological Survey (CGS) classifies and designates areas within California that contain or potentially contain significant mineral resources. Lands are classified into Aggregate and Mineral Resource Zones (MRZs), which identify known or inferred significant mineral resources. According to the California Department of Conservation, CGS's Surface Mining and Reclamation Act (SMARA) Mineral Lands Classification (MLC) data portal, the *Mineral Land Classification Map* in 1997 identified areas along the Tule River and the historical emergent wetland and forested shrub wetland that has been under agricultural production since 2007 (APN 259-040-044) is in the MRZ-3a zone. [24] The MRZ-3a is considered to have a moderate potential for the discovery of mineral deposits due to surface geologic evidence that are known to contain mineral resources elsewhere, but has not been sampled at the current location. Figure 4-10 shows the *Mineral Land Classification Map* with the Project site identified.

According to the Porterville 2030 General Plan, the most economically significant mineral resources in Tulare County are sand, gravel, and crushed stone. These sources are usually alluvial deposits found in riverbeds and floodplains, and hard rock quarries. There are currently three (3) active construction grade sand and gravel mining sites in the city's Planning Area along the Tule River (not within the Project site). The General Plan established the following policies to protect mineral resources in the city's Planning Area.

Guiding Policy OSC-G-6 *Protect significant mineral resources.*

> ***Implementation Policy OSC-I-24*** *Require all mining and sand extraction operations to mitigate completely environmental impacts, including operations affecting water quality, habitat preservation, aesthetics and*

[24] California Department of Conservation. (1997). Mineral Lands Classification. Accessed on August 10, 2023, https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc

bridge undermining, and to submit reclamation and ultimate use plans for City approval prior to initiating operations.

Implementation Policy OSC-I-25 *Work with Tulare County to ensure that reclamation and ultimate use plans for mining operations land are consistent with the General Plan.*

Oil/Gas Wells

The Geologic Energy Management Division's (CalGEM) has an online mapping application, Well Finder, that presents California's oil and gas industry information, including the location of oil/gas wells, geothermal wells, gas/oil facilities (i.e., tank, vessel, sump), underground gas storage, as well as the boundaries of CalGEM-recognized oil/gas fields. According to Well Finder, the Project site is not within a CalGEM-recognized oil/gas field. There is one (1) existing dry hole well (API 0410720146) on APN 259-270-004 that is currently plugged. [25]

[25] California Department of Conservation Geologic Energy Management Division. Well Finder. Accessed on August 10, 2023, https://maps.conservation.ca.gov/doggr/wellfinder/

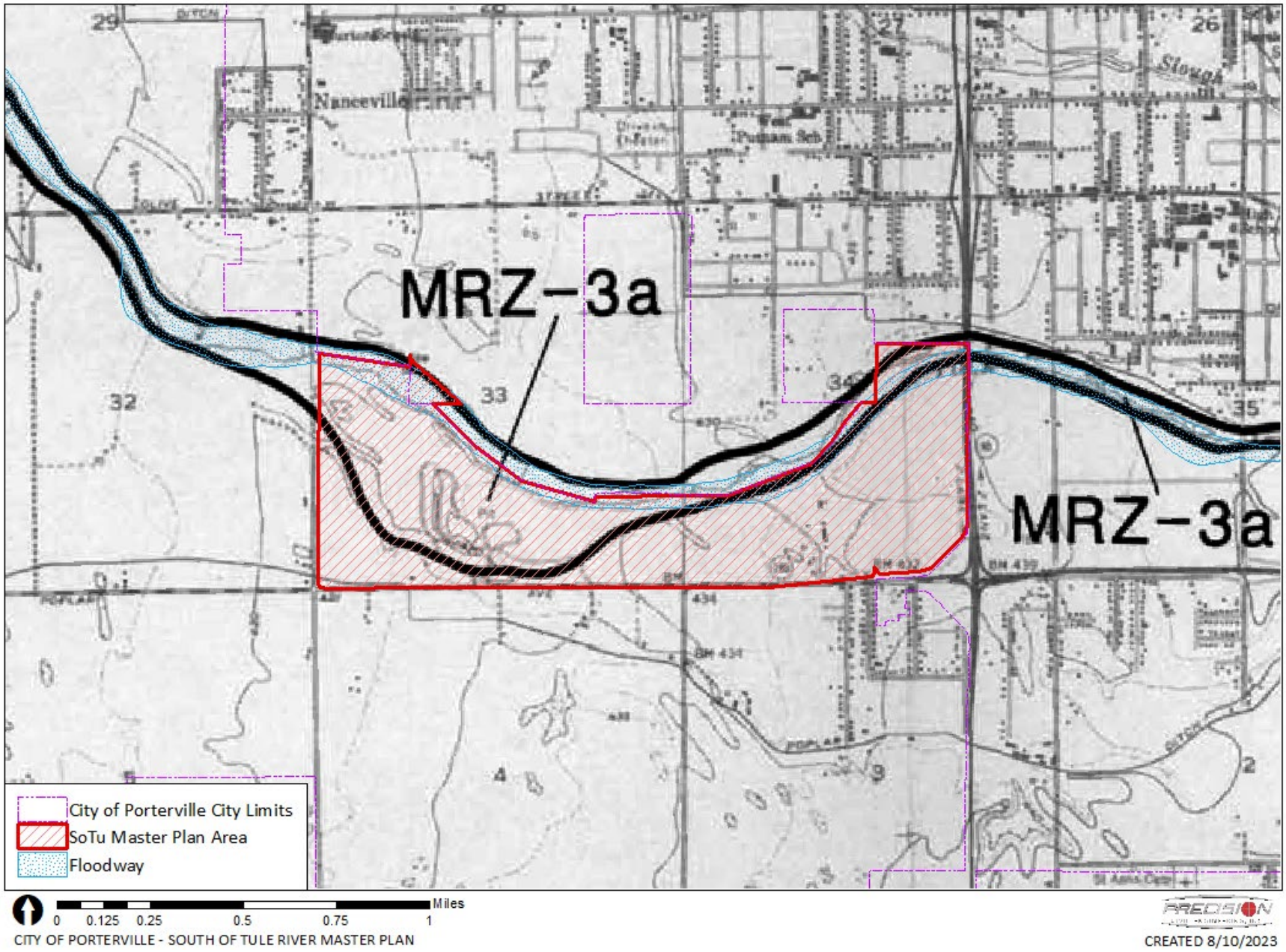


Figure 4-10 Mineral Lands Classification Map

4.12.2 Impact Assessment

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?*

Less than Significant Impact with Mitigation Incorporated. Portions of the Project site is classified as MRZ-3a, which may contain significant aggregate deposit. Implementation of the proposed Porterville 2030 General Plan as well as the SoTu Master Plan would result in the development of urbanized uses within the Project site, which are mostly adjacent to the Tule River. However, the lands immediately adjacent to the Tule River within the floodplain are designated as Open Space land use, thus would not be subject to future urban development since this land use largely prohibits the type of development that could occur in this land use designation. In the event the limited development did occur in the open space land use, it may require the approval from Department of Conservation prior to any entitlement approval. The Project shall incorporate ***Mitigation Measure MIN-1*** to mitigate the potential loss of availability of a known mineral resource.

In addition, development of the Project would not impede existing mining activities on the three (3) active mines since these mines are not located in or adjacent to the project site, nor would it result in the loss of availability of significant mineral resources. Pursuant to the Surface Mining and Reclamation Act of 1975 (SMARA), Porterville is responsible for designating Regionally Significant Construction Aggregate Resource Areas and identifying mineral resources to be conserved. The Project would not impede the implementation of the SMARA and the city's policies for the conservation of mineral resources. As a result, the Project would not 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. Therefore, a less than significant impact would occur because of the Project.

> ***Mitigation Measure MIN-1:*** *If development is proposed within the Project site designated as MRZ-3a, a soils reports and investigation shall be prepared prior to the approval of building permits to ensure that availability of valuable aggregate deposit will not decrease.*

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?*

Less than Significant Impact. As described above, portions of the Project site are in the MRZ-3a area, which may contain significant aggregate deposits. The site does not currently contain active mining activities. As a result, the Project would not 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 site is not delineated in the General Plan, a Specific Plan, or other land use plan as a locally important mineral resource recovery site, thus it would not result in the loss of availability of a locally important mineral resource. Therefore, a less than significant impact would occur because of the Project.

4.12.3 Mitigation Measures

The Project shall implement and incorporate, as applicable, the Mineral Resources related mitigation measures as identified above and in the MITIGATION MONITORING AND REPORTING PROGRAM contained in SECTION 5.

4.13 NOISE

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?		X		
b)	Generation of excessive groundborne vibration or groundborne noise levels?			X	
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?			X	

4.13.1 Environmental Setting

An Acoustical Analysis of the Project was conducted on August 2, 2023, by WJV Acoustics, Inc. (WJVA). The full report is provided in Appendix E. A summary of the Acoustical Analysis is provided below.

City of Porterville 2030 General Plan

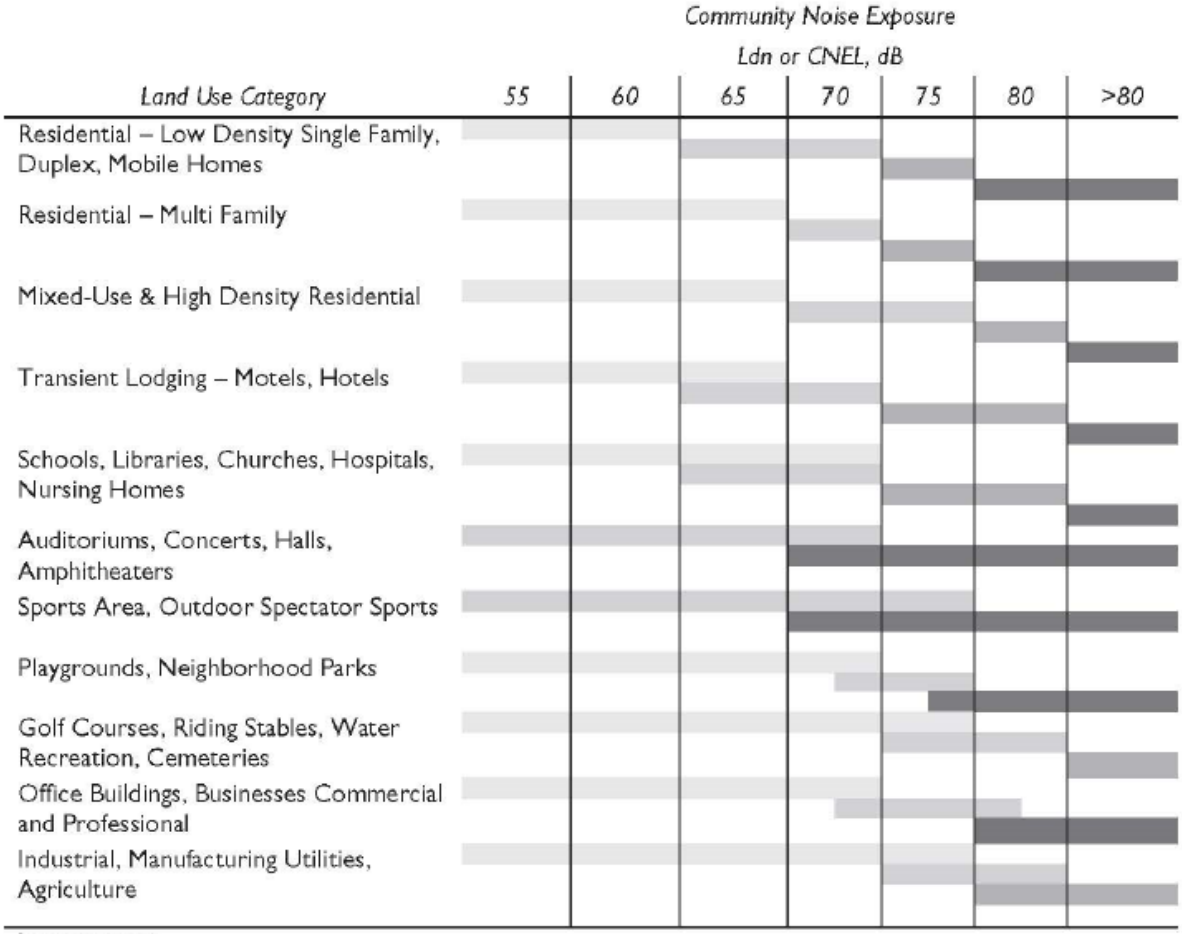
The City of Porterville Noise Element of the General Plan (adopted 2008) sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} is the time-weighted average noise level for a 24-hour day with a penalty of 10 dB added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.).

The Noise Element establishes a land use compatibility criterion of 60 dB L_{dn} for exterior noise levels in outdoor activity areas of residential developments. Outdoor activity areas generally include backyards of single-family residences and outdoor common use areas as well as individual patios or decks of multi-family developments. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation.

The City of Porterville 2030 General Plan Noise Element provides land use compatibility guidelines for community noise exposure levels. Table 4-21 below (Table 9-1 in the General Plan Nosie Element) summarizes these land use compatibility guidelines for various noise exposure levels within the community. An exterior noise level up to 60 dB L_{dn} is considered “Normally Acceptable” and an exterior noise level between 60 dB L_{dn} and 70 dB L_{dn} is considered

"Conditionally Acceptable" for residential land uses within the City of Porterville. Exterior noise levels above 70 dB L_{dn} are generally considered unacceptable for residential land uses.

Table 4-21 Land Use Compatibility for Community Noise Environments



Source: City of Porterville, 2006.

City of Porterville Municipal Code

Section 18-90.4 (Exterior Noise Standards) of the City of Porterville Municipal Code establishes hourly acoustical performance standards for non-transportation noise sources. The standards, provided in Table 4-22, are made more restrictive during the nighttime hours of 10:00 p.m. to 7:00 a.m.

Table 4-22 Non-transportation Noise Level Standards, dBA

Daytime (7 am – 10 pm)		Nighttime (10 pm – 7 am)	
L_{eq}	L_{max}	L_{eq}	L_{max}
50	70	45	65

Source: *City of Porterville Municipal Code*

The municipal code states that *"In the event the measured ambient noise level without the alleged offensive source in operation exceeds the applicable noise level standard in either category above, the applicable standard or standards shall be adjusted so as to equal the ambient noise level."*

Additionally, the municipal code states that *"Each of the noise level standards specified above shall be reduced by five (5) dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises."*

Construction Noise and Vibration

Section 18-90.6 (Noise Source Exemptions) provides the following stipulations that may be applicable to the project. *The following activities shall be exempted from the provisions of this article:*

- *Activities conducted in public parks, public playgrounds and public or private school grounds, including, but not limited to, school athletic and school entertainment events, except as otherwise noted in this article*
- *Noise sources associated with construction, whether private or public, within five hundred feet (500') of the uses mentioned in subsection 18-90.4 of this article, provided such activities do not take place before six o'clock (6:00) A.M. or after nine o'clock (9:00) P.M. on any day except Saturday or Sunday, or before seven o'clock (7:00) A.M. or after five o'clock (5:00) P.M. on Saturday or Sunday.*

There are no state or federal standards that specifically address construction vibration. Some guidance is provided by the Caltrans Transportation and Construction Vibration Guidance Manual. The Manual provides guidance for determining annoyance potential criteria and damage potential threshold criteria. These criteria are provided below in Table 4-23 and Table 4-24, and are presented in terms of peak particle velocity (PPV) in inches per second (in/sec).

Table 4-23 Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4

Source: *Caltrans*

Table 4-24 Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile, historic buildings, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: *Caltrans*

Background Noise Level Measurements

Existing noise levels in the project vicinity are dominated by traffic noise along local roadways and noise associated with various agricultural land uses near and within the Project site, as well as occasional aircraft overflights. Measurements of existing ambient noise levels in the Project vicinity were conducted on June 27, 2023 and June 28, 2023.

Long-Term Noise Measurement

Long-term (24-hour) ambient noise level measurements were conducted at three (3) locations. Ambient noise levels were measured for a period of 24 continuous hours at each of the three (3) locations. All three sites were exposed to noise associated with vehicle traffic on roadways as well as periodic agricultural activities. The locations and noise measurement results of the three (3) sites are:

- Site LT-1 is located within the western portion of the project site, along S. Westwood Street. Measured hourly energy average noise levels (L_{eq}) changed from a low of 61.0 dB between 1:00 a.m. and 2:00 a.m. to a high of 71.9 dBA between 5:00 p.m. and 6:00 p.m. Hourly maximum (L_{max}) noise levels ranged from 80.1 to 96.1 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 37.2 to 53.3 dBA. [26] The measured L_{dn} value at site LT-1 was 74.3 dB L_{dn}.
- Site LT-2 is located within the southern portion of the project site, along SR 190 (W. Poplar Avenue). Measured hourly energy average noise levels (L_{eq}) ranged from a low of 63.6 dB between 1:00 a.m. and 2:00 a.m. to a high of 74.1 dBA between 2:00 p.m. and 3:00 p.m. as well as between 3:00 p.m. and 4:00 p.m. Hourly maximum (L_{max}) noise levels ranged from 81.6 to 94.9 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 40.2 to 59.0 dBA. The measured L_{dn} value was 76.6 dB L_{dn}.
- Site LT-3 is located within the eastern portion project site, along SR 65. Measured hourly energy average noise levels (L_{eq}) ranged from a low of 60.2 dB between 2:00 a.m. and 3:00 a.m. to a high of 69.1 dBA between 9:00 p.m. and 10:00 p.m. Hourly maximum (L_{max}) noise levels ranged from 73.2 to 93.2 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 41.7 to 61.2 dBA. The measured L_{dn} value at site LT-was 72.6 dB L_{dn}.

Short-Term Noise Measurement

Short-term noise measurements were conducted for 15-minute periods at each of the six (6) sites. Table 4-25 summarizes short-term noise measurement results. The noise measurement data included energy average (L_{eq}) maximum (L_{max}) as well as five (5) individual statistical parameters. Observations were made of the dominant noise sources affecting the measurements. The statistical parameters describe the percent of time a noise level was exceeded during the measurement period. For instance, the L_{90} describes the noise level exceeded 90 percent of

[26] The L90 is a statistical descriptor that defines the noise level exceeded 90% of the time during each hour of the sample period. The L90 is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources.

the time during the measurement period and is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources.

Table 4-25 Summary of Short-Term Noise Measurement Data

Site	Time	A-Weighted Decibels, dBA							Sources
		L_{eq}	L_{max}	L_z	L_g	L_{25}	L_{50}	L_{90}	
ST-1	8:30 am	55.2	72.0	67.4	55.6	45.7	42.7	39.2	TR, C
ST-1	4:15 pm	48.9	68.4	59.2	50.5	44.3	41.0	39.6	TR, V
ST-2	8:50 am	41.5	52.9	46.8	44.4	42.0	40.1	38.2	TR, B, D, V
ST-2	4:35 pm	49.2	71.2	53.8	50.7	44.1	41.1	39.2	TR, V
ST-3	9:10 pm	43.3	51.1	46.6	45.4	44.0	43.0	40.4	TR, L
ST-3	5:00 pm	45.5	60.8	50.0	47.4	45.5	43.8	41.6	TR, AC
ST-4	9:30 am	48.3	57.5	54.2	52.4	49.1	46.1	42.6	TR, B, D
ST-4	5:20 pm	52.9	70.3	56.6	53.8	50.4	47.7	43.1	TR, V
ST-5	9:55 am	64.2	74.2	72.5	69.7	65.6	61.1	52.1	TR, AG
ST-5	6:10 pm	65.0	76.1	73.0	68.8	65.5	62.3	53.7	TR
ST-6	10:20 am	55.8	59.5	58.7	57.8	56.8	55.6	52.5	TR, L, C
ST-6	5:45 pm	56.1	62.2	59.0	58.1	57.3	55.5	53.1	TR, AC

TR: Traffic AC: Aircraft AG: Agricultural Activities C: Construction Activities B: Birds D: Barking Dogs V: Voices L: Landscaping Activities

Source: *WJV Acoustics, Inc.*

Methodology

WJVA utilized the FHWA Traffic Noise Model to quantify expected project-related increases in traffic noise exposure along roadways in the project vicinity. The FHWA Model is a standard analytical method used by state and local agencies for roadway traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Traffic volumes for the analyzed receptor locations were provided by the project traffic engineer, JLB Traffic Engineering, Inc. Truck percentages for SR 190 were provided by Caltrans. Truck percentages (for non-SR 190 traffic) and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources.

Traffic noise exposure levels for Existing, Existing Plus Project, 2046 Cumulative No Project and 2046 Cumulative Plus Project traffic scenarios were calculated based upon the FHWA Model and the above-described model inputs and assumptions. Project-related significant impacts would occur if an increase in traffic noise associated with the project would result in noise levels exceeding the City's applicable noise level standards at the location(s) of sensitive receptors. For the purpose of this analysis a significant impact was also assumed to occur if traffic noise levels were to increase by 3 dB at sensitive receptor locations where noise levels already exceed the City's applicable noise level standards (without the project), as 3 dB generally represents the threshold of perception in change for the human ear.

The City's exterior noise level standard for residential land uses is 60 dB L_{dn}. Traffic noise was modeled at 12 receptor locations. The twelve modeled receptors are located at roadway setback distances representative of the sensitive receptors (residences) along each analyzed roadway segment. See Figure 4-11 for receptor locations.

Figure 4-11 Modeled Traffic Noise Receptor Locations

4.13.2 Impact Assessment

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

Less than Significant with Mitigation Incorporated. While no development is currently proposed, implementation of the Project would result in future development that would have noise generating activities.

Traffic Noise Exposure to Off-Site Sensitive Receptors

Existing Conditions: Table 4-26 provides existing traffic noise exposure levels at the 12 analyzed representative receptor locations and provides what the Project contribution would be to existing traffic conditions.

Table 4-26 Project Contribution to Future Traffic Noise, dB, Ldn – Existing Traffic Conditions

Modeled Receptor	Existing Without Project Contribution	Existing Plus Project	Project Contribution	Significant Impact?
R-1	62	64	+2	No
R-2	60	60	0	No
R-3	63	65	+2	No
R-4	63	65	+2	No
R-5	58	59	+1	No
R-6	59	61	+2	Yes
R-7	60	65	+5	Yes
R-8	50	50	0	No
R-9	63	65	+2	No
R-10	63	64	+1	No
R-11	64	66	+2	No
R-12	60	60	0	No

Source: *WJV Acoustics, Inc., JLB Traffic Engineering, Inc.*

2046 Cumulative Conditions: Table 4-27 provides 2046 Cumulative traffic noise exposure levels at the twelve analyzed representative receptor locations and provides what the project contribution would be to 2046 Cumulative traffic conditions.

Table 4-27 Project Contribution to Future Traffic Noise, dB, Ldn – 2046 Cumulative Traffic Conditions

Modeled Receptor	2040 Conditions Without Project Contribution	2046 Conditions Plus Project	Project Contribution	Significant Impact?
R-1	63	65	+2	No
R-2	60	60	0	No
R-3	64	66	+2	No
R-4	64	65	+1	No
R-5	58	59	+1	No
R-6	59	61	+2	Yes
R-7	61	65	+4	Yes
R-8	50	50	0	No
R-9	63	65	+2	No
R-10	63	64	+1	No
R-11	64	66	+2	No
R-12	60	60	0	No

Source: *WJV Acoustics, Inc., JLB Traffic Engineering, Inc.*

Reference to Table 4-26 and Table 4-27 indicate that the Project's contribution could result in significant impacts at sensitive receptor (residential) locations along Newcomb Street, both north and south of Olive Avenue. However, the noise levels provided in Table 4-26 and Table 4-27 do not consider any localized acoustic shielding provided by existing houses or sound walls. The exterior noise level compatibility standards are applied to outdoor activity areas. Outdoor activity areas are generally considered backyards of single-family residential land uses and outdoor common use areas (pools, BBQ/Picnic areas, playgrounds, etc.) as well as individual patios and balconies of multi-family residential land uses.

Most of the existing residential land uses located along Newcomb Street either front the roadway (in which case the homes provide acoustic shielding to the backyard areas) or they have existing 6-foot sound walls. In these situations, exterior noise levels would not be expected to exceed 60 dB L_{dn}, and the project would not result in a noise impact to these homes.

Future development of the Project site could result in a noise impact at a handful of existing residential land uses along Newcomb Street. This would only be the case at residential land uses along Newcomb Street that either 1) do not have existing sound walls, or 2) do not have homes that face the roadway. An example of one such home would be the residence indicated as R-7 on Figure 4-11, located on the corner of Newcomb Street and Clare Avenue.

Possibilities for exterior noise mitigation at existing noise-sensitive uses include the construction of effective sound walls. Due to the many complications of working with individual landowners to implement such measures, it may not be feasible to achieve successful noise mitigation for all existing noise-sensitive uses that could be impacted by the project. For that reason, this impact could remain significant and unavoidable. However, the City of Porterville considers exterior noise levels up to 70 dB L_{dn} to be conditionally acceptable for residential land uses. This is generally considered when a good faith effort to reduce exterior noise levels to 60 dB L_{dn} cannot be feasibly achieved, and the interior noise level standard of 45 dB L_{dn} is maintained. Therefore, noise levels would be at or below conditionally acceptable levels and would result in a less than significant impact with mitigation.

Traffic Noise Exposure to Proposed On-Site Sensitive Receptors

The City of Porterville 2030 General Plan Noise Element establishes an exterior noise level standard of 60 dB L_{dn} for outdoor activity areas of residential uses. An exterior noise level up to 60 dB L_{dn} is considered "Normally Acceptable" and an exterior noise level up to 70 dB L_{dn} is considered "Conditionally Acceptable" for residential land uses. Outdoor activity areas generally include backyards of single-family residences and individual patios or decks and common outdoor activity areas of multi-family developments. The noise element also requires that interior noise levels attributable to exterior noise sources not exceed 45 dB L_{dn}.

The proposed project would include new sensitive receptors (residential land uses) that could be impacted by traffic noise exposure adjacent to or near arterial roadways and highways. Such roadways include Westwood Street, SR 190 (W. Poplar Avenue), Newcomb Street and SR 65. WJVA used the above-described FHWA traffic noise model and traffic noise modeling assumptions to determine the distances from the center of the roadways to the 60 dB L_{dn} and 70 dB L_{dn} noise exposure contours. Table 4-28 provides the distances from the center of each roadway to these noise exposure contours. Table 4-28 provides the contour distances for 2046 Cumulative conditions as they represent a worst-case assessment of noise exposure at proposed sensitive receptor locations. Distances to the SR 65 contours are based upon existing traffic volumes as 2046 Cumulative volumes were not available at the time this analysis was prepared.

Table 4-28 Distances to Traffic Noise Contours – 2046 Conditions

Roadway Segment (Description)	Distance (Feet) From Roadway Centerline to Contour	
	60 dB Ld_n	70 dB Ld_n
Westwood Street	157	34
SR 190 (Poplar Avenue)	409	88
Newcomb Street	137	23
SR 65 *	674	145

Source: *WJV Acoustics, Inc., JLB Traffic Engineering, Inc.*
** based upon existing traffic volumes as future projected volumes were not available*

It should be noted, contour distances provided in Table 4-28 are based upon unattenuated traffic noise levels, and do not consider any localized acoustical shielding that may be provided by elevational/toparchic changes between the receptor and the roadway, existing buildings, or walls. Therefore, these setback distances should be considered a worst-case assessment of traffic noise impacting the project site. Once site specific plans and details are developed, project site noise exposure may be re-evaluated based upon site-specific conditions.

A noise impact could occur if new proposed sensitive receptors (residential land uses) are located within the cumulative 60dB L_{dn} traffic noise contours. Table 4-28 provides the setback distances from the centerline of each of the four (4) site-adjacent arterial roadways and highways to the 60 dB L_{dn} exterior nose level contour.

Noise levels from transportation noise sources may be effectively mitigated by incorporating noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. As such, the Project incorporates ***Mitigation Measure NOI-1*** which mitigates traffic noise, including the use of building setbacks or the construction of berms and sound walls.

Mitigation Measure NOI-1: *Prior to project approval of residential development within the SoTu Master Plan, the City of Porterville shall ensure that proposed residential structures are located at least 157 feet from the centerline of Westwood Street, 409 feet from the centerline of SR 190 (Poplar Avenue), 137 feet from the centerline of Newcomb Street, and 674 feet from SR 65. If the project does not provide the listed setback for residential structures, sound walls shall be proposed to ensure that exterior noise of the residential site would not exceed 60 dB L_{dn}. If the project proposes sound walls in place of setbacks from roadway centerlines, a noise study shall be conducted as evidence that the sound wall is sufficient to maintain an exterior noise of 60 dB L_{dn} or 70 dB L_{dn}.*

Stationary Noise Exposure

The proposed Project would include several land use designations with the potential to result in noise impacts to existing noise-sensitive (residential) land uses. These land uses include Commercial Mixed Use (32.99 acres), Retail Centers (24.35 acres), Neighborhood Commercial (8.61 acres) and Industrial Park (59.61 acres).

The noise level standards applicable to these proposed land uses are provided above in Table 4-21 (Municipal Code standards for non-transportation noise sources). The noise standards become 5 dB more restrictive during nighttime hours (10:00 p.m. to 7:00 a.m.).

A wide variety of noise sources can be associated with such commercial, retail and light industrial land uses. The noise levels produced by such sources can also be highly variable and could potentially impact existing off-site and

proposed on-site sensitive receptors. Typical examples of stationary noise sources associated with such land uses include:

- HVAC/Mechanical equipment
- Truck movements
- Parking lot activities (closing of car doors and trunks, stereos, alarms etc.)
- Drive-Through operations
- Loading Dock Activities
- Car Wash Operations
- Refuse/Cardboard Compactor

The exact quantity, type and location of such noise-producing sources were not known at the time of this analysis. These potential noise sources are discussed in general terms below.

HVAC Mechanical Equipment

It is assumed that various components of the above-described land uses would include ground- or roof-mounted HVAC units for interior spaces. WJVA has conducted reference noise level measurements at numerous commercial and retail buildings with roof-mounted HVAC units, and associated noise levels typically range between approximately 45-50 dB at a distance of 50 feet from the building façade.

Truck Movements

Truck movements and deliveries would likely be associated with these land uses. Additionally, the Industrial Park land use designation could potentially include warehousing and/or distribution centers, which would involve associated truck movements.

WJVA has conducted measurements of the noise levels produced by slowly moving trucks for a number of studies. Such truck movements would be expected to produce noise levels in the range of 65 to 71 dBA at a distance of 100 feet. The range in measured truck noise levels is due to differences in the size of trucks, their speed of movement and whether they have refrigeration units in operation during the pass-by.

Parking Lot Activities

Noise due to traffic in parking lots is typically limited by low speeds and is not usually considered to be significant. Human activity in parking lots that can produce noise includes voices, stereo systems and the opening and closing of car doors and trunk lids. Such activities can occur at any time. The noise levels associated with these activities cannot be precisely defined due to variables such as the number of parking movements, time of day and other factors. It is typical for a passing car in a parking lot to produce a maximum noise level of 60-65 dBA at a distance of 50 feet, which is comparable to the level of a raised voice.

Drive-Through Retail

The proposed project could include multiple retail areas that could include drive-through quick-service restaurant operations. In order to assess potential noise levels associated with drive-through operations, WJVA reviewed reference noise levels measured at a Wendy's drive-through restaurant located on South Mooney Boulevard in Visalia. Measurements were conducted during the early afternoon of July 11, 2011 between 12:45 p.m. and 1:45 p.m. using the previously described noise monitoring equipment.

The microphone used by customers to order food and the loudspeaker used by employees to confirm orders are both integrated into a menu board that is located a few feet from the drive-through lane at the approximate height of a typical car window. Vehicles would enter the drive-through lane from the west and then turn to the north along the east side of the restaurant.

Reference noise measurements were obtained at a distance of approximately 40 feet from the menu board containing the microphone/loudspeaker system at an angle of about 45° toward the rear of the vehicle being served. This provided a worst-case exposure to sound from the loudspeaker system since the vehicle was not located directly between the loudspeaker and measurement location. Cars were lined up in the access lane during the noise measurement period indicating that the drive-through lane was operating at or near a peak level of activity.

Each ordering cycle was observed to take approximately 60 seconds including vehicle movements. A typical ordering cycle included 5-10 seconds of loudspeaker use with typical maximum noise levels in the range of 60-62 dBA at the 40 foot-reference location. Vehicles moving through the drive-through lane produced noise levels in the range of 55-60 dBA at the same distance. Vehicles parked at the ordering position (between the menu board and measurement site) were observed to provide significant acoustic shielding during the ordering sequence. The effects of such shielding are reflected by the noise measurement data. Noise levels were measured to approximately 60 dB L_{eq} at the measurement site, and included noise from all sources, including the loudspeaker, vehicle movements and HVAC equipment.

Loading Dock Activities

Noise sources typically associated with loading dock activities include truck engines, the operation of truck-mounted refrigeration units, fork lifts, the banging of hand carts and roll-up doors, noise from P.A. systems, and the voices of truck drivers and store employees. Truck engines and/or refrigeration units are typically turned off while trucks are in loading dock areas to reduce noise and save energy. Based upon noise level measurements conducted by WJVA for other studies, loading dock noise levels would be expected to be in the range of approximately 60 to 75 dBA at a distance of 100 feet.

Compactor

Retail and commercial land uses often include exterior-located compactors. Based upon noise studies conducted by WJVA for other projects, the maximum noise level produced by a typical unenclosed trash compactor (Hydra-Fab Model 1200) is approximately 74 dBA at a distance of 10 feet from the equipment.

Car Wash

Commercial/Retail land use designations could potentially include automated car wash operations. Noise levels associated with automated car wash operations vary widely, based upon car wash type, enclosure type, equipment type and orientation. WJVA has prepared numerous noise studies for various car wash projects. Noise levels associated with automated car wash operations are generally in the range of 83-87 dB at a distance of twenty feet from the source.

Noise levels from new stationary noise sources cannot be predicted with any certainty at this time since specific uses have not yet been proposed and the locations of stationary noise sources relative to the locations of new noise

sensitive uses are not known. However, under some circumstances there is a potential for such uses exceed the City's noise standards for stationary noise sources at the locations of sensitive receptors.

Noise levels from new stationary noise sources may be effectively mitigated by incorporating noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. Options for noise mitigation include the use of building setbacks, the construction of sound walls and the use of noise source equipment enclosures.

When specific uses within the Project Site are proposed (and their locations are defined) that could result in a noise-related conflict between a commercial or other stationary noise source and project proposed sensitive receptors, an acoustical analysis should be required that quantifies project-related noise levels and recommends appropriate mitigation measures to achieve compliance with the City's noise standards. The acoustical analysis should be the responsibility of the project applicant.

Construction Noise Exposure

Construction noise would occur at various locations within and near the project site through various phases. Existing sensitive receptors could be located as close as 100 feet from construction activities. Table 4-29 provides typical construction-related noise levels at distances of 100 feet, 200 feet, and 300 feet.

Construction noise is not considered to be a significant impact if construction is limited to the allowed hours and construction equipment is adequately maintained and muffled. The City of Porterville limits hours of construction to occur only between the hours of 6:00 a.m. to 9:00 p.m. Monday through Friday, and 7:00 a.m. to 5:00 p.m. on weekends. Any construction activities occurring outside of these hours would be subject to the City's stationary noise standards provided above in Table 4-22. Construction noise impacts could result in annoyance or sleep disruption for nearby residents if nighttime operations were to occur or if equipment is not properly muffled or maintained.

Table 4-29 Typical Construction Equipment Maximum Noise Levels, dBA

Type of Equipment	100 ft.	200 ft.	300 ft.
Concrete Saw	84	78	74
Crane	75	68	65
Excavator	75	69	65
Front End Loader	73	67	63
Jackhammer	83	77	73
Paver	71	65	61
Pneumatic Tool	79	73	69
Dozer	76	70	66
Rollers	74	68	64
Trucks	80	72	70
Pumps	74	68	64
Scrapers	81	75	71
Portable Generators	74	68	64
Backhoe	80	74	70
Grader	80	74	70

Source: *FHWA, Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman, 1987*

A noise impact could occur if construction activities do not incorporate appropriate best management practices in regards to construction-related noise. ***Mitigation Measure NOI-2*** incorporates best management practices that should be implemented to minimize the potential for noise impacts on existing sensitive receptors in the Project area during project construction.

Mitigation Measure NOI-2: *Prior to ground disturbing activities for projects within the SoTu Master Plan, the City of Porterville shall ensure the following with the Project proponent:*

- *Per the City of Porterville Municipal Code, construction activities should not occur outside the hours of 6:00 a.m. to 9:00 p.m. during weekdays and 7:00 a.m. to 5:00 p.m. on weekends. Construction activities that occur outside these hours would be subject to the stationary noise standards as set forth in the City of Porterville Municipal Code Section 18-90.4.*
- *All construction equipment shall be properly maintained and muffled as to minimize noise generation at the source.*
- *Noise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor.*
- *All noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from any noise-sensitive land uses.*
- *Locate construction staging areas, to the extent possible, at the greatest possible distances from any noise-sensitive land uses.*
- *Signs shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing the contact phone number of a designated noise disturbance coordinator.*

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

Less than Significant Impact. The dominant sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. Vibration from construction activities could be detected at the closest sensitive land uses, especially during movements by heavy equipment or loaded trucks and during some paving activities (if they were to occur). Typical vibration levels at distances of 100 feet and 300 feet are summarized by Table 4-30. These levels would not be expected to exceed any significant threshold levels for annoyance or damage, as provided above in Table 4-23 and Table 4-24.

Table 4-30 Typical Vibration Levels During Construction

Equipment	PPV (in/sec)	
	At 100 feet	At 300 feet
Bulldozer (Large)	0.011	0.006
Bulldozer (Small)	0.0004	0.00019
Loaded Truck	0.01	0.005
Jackhammer	0.005	0.002
Vibratory Roller	0.03	0.013
Caisson Drilling	0.01	0.006

Source: *Caltrans*

As a result, the Project would have a less than significant impact.

c) 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 expose people residing or working in the project area to excessive noise levels?

Less than Significant Impact. The nearest public airport or public use airport is the Porterville Municipal Airport located approximately 1.1 miles south of the Project site. According to CALUP, the southwest corner of the Project site is located within the Safety Zone 6 – Traffic Pattern Zone, and the whole Project site is within the Airport Influence Area. In accordance with California Public Utilities Code (PUC) *Section 21676(b)*, prior to the adoption or amendment of general plan, specific plan, zoning ordinance, or building regulation that affects lands within the AIA defined in the CALUP, the referring agency shall first refer the proposed action to the Airport Land Use Commission (ALUC). The ALUC will make a finding of whether the action is consistent with the CALUP. As such, the SoTu Master Plan would also be subject to review of the ALUC to ensure land use consistency with the CALUP.

Regarding noise, the Project site is not within the airport's 55, 60, or 65 CNEL contour. Since the Project site not located within a noise contour and the SoTu Master Plan would be reviewed by the ALUC to ensure compliance with the CALUP, the Project would not result in exposing people residing or working in the Project area to excessive noise levels. Therefore, the impacts would be less than significant.

4.13.3 Mitigation Measures

The Project shall implement and incorporate, as applicable, the Noise related mitigation measures as identified above and in the MITIGATION MONITORING AND REPORTING PROGRAM contained in SECTION 5.

4.14 POPULATION AND HOUSING

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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)?			X	
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			X	

4.14.1 Environmental Setting

CEQA Guidelines *Section 15126.2(d)* requires that a CEQA document discuss the ways in which the proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The CEQA Guidelines provide an example of a major expansion of a wastewater treatment plant that may allow for more construction within the service area. The CEQA Guidelines also note that the evaluation of growth inducement should consider the characteristics of a project that may encourage or facilitate other activities that could significantly affect the environment. Direct and Indirect Growth Inducement consists of activities that directly facilitate population growth, such as construction of new dwelling units. A key consideration in evaluating growth inducement is whether the activity in question constitutes "planned growth."

Tulare County Association of Governments (TCAG)

The Tulare County Association of Governments (TCAG) is the Metropolitan Planning Organization (MPO) for Tulare County, inclusive of the City of Porterville. In 2022, TCAG adopted the long-term transportation planning document, 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) that sets forth a forecasted development pattern, providing population and employment forecasts for the region between 2021 and 2046.[27] Tulare County is projected to increase by 85,734 people, build over 40,774 housing units, and add 31,709 jobs between 2021 and 2046, for a total population of 567,383, 195,210 total housing units, and 218,846 total jobs by

[27] AMBAG. (2022). 2022 Regional Transportation Plan/Sustainable Communities Strategy. Accessed August 11, 2023, https://tularecog.org/tcag/planning/rtp/rtp-2022/

2046. According to the City of Porterville Short Range Transit Plan (SRTP), the City of Porterville is projected to grow by 23,788 people between 2020 and 2040 from 63,505 to 87,293. [28]

U.S. Census Bureau

According to the U.S. Census Bureau, the City of Porterville has a population of 62,623 in 2020, with a total of 18,931 housing units and an average household size of 3.73.[29]

Depart of Finance (DOF)

According to the U.S. Department of Finance, the City of Porterville has an estimated population of 62,588 in 2023, with a total of 19,212 housing units and an average household size of 3.32.[30]

City of Porterville Housing Element

The City of Porterville 2015-2023 Housing Element identifies the Regional Housing Needs Allocation (RHNA) for the City of Porterville as determined by TCAG. The RHNA for 2014-2023 is 3,196 units. [31] The RHNA for the City of Porterville as determined by Tulare County Association of Governments is 4,064.

4.14.2 Impact Assessment

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)?

Less than Significant Impact. The Project includes a General Plan Amendment and Rezone to change the existing planned land use from low density residential, retail, education, and open space to a mix of 10 different land uses including residential, commercial/retail, industrial, mixed use, institutional, and open space.

Although no physical development is proposed, the Project would facilitate future urbanized development containing residential, commercial/retail, industrial, mixed-use, institutional, and open space uses. Future buildout of the SoTu Master Plan is expected to consist of 516 single-family residential units, 1,697 multi-family residential units, 3,357,576 sf. of commercial space, 1,337,717 sf. of employment space (i.e., industrial and office space), 15.81 acres of public/semi-public uses, and 112.14 acres of parks and recreational facilities. Based on an average household size of 3.73, the 2,213 units (516 single-family units + 1,697 multi-family units) could generate approximately 8,254 new residents, thereby increasing the city's population from 62,623 to 70,877. The 2,213 units would also increase the total number of housing units from 18,931 to 21,144 which would result in a population increase of approximately 10.5% at full buildout beyond the standard projected growth in the City of 2.5% annual

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[28] City of Porterville. (2018). Short Range Transit Plan. Accessed August 11, 2023, https://tularecog.org/tcag/planning/rtp/rtp-2022/appendices/appendix-1-s-porterville-short-range-transit-plan/

[29] U.S. Census Bureau. (2023). Porterville city, California. Accessed on August 11, 2023, https://data.census.gov/profile/Porterville_city,_California?g=160XX00US0658240

[30] U.S. Department of Finance (2023). E-5 City/County Population and Housing Estimates. Accessed on January 16, 2024, https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/

[31] City of Porterville. (2015). 2015-2023 Housing Element. Accessed on August 11, 2023, https://cms9files.revize.com/PortervilleCA/Document_Center/Department/Community%20Development/Planning/Documents/20151216HousingElementFinal.pdf

growth. The commercial and employment space could generate approximately 323 employees, increasing the number of employees citywide from 68,879 to 69,202.[32]

Overall, the population, housing units, and employees generated by the proposed Project would be within the TCAG projections for the region and city. The new units would also assist the city with meeting its RHNA. Therefore, the Project would not induce substantial unplanned population growth and a less than significant impact would occur.

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

Less than Significant Impact. There are approximately eight (8) existing single-family residences on the site which results in approximately 26 residents based on the estimated 3.32 persons per household. Although no physical development is proposed, the Project would facilitate future development which could result in the demolition of these existing residences. However, this demolition would occur at the decision of the property owner and none of the Master Plan is anticipated to exercise eminent domain to acquire property for the buildout of the master plan. All current property and land uses would retain their property rights and can continue their existing operations as legal non-conforming uses. Since the Project would not cause the displacement of a substantial number of existing people or housing and would provide an increased number of housings as a replacement, the Project would have a less than significant impact.

4.14.3 Mitigation Measures

None required.

[32] Southern California Association of Governments. (2001). Employment Density Study Summary Report. Accessed on August 11, 2023, https://www.mwcog.org/file.aspx?A=QTTlTR24POOOUIw5mPNzK8F4d8djdJe4LF9Exj6lXOU%3D

4.15 PUBLIC SERVICES

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:				
i.	Fire protection?			X	
ii.	Police protection?			X	
iii.	Schools?			X	
iv.	Parks?			X	
v.	Other public facilities?			X	

4.15.1 Environmental Setting

The Project is located outside of Porterville's city limits and within Porterville's General Plan Planning Area, or the city's Urban Area Boundary (UAB). The eastern half of the site is within the city's Urban Development Boundary (UDB) while the western half of the site is outside of the UDB. While no development is proposed, future development of the Project would be required to be annexed into the City of Porterville. As such, future development of the Project would be subject to fees for the construction, acquisition, and improvements for public services and facilities. Public services and facilities within Porterville's General Plan Planning Area are further described below.

Fire Protection Services

Fire protection services in the city are provided by the Porterville Fire Department (PFD). Fire protection services for the unincorporated areas within the city's Planning Area, inclusive of the Project site, are provided by Tulare County Fire Department and the California Department of Forestry and Fire Protection. Future implementation of the Project would require annexation of properties into the city, thus be served by the PFD. The PFD operates a total of three (3) fire stations that serve the city, with Fire Station 73 closest to the Project site at 1062 South Jaye Street, Porterville, CA 93257. Fire Station 73 is located approximately 1.0 miles southeast of the Project site. The total authorized staffing for PFD includes 42 sworn, full-time professional firefighters and administrative staff. In 2022, PFD responded to 5,453 calls for service and 519 calls for fires, which is a 19% increase in call volume over the last 10 years. The response time goal for fire protection and emergency services is to provide service within five

(5) minutes of the 911 call for 80% of the time. The General Plan Public Health & Safety Element includes the following goals and policies to ensure reductions in the potential for fire hazards and fire demand:

Guiding Policy PHS-G-3 Protect Porterville's residents and businesses from potential fire hazards.

> *Implementation Policy PHS-I-13 Maintain automatic and/or mutual aid agreements with surrounding jurisdictions for fire protection.*
>
> *Implementation Policy PHS-I-14 Enforce weed abatement programs and building and fire code requirements to assure adequate fire protection.*
>
> *Implementation Policy PHS-I-15 Develop and expand existing public fire safety and emergency life support education programs in order to promote public awareness of fire hazards and emergency procedures.*
>
> *Implementation Policy PHS-I-16 Establish fire hazard standards and review procedures at least equivalent to State requirements to protect new development on or adjacent to the hillsides.*
>
> *The Subdivision Ordinance and the Zoning Ordinance standards will require new development on the urban fringe to incorporate fuel breaks, fuel reduction and buffer zones to minimize potential fire losses.*

Further, projects are subject to review by the PFD and to regulations and standards such as the California Uniform Fire Code (UFC), which includes regulations on construction, maintenance and building use. The UFC addresses fire department access, fire hydrants, sprinklers, fire alarm system, etc., for new buildings.

Police Protection Services

Police protection services in the city are provided by the Porterville Police Department (PPD). The PPD is located at 350 North D Street, Porterville, CA 93257, which is approximately 1.6 miles northeast of the Project site. According to the General Plan, there are 57 peace sworn officers and 22 civilian staff members employed, which provides a ratio of approximately 1.3 officers per thousand residents. According to the PPD, a ratio of 1.2 police officers per thousand residents would support adequate law enforcement efforts at buildout of the General Plan.

Educational Services

Educational services within the City of Porterville are provided by Porterville Unified School District, Burton School District, and Tulare County Office of Education (TCOE). The five (5) school districts operate 28 public schools within the city's Planning Area. The Project site is located within the Porterville Unified School District (PUSD), which includes 11 elementary schools, five (5) middle schools, eight (8) high schools, adult school, preschool programs, and a community day school. PUSD schools within a one (1)-mile radius of the Protect site includes West Putman Elementary School.

The Porterville 2030 General Plan projected the generation of 13,069 new students at buildout of the General Plan, resulting in a total of 30,814 students, which would produce a demand of 12 new elementary schools, two (2) new middle schools, and three (3) new high schools. The General Plan Parks, Schools & Community Facilities Element includes the following policy for educational facilities:

Guiding Policy PSCF-G-4 Support efforts to provide superior public and private educational opportunities for all segments of the population.

Guiding Policy PSCF-G-5 *Place schools at the core of new neighborhoods and co-locate parks and school sites where possible.*

Guiding Policy PSCF-G-6 *Advocate the development of post-secondary education institutions.*

> ***Implementing Policy PSCF-I-19*** *Cooperate with local school districts to ensure that educational facilities with sufficient permanent capacity are constructed to meet the needs of current and projected student enrollment and required infrastructure is constructed when needed.*
>
> ***Implementing Policy PSCF-I-20*** *Amend the Subdivision Ordinance to require reservation of school sites, as shown on the General Plan Land Use Diagram, for school district acquisition for a reasonable period of time, not to exceed five years.*
>
> ***Implementing Policy PSCF-I-21*** *Establish zoning and development incentives for developers who provide sites to accommodate higher education institutions.*

Parks and Recreation

Park and recreation facilities are overseen by the City of Porterville Parks & Leisure Services Department. According to the General Plan, there are 15 planned and existing parks within the city, totaling 295 acres of parkland, which provides a parkland to population ratio of 4.7 acres of parkland per thousand people in 2020. This meets the 1975 Quimby Act, which requires a minimum of three (3) acres per thousand residents. However, it does not meet the city's park standard for neighborhood and community parks, which requires five (5) acres per thousand residents. This could be provided through in-lieu fees that would be used for any capacity-building park and recreation facility improvements. The City of Porterville 2030 General Plan Open Space & Conservation Element includes the following goals and policies related to park and recreational facilities and services:

Guiding Policy OSC-G-1 *Protect the Tule River Corridor and Rocky Hill as significant open space resources.*

Guiding Policy OSC-G-2 *Use the open space system to meet multiple needs, including bike and trail linkages, storm water drainage and treatment, wildlife habitat, and active and passive recreation.*

Guiding Policy OSC-G-3 *Design public open spaces as sustainable systems.*

> ***Implementing Policy OSC-1-2*** *Work with the County with the objective of:*
>
> - *Retaining agriculture and open space areas around the City, consistent with the General Plan; and*
> - *Notifying the City of development applications to areas adjacent to the City's Planning Area.*
>
> *Joint planning agreements or Memoranda of Understanding (MOUs) have been used successfully in many jurisdictions. This policy is intended to create a mechanism to protect the open space, wetlands, and creeks that form the backdrop for the City, so that the City can keep a distinct urban edge.*
>
> ***Implementing Policy OSC-1-3*** *Establish a secure funding source for open space acquisition and management.*
>
> *Options to be evaluated may include, but are not limited to: a dedication by future private development; an increase in the Transient Occupancy Tax; a Utility User's Tax or a Property Transfer Tax. These latter options would require voter approval.*

Implementing Policy OSC-1-4 Establish standards for the management and maintenance of open space within subdivisions, and require formation of open space acquisition and maintenance districts where necessary and appropriate, to protect open space resources.

Implementing Policy OSC-1-7 Use native vegetation, drought tolerant plants, recycled water irrigation, other water-saving devices drainage swales and water percolation systems, and recycled building materials in public open spaces for ease of maintenance and environmental sustainability.

Implementing Policy OSC-1-8 Provide a variety of outdoor recreation opportunities through improvements to open space and parks, construction of facilities, and sponsoring of programs that stimulate active resident participation.

Implementing Policy OSC-1-9 Require degraded open space areas be restored to an environmentally sustainable condition as part of development approval where these lands are proposed as permanent open space in new development.

Implementing Policy OSC-1-10 Work with property owners, law enforcement officials, and the public to protect open space resources. These efforts will include, but are not limited to:

- *Soliciting volunteers to remove invasive vegetation;*
- *Removing abandoned items and trash; and*
- *Ensuring no illegal encampments occur on open space areas.*

Implementing Policy OSC-1-11 Support regional and subregional efforts to acquire, develop, and maintain, open space lands.

Implementing Policy OSC-1-12 Establish priorities for open space preservation and acquisition based on an evaluation of:

- *Significant natural areas that are historically, ecologically, or scientifically unique or are outstanding, important or threatened;*
- *Wildlife habitats and fragile ecosystems in need of protection;*
- *Watersheds or significant water recharge areas;*
- *Lands suitable for recreation such as biking, photography or nature study; and*
- *Land suitable for agricultural production.*

Implementing Policy OSC-1-14 Establish incentives to preserve open space in very low density residential areas.

One option will be to allow clustering of housing units on smaller lots in return for preservation of common area open space.

Implementing Policy OSC-1-15 Preserve open space designated for public safety to minimize damage to people and property resulting from potential hazards. Such hazards include, but are not limited to: quaking, slope collapse, liquefaction, fire, earth sliding, flooding, erosion and siltation, soil compression, lateral spreading, and subsidence.

An easement can be used to restrict development near safety hazards, travel networks such as bike or pedestrian paths, as well as near natural resources such as streams that require buffers for water quality

protection. The easement does not require the transfer of ownership of property but rather reduces the development potential of the land in order that it may continue to serve the necessary open space purpose.

The General Plan Parks, Schools & Community Facilities Element also established policies for parks and recreational facilities, as listed below.

Guiding Policy PSCF-G-1 *Establish and maintain a high-quality, enjoyable, and attractive public park system for the entire community.*

Guiding Policy PSCF-G-2 *Provide park and recreation facilities within close proximity to residents they are intended to serve.*

Guiding Policy PSCF-G-3 *Ensure adequate funding for park and recreation facilities acquisition, development, operations, maintenance, and enforcement of park rules.*

Implementing Policy PSCF-I-4 *Establish additional funding for the acquisition and development of specialized park and recreation facilities to serve existing and future residents.*

Implementing Policy PSCF-I-5 *Require developers for new neighborhoods to agree to the establishment of, or annexation into, a Park Maintenance District in new neighborhoods.*

Implementing Policy PSCF-I-6 *Establish a program for contributions to the City's park system by nonresidential developers, based on their proportional share of needs generated and use of facilities.*

Implementing Policy PSCF-I-8 *Provide lighted facilities for active community recreation areas in order to extend usability, whenever possible.*

Address compatibility with surrounding uses and use energy-efficient lighting design with limited glare and spillover.

Implementing Policy PSCF-I-9 *Design park and recreation facilities to be as flexible as possible, so that they may adapt to changes in the population served and in the recreation programs offered.*

Changing neighborhood demographics can lead to different user requirements over the life of a park. By having flexible park facilities, this will enable the park to adapt to the changing needs of the adjacent neighborhood.

Implementing Policy PSCF-I-10 *Place neighborhood and community parks at the core of new neighborhoods and co-locate parks and school sites where possible, as depicted on the General Plan Land Use Diagram.*

Implementing Policy PSCF-I-11 *Combine use of park, recreation, and open space lands with drainage facilities and school facilities, where feasible.*

Implementing Policy PSCF-I-14 *Develop a safe and efficient trail network throughout the City that links parks and other key City destinations.*

Implementing Policy PSCF-I-15 *Continue to support the development of the Tule River Parkway Bicycle and Pedestrian path and the Rails to Trails Project.*

4.15.2 Impact Assessment

Would the project:

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

i. Fire protection?

Less than Significant Impact. Although the Project site is currently outside of city limits, future development would be required to annex into the City of Porterville and would be served by the Porterville Fire Department at that time. Therefore, future development in accordance with the proposed Project would be served by the PFD. Although no specific development is proposed by the Project, the Project would facilitate future residential development that would introduce residents to the area and therefore could increase the demand for fire protection services. Porterville currently has three fire stations and utilized two Tulare County fire stations to service the City. Currently, the Porterville Fire Department responds to 60 percent of calls within five minutes which rated a Class 3 by the Insurance Service Office (ISO). This rating considers the fire defense against fire potential on a scale from 1 to 10, with 10 being the lowest. The Porterville 2030 General Plan Implementation Policy PHS-I-25 requires that the City "maintain the City's Class 3 ISO rating, or better, for fire protection". However, the increase would be incremental and would be within the anticipated growth projections for the city (See Section 4.14). The Project's proximity to the existing station would support adequate service ratios, response times, and other performance objectives for fire protection services. The City also has two planned fire stations: one on the west side of Newcomb Street, south of Scranton Avenue and another near the northwest corner of Jaye Street and Gibbons Avenue; both of which are less than two miles from the Project site. In addition, future development would be reviewed by the PFD for requirements related to water supply, fire hydrants, and fire apparatus access. Further, future development would be subject to proportionate payment of the Public Facilities Impact Fee for construction and acquisition costs for improvements to fire protection services and facilities. For these reasons, it can be determined that the Project would not result in the need for new or altered facilities that could have an environmental impact and a less than significant impact would occur.

ii. Police protection?

Less than Significant Impact. Although the Project site is currently outside of city limits, future development would be required to annex into the City of Porterville and would be served by the Porterville Police Department at that time. Therefore, future development in accordance with the proposed Project would be served by the PPD. Although no specific development is proposed by the Project, the Project would facilitate future residential development that would introduce residents to the area and therefore could increase the demand for police services. However, the increase would be incremental and would be within the anticipated growth projections for the city (See Section 4.14). The Project's proximity to the existing station would support adequate service ratios, response times, and other performance objectives for police protection services. In addition, future development of the Project site would be reviewed by the PPD for requirements related to crime protection. Further, future development would be subject to proportionate payment of the Public Facilities Impact Fee for construction and acquisition costs for improvements to police protection services and facilities. For these reasons, it can be determined that the Project would not result in the need for new or altered facilities that could have an environmental impact and a less than significant impact would occur.

iii. Schools?

Less than Significant Impact. The Project site is within the PUSD, although several schools are within a one-mile radius for both PUSD and Burton School District including Summit Charter Academy, Oakgrove Elementary, Burton Elementary, Jim Maples Academy, West Putnam Elementary, and Porterville High School. Although no specific development is proposed by the Project, the Project would facilitate future residential development that would introduce residents to the area and therefore could generate new students that would increase the school districts' enrollment. An elementary school site is proposed within the Project site to accommodate the increase in students. In addition, a School Impact Fee would be assessed for future development of the Project site based on the rates in place at the time payment is due. As stated in Government Code *Section 65995 et. seq*., payment of School Impact Fees is deemed full and complete mitigation for potential impacts to schools caused by development. Therefore, payment of the assessed School Impact Fee would reduce impacts related to new school facilities resulting from implementation of the Project and impacts would be less than significant.

iv. Parks?

Less than Significant Impact. Park and recreational facilities are typically impacted by an increase in use from residential development. Although no specific development is proposed by the Project, the Project would facilitate future residential development that would introduce residents to the area and therefore increases the demand for and use of existing neighborhood and regional parks or other recreational facilities. The nearest public parks to the Project site include the Burton Ballfields (0.8 miles north) and Veterans Park (1.2 miles north).

The SoTu Master Plan proposes 112.14 acres of parkland, including community parks and trails/parkway. The proposed Project anticipates future buildout of up to 2,213 single-family and multi-family residential units. Based on an average household size of 3.73, the 2,213 units could generate approximately 8,255 new residents. Based on the anticipated population within the SoTu Master Plan buildout and its proposed parkland, there would be a parkland to population ratio of 13.6 acres per thousand residents, which would exceed the city's standard of five (5) acres per thousand residents. Therefore, residential demand associated with future development of the Project site would maintain the city's performance standard.

In addition, future development would be subject to the applicable municipal code, including payment of the Public Facilities Impact Fee in order to mitigate any potential impacts to the city's park and recreation facilities generated by the incremental population increase. Compliance with these requirements would reduce any impacts resulting from increased residential demand for park and recreational facilities so as to not cause substantial physical deterioration of the facilities. For these reasons, the Project would have a less than significant impact.

v. Other public facilities?

Less than Significant Impact. Although no specific development is currently proposed, future development resulting from Project implementation could increase the demand for other public services, such as courts, libraries, hospitals, etc. Increased demand as a result of the continued implementation of the Project could result in development or expansion of public facilities. Typical environmental impacts associated with the development of these facilities include air quality, greenhouse gas emissions, noise, traffic, etc. The expansion of these facilities would be subject to CEQA as they are proposed. In addition, future development would be subject to the payment of the Public Facilities Impact Fee in order to mitigate any potential impacts to these public facilities. As a result, the Project would have a less than significant impact.

4.15.3 Mitigation Measures

None required.

4.16 RECREATION

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
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?			X	

4.16.1 Environmental Setting

See Section 4.15.

4.16.2 Impact Assessment

Would the project:

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

Less than Significant Impact. Park and recreational facilities are typically impacted by an increase in use from residential development. Although no specific development is proposed by the Project, the Project would facilitate future residential development that would introduce residents to the area and therefore increases the demand for and use of existing neighborhood and regional parks or other recreational facilities. The nearest public parks to the Project site include the Burton Ballfields (0.8 miles north) and Veterans Park (1.2 miles north).

The SoTu Master Plan proposes 112.14 acres of parkland, including community parks and trails/parkway. The proposed Project anticipates future buildout of up to 2,213 single-family and multi-family residential units. Based on an average household size of 3.73, the 2,213 units could generate approximately 8,255 new residents. Based on the anticipated population within the SoTu Master Plan buildout and its proposed parkland, there would be a parkland to population ratio of 13.6 acres per thousand residents, which would exceed the city's standard of five (5) acres per thousand residents. Therefore, residential demand associated with future development of the Project site would maintain the city's performance standard.

In addition, future development would be subject to the applicable municipal code, including payment of the Public Facilities Impact Fee in order to mitigate any potential impacts to the city's park and recreation facilities generated by the incremental population increase. Compliance with these requirements would reduce any impacts resulting from increased residential demand for park and recreational facilities so as to not cause substantial physical deterioration of the facilities. For these reasons, the Project would have a less than significant impact.

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

Less than Significant Impact. Future residential development resulting from the Project could include the construction of recreational facilities as required by the PMC. In such cases, development would be subject to compliance with the PMC and would be reviewed and conditioned by the City to ensure that physical effects on the environment are less than significant. Compliance would ensure that the facilities would not be in an area or be built to a scale that would cause an adverse physical effect on the environment. As a result, a less than significant impact would occur.

4.16.3 Mitigation Measures

None required.

4.17 TRANSPORTATION

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	X			
b)	Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?			X	
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d)	Result in inadequate emergency access?			X	

4.17.1 Environmental Setting

2022 Regional Active Transportation Plan for the Tulare County Region

The 2022 Regional Active Transportation Plan (RATP) for the Tulare County Region, approved April 18, 2022, was prepared as a response to recognition of the benefits of active transportation and a more diverse transportation for the county. The objective of the RATP is 1) provide a foundation for the pedestrian and bicycle component of the Tulare County Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), and 2) identify high-priority projects to better compete for federal, state, and regional funding. [33] The RATP provides assessment and identifies priority projects for the county as well as cities within the County, including the City of Porterville.

According to the RATP, 1.7% of commuters walked to work and 0.5% of commuters biked to work in the City of Porterville. Traffic collisions in the City includes 27 pedestrian victims (1 killed, 4 severely injured) and 24 bicyclist victims (0 killed, 1 severely injured) in 2019. The roads with the highest numbers of collisions in the City are Henderson Avenue, Morton Avenue, Olive Avenue, Putnam Avenue and Westfield Avenue. Priority projects in the City of Porterville includes:

- *Morton Avenue crosswalk warning lights*
- *P-2 Orange Avenue crosswalk warning lights*
- *P-3 Main Street crosswalk warning lights*
- *P-4 Tule River Parkway multi-use trail, Phase IV*
- *P-5 Porterville citywide bikeway network*
- *P-6 Putnam and Elderwood Pedestrian Corridor*

[33] Tulare County Association of Governments. (2022). 2022 Regional Active Transportation Plan for the Tulare County Region. Accessed January 10, 2024, https://tularecog.org/sites/tcag/assets/File/TCAG%202022%20RATP_.pdf

- *P-7 Butterfield Stage Corridor*

VMT Analysis

A vehicles miles traveled (VMT) analysis of the Project was conducted on August 4, 2023, by JLB Traffic Engineering, Inc. The full report is provided in Appendix F. Regulatory settings, criteria of significance, and methodology of the VMT analysis are provided below.

Regulatory Setting

Senate Bill (SB) 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as VMT instead of Level of Service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto the roads, the project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743, by adding *Section 15064.3*. Among its provisions, *Section 15064.3* confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities are no longer a relevant CEQA criteria for transportation impacts.

CEQA Guidelines *Section 15064.3(b)(4)* states that *"[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."*

The City of Porterville has not yet adopted its own official VMT guidelines but uses the County of Tulare's SB 743 Guidelines, referred to in this document as the County of Tulare's VMT Guidelines. The County of Tulare's VMT Guidelines were published on June 8, 2020 and are consistent with the requirements of CEQA Guidelines *Sections 15064.3* and *15064.7*. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research (OPR), was utilized as a reference and guidance document in the preparation of the County of Tulare's VMT Guidelines.

Criteria of Significance

The County of Tulare's VMT Guidelines adopted a screening standard and criteria that can be used to screen out qualified projects that meet the adopted criteria from needing to prepare a detailed VMT analysis. However, these screening criteria are generally applied to land development projects not general or community plans.

In terms of analyzing a plan, the County of Tulare's VMT Guidelines states the following, *"VMT analysis for the General Plan or Community Plans would generally be conducted by comparing the total VMT/capita of the Project Site with the plan in the planning horizon year to the VMT/capita of the Project Site in the base year. This analysis would be conducted using the TCAG regional travel for updates to the General Plan."* (County of Tulare, 2020). However, as there is no existing development located within the Project Site, a comparison to this Project Site in the base year would not represent a comparison to any meaningful existing data. Consequently, this VMT Analysis compares the VMT of the Project Site, including the plan, in the horizon year to the VMT of the entire region in the

base year. For this particular Plan and VMT Analysis, the entire region utilized is the boundaries of the County of Tulare. The Technical Advisory (TA) recommends the following in regard to analyzing a plan, *"Agencies should analyze VMT outcomes of land use plans across the full area over which the plan may substantively affect travel patterns, including beyond the boundary of the plan or the jurisdiction's geography"* (Governor's Office of Planning and Research, 2018). Therefore, the Project Site with the plan in the horizon year and the VMT of the entire region in the base year are the two scenarios and study regions that will be compared. If the horizon year output is less than the base year output, then the VMT associated with the Plan is determined to have a less than significant impact.

Methodology

This VMT Analysis not only compares the VMT per capita, as stated in the County of Tulare's VMT Guidelines, it also includes an analysis of the VMT per employee and VMT per service population. As recommended within the TA, these outputs contain both origin and destination VMT. The Tulare County Association of Governments (TCAG) model was utilized to output the baseline and horizon year VMT for the analysis. The VMT per capita, VMT per employee and VMT per service population were output for the base year scenario for the entire region and the horizon year scenario for the Project Site. If the VMT associated with the Plan is determined to have a significant impact, then VMT mitigations would be applied to the Plan in order to reduce the VMT in the horizon year in the Project Site. As there are no VMT mitigation measures listed in the County of Tulare's VMT Guidelines, the California Air Pollution Control Officers Association (CAPCOA) document Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (VMT Mitigation Guidelines) published in December 2021 was utilized to determine the effect of VMT mitigation measures.

4.17.2 Impact Assessment

Would the project:

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

Potentially Significant Impact. Although no development is proposed by the Project, future development of the Project site would be required by the City to comply with all project-level requirements implemented by a program, plan, ordinance, or policy addressing the circulation system, roadway, pedestrian and bicycle, and transit facilities. The Project's consistency for each facility type is addressed below.

Roadway Facilities

CEQA Guidelines no longer use motorist delays or level of service (LOS) to measure transportation impacts. However, in evaluating Project consistency with the General Plan, a comparison of LOS is required per General Plan *Guiding Policy C-G-6* and *Implementing Policy C-I-8*. Therefore, a LOS analysis is provided for informational purposes.

> ***Guiding Policy C-G-6*** *Maintain acceptable levels of service and ensure that future development and the circulation system are in balance.*
>
> ***Implementing Policy C-I-8*** *Develop and manage the roadway system to obtain LOS D or better during the peak hour for all major roadways and intersections in the City. This policy does not extend to residential streets (i.e., streets with direct driveway access to homes) or state highways and their intersections, where*

Caltrans policies apply. Exceptions to LOS D policy may be allowed by the City Council in areas such as downtown and at highway interchanges, where allowing a lower LOS would result in clear public benefits.

Implementing Policy C-I-10 Require traffic impact studies for all General Plan amendments that will generate more than 100 peak hour trips.

Although no physical development is proposed, the Project is anticipated to increase multimodal transportation activity and would be required to comply with the Porterville Circulation Element's three Guiding Principles:

- Land use and the circulation system are interactive and interrelated;
- The City's traffic circulation planning efforts are integrated with those of the County and Caltrans in a cooperative, regional planning effort; and
- State-of-the-art traffic engineering is used to bring planned improvements to reality.

Porterville's existing roadway network is set up in hierarchical order ranging from Freeways to Local Streets. The roadway classifications surrounding and within the Project site includes State highways, major arterials, collectors, and local streets. The functional classification for each roadway type is defined below:

- Highways. Highways are designed to carry heavy traffic volumes and should serve longer distance intra-city travel as well as linking the City with other nearby urban areas. Access is limited, crossings are generally signalized at grade, parking is not allowed, and a continuous median separates lanes moving in opposite directions. State routes 65 and 190 are regional State Highways, with portions designated as freeways.
    - State Route (SR)190. The Project site is bounded by SR 190 to the south and SR 65 to the east, which is classified as regional state highways, although portions are designated as freeway. Although SR 190 is currently a 2-lane roadway, with one travel lane per direction, the segment adjacent to the Project site has an annual average daily trip (AADT) of 5,700 and operates at a level of service (LOS) A, indicating the roadway has a free flow of traffic with insignificant delays.
    - State Route (SR) 65. The Project site is bounded by SR 65 to the east, which is also classified as regional state highways with portions designated as freeway. SR 65 is currently a 4-lane separated highway with an AADT of 25,000 and operation at an LOS A level.[34]
- Arterials. Arterials are designed to move large volumes of traffic between freeways/highways and other arterials in Porterville and to adjacent jurisdictions. Major arterials are four- or six-lane, access-controlled roadways emphasizing mobility between major portions of the city and to regional freeways and highways. On-street parking may be restricted on major arterials to maintain traffic levels of service. Major east-west arterials will be Reid, Henderson, Morton, Olive, and Teapot Dome avenues. Westwood, Newcomb, Prospect, Indiana, Jaye, Main, Plano and Hillcrest streets will provide major north-south access.
    - Westwood Street. Westwood Street is a north/south arterial that bounds the Project site on the west side. The General Plan Circulation Element outlines the planned improvements to this roadway segment from SR 190 to Olive Ave, which encompasses the entire roadway segment adjacent to the Project site. These planned improvements include widening the roadway to a 4-

[34] Porterville General Plan Circulation Element. http://www.ci.porterville.ca.us/depts/communitydevelopment/documents/Chapter4Circulation_000.pdf, Accessed February 2, 2024.

lane arterial. The segment adjacent to the Project site is currently a 2-lane roadway. With the proposed improvements, Westwood Street has an anticipated daily vehicle volume of 9,550 and would operate at an LOS B; with the current condition of the roadway, Westwood Street has a daily volume of 12,030 with a resulting LOS B.

  - Newcomb Street. Newcomb Street is another north/south arterial that would provide connection between the Project site and the rest of the City. It also has planned improvements that would change the current 2-lane roadway to a 4-lane arterial; although none of the roadway segment is built through the Project site at this time. Additionally, there is a planned vehicular bridge over the Tule River that would connect vehicular traffic to the north. Both of these features have been incorporated into the Project to be consistent with the General Plan. With the planned improvements, Newcomb Avenue will expect a daily volume of 12,750 and operate at LOS B.

- Collectors. Collector streets provide a link between neighborhood streets and arterials. Collectors provide two travel lanes and bike lanes. On-street parking may be provided if sufficient width is available. Collectors also provide access to adjacent properties, so driveway access should be discouraged but need not be restricted (subject to accepted engineering practice). Bike lanes, landscaped parkstrips, sidewalks, and transit facilities may also be accommodated.
  - There is an unnamed planned collector within the Project site that travels east from Westwood Street and jogs north at the Prospect Avenue alignment. It is planned to connect to Prospect Avenue on the north side of the Tule River via a pedestrian bridge. Both the collector and the bridge have been incorporated into the Project to maintain consistency with the General Plan.
- Local Streets. The primary function of local streets is to provide direct access to adjacent properties. Neighborhood streets should provide two travel lanes, landscaped parkstrips, and sidewalks. On-street parking may be regulated. Bike lanes are usually not needed because neighborhood streets carry low traffic volumes and all neighborhood streets are considered to be bicycle friendly.
  - Although not specifically designated in the Circulation Element or the Project, it is assumed that local streets will be required on a project-by-project basis and required to provide two points of ingress/egress. The Project site will provide both local residential streets and local commercial streets pursuant to the existing City standards.

Pedestrian and Bicycle Facilities

Although the Project Site is located outside of City boundaries, the Porterville 2030 General Plan Circulation Element identifies several planned and proposed bicycle facilities. A proposed Class I bicycle facility is planned for the northern boundary of the Project Site, along the Tule River. At full build out, this bike facility will provide 10 miles of protected bike lane in the east/west direction. This trail segment is also identified as a priority project for Porterville in the 2022 Regional Active Transportation Plan for the Tulare County Region (ATP). This Class I facility would function as a multi-purpose trail and will include solar lighting fixtures, bridges, retaining walls and trail signage and markings. Additionally, Caltrans has requested this project address crossing design details at SR 65, which is a Caltrans facility.

Additionally, there is a proposed Class II along Newcomb Street and a Class III along Westwood Street. These facilities would connect to existing on planning facilities to connect non-vehicular traffic to the rest of the City. As new development is proposed, the bike network will be expanded as projects are reviewed and approved by the

City. Future development will be required to comply with the Circulation Element and ATP. Further, all future development will be subject to the Transportation Impact Fee program per PMC *Section 20-60* whereby all new development is required to contribute its proportionate share of the costs of new public facilities intended to serve the development. Through compliance with all applicable plans and programs, including payment of the Transportation Impact Fee, impacts to bicycle and transportation facilities would be less than significant.

Transit Facilities

The Tulare County Regional Transit Agency (TCRTA) provides municipal transit services to the City of Porterville. The transit service. Local fixed routes within the City are provided Monday through Saturday from 7:00am to 7:00pm and on Sunday from 8:00am to 5:00pm. Although there are currently no bus facilities within the Project Site, there are routes along roadway segment outside the Project Site boundary. Olive Avenue, the next east/west major arterials north of the Project Site boundary and has an existing bus stop that links up to Porterville Transit Center and transfer to all the other available transit lines within city limits.

Although no development is currently proposed, future development of the Project site would result in an incremental increase in residents which could result in an increased demand for transit. The Project itself places an emphasis on Complete Neighborhoods, which increases access to services like housing, jobs, and education within walking or biking distances to decrease the total number and distance of vehicular trips. Further, the Project is proposed in compliance with the guiding circulation principles and incorporates existing and planned facilities to ensure no conflicts with adopted plans.

Therefore, through compliance with the programs, plans, ordinances, and policies addressing the circulation system (inclusive of transit, roadway, bicycle, and pedestrian facilities), a less than significant impact would occur because of the Project.

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

Less than Significant Impact. A vehicles miles traveled (VMT) analysis of the Project was conducted on August 4, 2023, by JLB Traffic Engineering, Inc. The full report is provided in Appendix F. Regulatory settings, criteria of significance, and methodology of the VMT analysis are provided in the Environmental Setting above. The following provides the output and analysis of the Project's VMT per CEQA Guidelines *Section 15064.3, subdivision (b)*.

Table 4-31 displays the VMT per Capita, VMT per Employee and VMT per Service Population for the Base Year No Project (Entire Region) and the Horizon Year plus Project (Study Area) output by the TCAG model. The TCAG model outputs a Base Year No Project (Entire Region) of 14.51 VMT per Capita, 11.92 VMT per Employee, and 23.52 VMT per Service Population. The TCAG Base Year No Project (Entire Region) outputs act as the VMT Threshold. The TCAG model output a Horizon Year plus Project (Study Area) of 6.12 VMT per Capita, 11.74 VMT per Employee, and 23.52 VMT per Service Population. As can be seen in Table 4-31, before VMT mitigations or design features are considered, the Plan has a less than significant VMT impact in terms of VMT per Capita and VMT per Employee, but a significant VMT impact in terms of VMT per Service Population. As a result, the Project would need to implement design features to bring the Project to a less than significant impact, which have been incorporated into Section 3 of the SoTu Master Plan and are discussed below.

Table 4-31 VMT Output – Unmitigated

VMT Measurement	***TCAG Base Year No Project***	***TCAG Horizon Year plus Project***	***Significant VMT Impact Before***

	VMT Results (Entire Region)	*VMT Results (Study Area)*	*Mitigations?*
VMT per Capita	14.51	6.12	No
VMT per Employee	11.92	11.74	No
VMT per Service Population	23.52	24.48	Yes

The VMT design features considered for this Project include those appropriate for the Project Site. The VMT design features that were considered feasible for this Plan are Improve Street Connectivity (T-17), Provide Pedestrian Network Improvements (T-18), Construct or Improve Bike Facility (T-19-A), Expand Bikeway Network (T-20), and Implement Transit- Supportive Roadway Treatments (T-27). Appendix F presents a summary of the VMT reduction associated with each mitigation measure utilized in this Report. The following inputs were assumed to calculate the VMT reduction rates for the Plan were based on the CAPCOA VMT Mitigation Guidelines.

- *The Project Site will construct 55.8 intersections per square mile at buildout. (T-17)*
- *There are 4.82 miles of existing sidewalk in Project Site. The Project Site will construct 7.32 miles of sidewalk at buildout. (T-18)*
- *88% of the Project VMT is anticipated to occur within the roadway parallel to the bike facility. (T-19-A)*
- *There are 2.75 miles of existing bikeway in Project Site. The Project has planned 5.05 miles of bikeway within the Project site. (T-20)*
- *100% of transit routes will receive treatments. (T-27)*

The design features combine to reduce the Plan's VMT by 10.15%, as shown in Table 4-32. Incorporation of these design features would reduce the Plan's VMT output by 0.62 VMT per Capita, 1.19 VMT per Employee, and 2.48 VMT per Service Population. Therefore, the VMT of the Horizon Year plus Plan (Plan Area) would be 5.50 VMT per Capita, 10.55 VMT per Employee, and 22.00 VMT per Service Population after mitigation is incorporated.

Table 4-32 VMT Output with Design Features Incorporated

VMT Measurement	*TCAG Base Year No Plan VMT Results (Entire Region)*	*TCAG Horizon Year plus Project VMT Results (Study Area)*	*Significant VMT Impact Before Mitigations?*
VMT per Capita	14.51	6.12	No
VMT per Employee	11.92	11.74	No
VMT per Service Population	23.52	24.48	Yes

As a result, the Plan is projected to have a less than significant VMT impact in terms of VMT per Capita, the VMT per Employee, and the VMT per Service Population with the design features included in Section 3 of the SoTu Master Plan incorporated.

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

Less than Significant Impact. Although the Project proposes to potential redistribute density and population, it does not propose to change land use types, meaning the Project will utilize existing General Plan land uses. Additionally, buildout of the Project would be in compliance with the existing Porterville 2030 General Plan Circulation Diagram and would be developed in accordance to all City standards and specifications, which will ultimately be incorporated into the Project. The following General Plan Policies would address design and safety issues:

C-G-1: Promote safe and efficient vehicular circulation.

Implementing Policy C-I-1: Adopt street standards that provide flexibility in design, especially in residential neighborhoods. Revise right-of-way and pavement standards to reflect adjacent land use and/or anticipated traffic, and permit reduced right-of-way dimensions where necessary to maintain neighborhood character.

Implementing Policy C-I-2: Require all new developments to provide right-of-way and improvements consistent with the General Plan street designations and City street section

Standards.

Although no development is currently proposed, future development of the Project site would be subject to review and approval by the City through the entitlement process. Review by the City would ensure that project design does not include hazardous design features such as sharp curves or dangerous intersections, or incompatible uses. Therefore, the Project would not substantially increase hazards due to a geometric design feature or incompatible uses and a less than significant impact would occur.

d) Result in inadequate emergency access?

Less than Significant Impact. The Project does not involve a change to any emergency response plan. The Master Plan will also provide a mandatory secondary vehicular access point between Newcomb Avenue and SR 65 as well as assess points for development along the Tule River to ensure that the Project site has adequate access pursuant to Porterville Fire Department comments. In addition, although no development is currently proposed, future development of the Project site is subject to review by the City to ensure adequate site access including emergency access. In the case that future construction requires lane closures, access through existing roadways would be maintained through standard traffic control and therefore, potential lane closures would not affect emergency evacuation plans. Thus, a less than significant impact would occur because of the Project.

4.17.3 Mitigation Measures

None required.

4.18 TRIBAL CULTURAL RESOURCES

Would the project: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC *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:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC *Section 5020.1(k)*, or,		X		
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC *section 5024.1*. In applying the criteria set forth in subdivision (c) of PRC *section 5024.1*, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

4.18.1 Environmental Setting

See Section 4.5.

4.18.2 Impact Assessment

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

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

Less than Significant Impact with Mitigation Incorporated. Based on the CHRIS Records Search conducted on June 26, 2023 there is one (1) recorded site partially located within the Project site. The site is identified as P-54-002208, the Poplar Ditch, which is still in use. There are no other resources recorded within one-quarter mile of the Project site.

While there is no evidence that historical resources exist on the Project site, there is some possibility that existing structures and the Poplar Ditch may qualify as historical resources or hidden, and buried resources may exist with no surface evidence that may be impacted by future physical development of the site. In the event of the accidental

discovery and recognition of previously unknown historical resources before or during construction activities, the Project shall incorporate ***Mitigation Measure CUL-1*** and ***Mitigation Measure CUL-2*** to assure construction activities do not result in significant impacts to any potential historical resources discovered above or below ground surface. Thus, if such resources were discovered, implementation of the required mitigation measures would reduce the impact to less than significant. As a result, the Project would have a less than significant impact with mitigation incorporated.

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

Less than Significant Impact with Mitigation Incorporated. The Project site and its resources have not been determined by the City to be significant pursuant to *Section 5024.1*. However, as discussed in Section 4.5, there is some possibility that a non-visible, buried site may exist and may be uncovered during ground disturbing construction activities which could constitute a significant impact. Therefore, the Project shall incorporate ***Mitigation Measure CUL-1*** and ***Mitigation Measure CUL-2*** to assure construction activities do not result in significant impacts to any potential resources of significance to a California Native American tribe discovered above or below ground surface. Thus, if such resources were discovered, implementation of the required mitigation measures would reduce the impact to less than significant. As a result, the Project would have a less than significant impact with mitigation incorporated.

4.18.3 Mitigation Measures

The Project shall implement and incorporate, as applicable, the Cultural Resources related mitigation measures CUL-1 and CUL-2 as identified above and in the MITIGATION MONITORING AND REPORTING PROGRAM contained in SECTION 5.

4.19 UTILITIES AND SERVICE SYSTEMS

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 effect?			X	
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
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?			X	
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?			X	
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

4.19.1 Environmental Setting

The Project site would be annexed into Porterville city limits at the time physical development is proposed and thus, would be require city municipal services such as water, wastewater, and stormwater services. When future development is proposed for the Project site, it would also be required to connect to City utilities. Natural gas, electricity, and telecommunications are provided by private companies. Each utility system is described below.

Water

Water supply, usage, and services are described in Section 4.10.

Wastewater

The City of Porterville Public Works Department operates and maintains the City's municipal wastewater facilities. There is approximately 150 miles of sewer pipe with diameters between six inches to 36-inches; the majority of the

sewer pipe is 12-inch. The primary existing trunk line adjacent to the Project Site include a 24-inch pipe that makes up the Grand-Newcomb Pipe. This sewer system services with entire General Plan planning area which includes approximately 75.2% acres of the Project Site and all of the City's Urban Development Boundary. The remaining Project Site area that is within the Urban Area Boundary, but outside the Urban Development Boundary, is supported by on-site private septic systems. [35]

The City's wastewater is processed through the Porterville Wastewater Treatment Facility (WWTF), which has a capacity of eight million gallons per day. Due to the City's flat topography, the sewers flows are conveyed via 18 different lift stations throughout the City.

Solid Waste

The Tulare County Consolidated Waste Management Authority (CWMA) provides solid waste collection services for residential, commercial, and industrial developments in the city, transporting waste to the Teapot Dome Landfill. This landfill is permitted to receive a maximum of 600 tons per day and has a remaining capacity of 998,468 cubic yards, with an estimated closure date that lapsed in 2004. As of 2022, Teapot Dome was no longer taking non-refuse disposal, nor is it open to the public. Once Teapot Dome reaches capacity, waste will be diverted to Woodville Landfill. [36]

Stormwater

Stormwater services are described in Section 4.10.

Natural Gas and Electricity

According to the Porterville 2030 General Plan, Southern California Edison is the electricity service provider. Power is provided through both overhead and undergrounded lines with all new development required to underground power transmission lines. Natural gas is provided to residents through Southern California Gas Company.

Telecommunications Accordingly, telecommunications providers in the area incrementally expand and update their service systems in response to usage and demand. Upon request, the Project Site could be connected to existing broadband infrastructure and subject to applicable connection and service fees.

4.19.2 Impact Assessment

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?

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[35] 2030 Porterville General Plan Public Utilities Element, http://www.ci.porterville.ca.us/depts/communitydevelopment/documents/Chapter8PublicUtilities_000.pdf, Accessed January 28, 2024.

[36] 2030 Porterville General Plan Public Utilities Element, http://www.ci.porterville.ca.us/depts/communitydevelopment/documents/Chapter8PublicUtilities_000.pdf, Accessed January 28, 2024.

Less than Significant Impact. Although the Project site is currently outside of city limits, future development would be required to annex into the City of Porterville and would be required to connect to water, stormwater, and wastewater services, and utilize solid waste, collection services. Natural gas, electricity, and telecommunications would be provided by private companies. The City has reviewed the Project to determine adequate capacity in these systems and ensure compliance with applicable connection requirements. In addition to connections to water, stormwater, solid waste, and wastewater services, the Project would be served by Southern California Gas Company for natural gas and Southern California Edison for electricity and by the appropriate telecommunications provider for the Project site. Therefore, all wet and dry public utilities, facilities, and infrastructure are in place and available to serve the Project site. While new utility and service connections would need to be extended to and from the Project site (e.g., sewer, stormwater runoff, electrical), these new connections would not result in a need to modify the larger off-site infrastructure. Therefore, the Project would not require or result in the relocation or construction of new or expanded facilities and as such, and impact would be less than significant.

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

Less than Significant Impact. As discussed in detail in Section 4.10, the city's long-term water resource planning is addressed in the city's UWMP. As concluded in Section 4.10, it can be presumed that that existing and planned water supplies should be adequate to serve the Project's anticipated demand at maximum buildout.

Regarding water supply availability for the Project and future development, the UWMP indicates the City utilizes a figure of 179 gallons per capita per day (gpcd) to project water demand. As identified in Section 4.14, the project is anticipated to support up to 8,054 people at full build out. Based on the conservative approach of 179 gpcd, the additional population is anticipated to increase water usage by approximately 526 million gallons a year (mgy). However, as indicated in Table 4-33, the City has a total water use of 5,731 mgy to support a population of 87,901. Additionally, as shown in Table 4-33, there is 1,217 million gallons a year surplus to through at least 2040 which is 691 mgy more than what would be required to support full buildout of the Project.

Table 4-33 Normal Year Supply and Demand Comparison – Potable and Non-Potable

	2025	2030	2035	2040
Supply Total	8,542	8,834	9,166	9,539
Demand Total	5,731	6,497	7,337	8,322
Difference	2,812	2,337	1,829	1,217

Source: Table 7.2 of the 2020 Porterville Urban Water Management Plan

With the slow population growth and planned facilities for water supply, there is no indication the increased population would result in a water deficit and therefore the impact is less than significant.

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?

Less than Significant Impact. Although no development is currently proposed, future development that results from the implementation of the Project would generate wastewater. Pursuant to the City's UWMP, the City owns and operates a wastewater treatment facility (WWTF) which was built in 1954 with a capacity of 1.8 million gallons per day (mgd). The WWTF was upgraded in 1978 to support a capacity of 4.0 mgd and again in 1994 to support 8.0

mgd. The City also has a WWTF Waste Discharge Requirement Order (No. R5-2008-304) that restricts the average daily discharge of wastewater to 5.3 mgd. As of 2020, the total volume of wastewater collected was 1,712 million gallons for a total of 4.69 mgd. Under the existing Waste Discharge Requirement Order, the WWTF could support a total volume of daily discharge of 1,934 million gallons, which results in 5.3 mgd. To reach the total capacity of 8.0 mgd, total volume of wastewater generation would exceed 2,920 million gallons.

Additionally, at the time of development all projects will be reviewed by the City and required to comply with all applicable City WWTF policies, as well as pay any applicable development fees and service connection fees. Therefore, the Project would not have a significant impact.

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

Less than Significant Impact. Although no development is currently proposed, future development that results from the implementation of the Project would generate solid waste and recycling. future development would be served by the Tulare County Consolidated Waste Management Authority (CWMA).and would be required to comply with local and state law regarding solid waste and recycling. Pursuant to the Porterville 2030 General Plan, solid waste is generated at a rate of 2.0 pounds per resident per day. The Project is anticipated to support a total of 8,054 new residents which would generate 16,108 pounds of solid waste per day. Assuming a 50 percent diversion from landfills pursuant to AB 939, the Project would send approximately 1,469.9 tons per year of solid waste to the Teapot Landfill, which is nearing capacity. The Woodville Disposal site is expected to receive solid waste disposal from Porterville once Teapot Landfill reaches capacity. The Woodville Disposal site was recently expanded and has a total of 27.5 million cubic yard capacity. The additional solid waste anticipated by the Project (1,469.9 tons) would account for less than 6.3% of the landfill's receiving maximum.

In addition, through the entitlement review process, future development would be required to comply with requirements outlined in PMC *Chapter. 13. - Garbage and Refuse*. Compliance with these requirements would ensure regular collection and recycling of materials based on the capacity of local infrastructure. Through compliance, future development would not 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. For these reasons, the Project would have a less than significant impact.

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

Less than Significant Impact. As described under criterion d), future development would be required to comply with state and local law which include management and reduction statutes and regulations to ensure that solid waste is handled, transported, and disposed accordingly. Through compliance with local and state law, it can be determined that future development would also comply with federal, state, and local management and reduction statutes and regulations related to solid waste. As a result, a less than significant impact would occur because of the Project.

4.19.3 Mitigation Measures

None required.

4.20 WILDFIRE

If located in or near state responsibility or lands classified as very high fire hazard severity zones, **Would the project:**		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
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?				X
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?			X	
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?				X

4.20.1 Environmental Setting

According to the General Plan EIR, the center portion of Porterville is highly urbanized and is less susceptible to wildland fires. The risk of wildland fires increases in the grasslands and other vegetation cover outside of the city's urban core. The area located in the northeast portion of the city's Planning Area near Lake Success is considered to have a high to very high risk of fire since it is heavily vegetated. The Project site is not located in or near state responsibility or lands classified as moderate, high, or very high fire hazard severity zones as identified by CAL FIRE. [37] Rather, the Project site is within an "area of local responsibility" that is an area of low fire risk. As an area of local responsibility, the Porterville Fire Department is responsible for providing fire protection services (See Section 4.15).

4.20.2 Impact Assessment

If located in or near state responsibility or lands classified as very high fire hazard severity zones, Would the project:

[37] California Department of Forestry and Fire Protection. FHSZ Viewer. Accessed on August 9, 2023, https://egis.fire.ca.gov/FHSZ/.

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

No Impact. The Project would not impair access to the existing roadway network. While no development is proposed by the Project, future construction due to the implementation of the Project may require lane closure; however, these activities would be short-term and access through South Westwood Street or West Poplar Avenue (SR 190) would be maintained through standard traffic control. Following construction, existing roadways would continue to provide access to the site. Safe and convenient vehicular and pedestrian circulation would be provided in addition to adequate access for emergency vehicles. To determine and ensure adequate vehicular and pedestrian circulation and emergency vehicle access, future development of the Project site would be reviewed and conditioned by the city for compliance with applicable code and regulations including applicable emergency response and evacuation plans. Therefore, the Project would not substantially impair any emergency response plan or emergency evacuation plan and no impact would occur.

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

No Impact. The Project site is located on a relatively flat property with minimal slope and is not in an area that is subject to strong prevailing winds or other factors that would exacerbate wildfire risks. The site is highly disturbed and is not located within a wildland (i.e., wild, uncultivated, and uninhabited land), which precludes the risk of wildfire. Further, the Project site is within an LRA and is not identified by Cal Fire to be in a VHFHSZ. For these reasons, no impact would occur as a result of this Project.

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?

Less than Significant Impact. Pursuant to the California Department of Forestry and Fire Protection, the Project site is not located in or near state responsibility or lands classified as very high fire hazard severity zones. While no development is proposed by the Project, future development of the Project site would include the construction of new infrastructure such as roads, fuel breaks, emergency water sources, power lines, and other utilities. Future development of the site would be reviewed and conditioned by the city and the Porterville Fire Department for compliance with applicable standards, specifications, and codes related to the installation and maintenance of the proposed infrastructure. Such infrastructure would be typical for urban uses and would not exacerbate fire risks or result in temporary or ongoing impacts to the environment. Therefore, no impact would occur.

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

No Impact. The Project site is not located in or near state responsibility or lands classified as very high fire hazard severity zones. The topography of the Project site is relatively flat with stable, native soils, and is not susceptible to landslides according to the HMP. Therefore, no impact would occur because of the Project.

4.20.3 Mitigation Measures

None required.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Does the project have the potential to 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, 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?		X		
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)?	X			
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

4.21.1 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated. The analyses of environmental issues contained in this Initial Study indicate that the Project is not expected to have substantial impact on habitat of a fish or wildlife species. Standard requirements that will be implemented through the entitlement process and the attached

mitigation monitoring and reporting program have been incorporated in the project to reduce all potentially significant impacts to less than significant. Therefore, the Project would have a less than significant impact.

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

Potentially Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable.

As determined by the Initial Study, there may be potentially significant effects related to Air Quality which will be addressed in the EIR. Pursuant to CEQA §15063(c)(3), an EIR can focus on effects which are determined to be significant impacts in the Initial Study and scope out sections which are determined not to be significant. Focused EIRs, as defined in §21158, are EIRs on subsequent projects identified in the Master EIR. The City's General Plan used a programmatic EIR approach, or PEIR, that specifically states that it does not assess site-specific impacts and that future development will be subject to environmental review. As such, a Focused EIR is being prepared that will focus on Air Quality since all other sections scope out, but project level analysis for each Appendix A impact area is provided in this initial study.

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

Potentially Significant Impact. Based on the analysis included in the Initial Study, the Project may have potentially significant impacts on Air Quality, and as a result may have direct or indirect adverse effects on human beings. As such, a Focused EIR is being prepared with further analysis on Air Quality and any potential adverse effects on human beings.

5 MITIGATION MONITORING AND REPORTING PROGRAM

This mitigation measure monitoring and reporting checklist was prepared pursuant to California Environmental Quality Act (CEQA) Guidelines *Section 15097* and *Section 21081.6* of the PRC (PRC). The timing of implementing each mitigation measure is identified in in the checklist, as well as identifies the entity responsible for verifying that the mitigation measures applied to a project are performed. Project applicants are responsible for providing evidence that mitigation measures are implemented. As lead agency, the City of Salinas is responsible for verifying that mitigation is performed/completed.

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initials
Air Quality					
Mitigation Measure AIR-2a: *The following measure shall be applied to all development under the proposed Master Plan to reduce emissions from construction.* *Prior to the issuance of a grading permit for the proposed project, the project applicant, project sponsor, or construction contractor shall provide reasonably detailed compliance with the following requirements to the City of Porterville Planning Department:* • *Where portable diesel engines are used during construction, all off-road equipment with engines greater than 75 horsepower shall have engines that meet either EPA or ARB Tier 4 Final off-road emission standards except as otherwise specified herein. If engines that comply with Tier 4 Final off-road emission standards are not commercially available, then the construction contractor shall use the next cleanest piece of off-road equipment (e.g., Tier 4 Interim) that is commercially available. For purposes of this mitigation measure, "commercially available" shall mean the equipment at issue is available taking into*					

consideration factors such as (i) critical-path timing of construction; and (ii) geographic proximity to the project site of equipment. If the relevant equipment is determined by the project applicant to not be commercially available, the contractor can confirm this conclusion by providing letters from at least two rental companies for each piece of off-road equipment that is at issue.					
Mitigation Measure AIR-2b: *Prior to issuance of building permits for non-single-family residential and mixed-use residential development projects in the proposed Master Plan planning area, the project applicant shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.* • *Electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the California Green Building Standards Code (CALGreen).* • *Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.* • *Retrofit off-road diesel equipment with Verified Diesel Emissions Control Strategy (VDECS) like Diesel Particulate Filters (DPF). Particulate Matter level 3 VDECS can provide at least an 85 percent reduction (CARB 2015).*					

• *Use alternatively fueled (e.g., natural gas) diesel construction equipment, including all off-road and portable diesel-powered equipment.* • *Use electrically driven equipment that is not powered by a portable generator set.* • *Limit the hours of operation for heavy-duty equipment and/or limit the quantity of heavy-duty equipment operating at the same time.*					
Mitigation Measure AIR-2c: *Prior to the issuance of building permits for nonresidential development projects in the planning area, project applicants shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.* • *For buildings with more than 10 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the California Green Building Standards Code (CALGreen).* • *Preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code.* • *Facilities shall be installed to support future electric vehicle charging at each nonresidential building with 30 or more parking spaces. Installation shall be*					

consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.					
Mitigation Measure AIR-2d: *The following measure shall be applied to all development under the proposed Master Plan during construction to facilitate the use of electric landscaping equipment during project operations:* • *Provide electrical outlets on the outside of buildings or in other accessible areas to facilitate the use of electrically powered landscape equipment.*					
Mitigation Measure AIR-3a: *Prior to future discretionary approval for proposed implementing development projects, the City of Porterville shall evaluate potential impacts from localized emissions of criteria pollutants. The project applicant, project sponsor, or construction contractor shall submit an analysis demonstrating that the project would not result in a localized impact from criteria pollutants that follows SJVAPCD guidance. Options for relevant analyses to fulfill this mitigation measure are provided below:* • *Provide a localized screening analysis demonstrating the project would not exceed 100 pounds per day of any criteria pollutant.* • *Provide an Ambient Air Quality Analysis (AAQA) for the proposed project. An AAQA uses air dispersion modeling to determine if emission increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The SJVAPCD recommends an AAQA be performed for the*					

Project if emissions exceed 100 pounds per day of any pollutant. • *Supporting documentation approved by the SJVAPCD demonstrating that the proposed project would not have the potential to result in a significant impact from localized criteria pollutant emissions.*					
Mitigation Measure AIR-3b: *Prior to future discretionary approval for commercial or commercial mixed-use projects, the City of Porterville shall evaluate potential health risk impacts from new development proposals for any individual development projects within 1,000 feet of an existing or planned sensitive land use (e.g., residential, schools, day cares, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit the following to the City of Porterville Planning Department:* • *A Health Risk Prioritization Screening Analysis or a Health Risk Assessment for the project's potential to expose sensitive receptors to elevated levels of Toxic Air Contaminants during project construction and operations prepared in accordance with SJVAPCD guidance. If the Health Risk Assessment shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the project applicant shall be required to identify and incorporate commercially feasible mitigation including appropriate enforcement mechanisms to reduce risks to an acceptable level. The*					

City of Porterville shall submit each Health Risk Screening Analysis or Health Risk Assessment to the SJVAPCD for review. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.					
Mitigation Measure AIR-3c: *To identify potential implementing development project-specific impacts resulting from the use of diesel trucks, proposed implementing development projects that include an excess of 10 dock doors for a single building, a minimum of 100 truck trips per day, 40 truck trips with Transport Refrigeration Units (TRUs) per day, or TRU operations exceeding 300 hours per week, and that are with 1,000 feet from existing or planned sensitive land uses; shall have a facility-specific Health Risk Assessment performed to assess the diesel particulate matter impacts from mobile source traffic generated by that implementing development project. If applicable, the results of the Health Risk Assessment shall be included in the CEQA documentation for each implementing development project. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.*					
Biological Resources					
Mitigation Measure BIO-1: *Special-Status Species Surveys and Avoidance. The Project shall implement the following measures to avoid and minimize for impacts on special-status species due to construction activities.*					

• ***Pre-Construction Surveys.*** *The Project shall conduct parcel species biological evaluation(s) to determine the project-specific impacts. The evaluation(s) may require foot surveys and detailed habitat mapping, wetland delineation, special status plant survey(s), and protocol-level surveys for species of concern, including American badger, Northern California legless lizard, Vernal pool fairy shrimp, and San Joaquin adobe sunburst.* • ***Environmental Awareness Training.*** *A qualified biologist shall conduct tailgate meeting to train construction staff on special status species that occur/may occur on the project site.* • ***Biological Monitoring During Construction:*** *In case of the accidental death or injury of a special-status species during construction-related activities, USFWS and CDFW will be contacted immediately by phone and notified in writing within three working days.*					
Mitigation Measure BIO-2: *Nesting Bird Surveys and Avoidance. The Project shall implement the following measures to mitigate for loss of nesting habitat of the Project in compliance with the federal Migratory Bird Treaty Act and relevant Fish and Game Codes:* • ***Avoidance.*** *In order to avoid impacts to nesting raptors and migratory birds, the Project will be constructed, if feasible, from September 16th and January 31st, which is outside the avian nesting season.*					

• ***Preconstruction Surveys.*** *If Project activities must occur during the nesting season (February 1-September 15), a qualified biologist will conduct preconstruction surveys for active raptor and migratory bird nests within 10 days prior to the start of these activities. The qualified biologist will conduct pre-construction surveys per the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (2000). The survey will include the proposed work area(s) and surrounding lands within 500 feet, where accessible, for all nesting raptors and migratory birds. If no active nests are found within the survey area, no further mitigation is required.* • ***Establish Buffers.*** *Should any active nests be discovered near proposed work areas, no disturbance buffers of 250 feet around active nests of non-listed bird species and 500 feet around active nests of non-listed raptors will be established. If work needs to occur within these no disturbance buffers, a qualified biologist will monitor the nest daily for one week, and thereafter once a week, throughout the duration of construction activity. Should the nature of construction activity significantly change, such that a higher level of disturbance will be generated, monitoring will occur daily for one week and then resume the once-a-week regime. If, at any time, the biologist determines that construction activity may be compromising nesting success, construction activity within the designated buffer will be altered or					

suspended until the biologist determines that the nest site is no longer susceptible to deleterious disturbance.					
Mitigation Measure BIO-3: *Swainson's Hawk Surveys and Avoidance. If Project activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction surveys shall be conducted for Swainson's hawk nests in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, Swainson's Hawk Technical Advisory Committee (CDFG, 2000). The surveys would be conducted on the Project site plus a 0.5-mile buffer. To meet the minimum level of protection for the species, surveys shall be conducted during at least two survey periods.* 1. *If no Swainson's hawk nests are found, no further action is required.* 2. *If an active Swainson's hawk nest is discovered at any time within 0.5 miles of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest, but this*					

distance may be reduced depending upon conditions at the site. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist.					
Mitigation Measure BIO-4: *San Joaquin Kit Fox Surveys and Avoidance. Pre-construction surveys shall be conducted by a qualified biologist* within 10 days prior to the start of any construction activities. Qualified biologist shall conduct pre-construction surveys in accordance with USFWS Standard Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (2011). 1. *If no active or potential den is detected in or adjacent to work area during the survey, no further action is required.* 2. *If active or potential den is detected in or adjacent to work area during the pre-construction survey, the den shall not be disturbed or destroyed. Compliance with USFWS Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (2011) required. USFW and CDFW will be immediately contacted to determine best course of action. Construction activities shall be carried out in a manner that minimizes disturbance to kit foxes.*					

3. *In case of the accidental death or injury of a San Joaquin kit fox during construction-related activities, USFWS and CDFW will be contacted immediately by phone and notified in writing within three working days.*					
Mitigation Measure BIO-5: *Wetland Delineation. Prior to the start of ground disturbance activities on APN 256-040-044, the applicant shall consult with the California Department of Fish and Wildlife (CDFW) and/or the U.S. Department of Fish and Wildlife Service (USFWS) to conduct a formal Wetland Delineation.* The NWI maps also show the area along the Tule River as freshwater forested shrub wetland and riverine wetland, which supports the river, adjacent wetlands, and riparian habitat. As discussed in criteria b), the Master Plan designates the riparian habitat area along the Tule River as Open Space land use to protect the riparian habitat from urban development, tree preservation, clustered development, and establishes wildlife movement corridors through the Project Site. As such, the NWI-identified wetlands along Tule River would have a less than significant impact from future development of the proposed Project.					
Cultural Resources					
Mitigation Measure CUL-1: *Prior to permit approval for development on sites with existing buildings and/or structures that are 45 years or older, a historical resources evaluation shall be completed for that individual site to confirm if the existing buildings and/or structures within these sites qualify*					

as historical resources as defined by Section 15064.5(a) of CEQA Guidelines. The evaluation shall be prepared by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualifications Standards (PQS) in architectural history or history. The qualified architectural historian or historian shall conduct an intensive-level evaluation in accordance with the guidelines and best practices promulgated by the State Office of Historic Preservation to identify any potential historical resources within the proposed project area. All properties 45 years of age or older shall be evaluated within their historic context and documented in a report meeting the State Office of Historic Preservation guidelines. All evaluated properties shall be documented on Department of Parks and Recreation Series 523 Forms. The report shall be submitted to the City for review and concurrence. *Any relocation, rehabilitation, or alteration of the resource shall be implemented consistent with the Secretary of the Interior's Standards for the Treatments of Historic Properties (Standards). In accordance with CEQA, a project that has been determined to conform with the Standards generally would not cause a significant adverse direct or indirect impact to historical resources (14 CCR Section 15126.4[b][1]). Application of the Standards shall be overseen by a qualified architectural historian or historic architect meeting the PQS. In conjunction with any development application that may affect the historical resource, a report identifying and specifying the treatment of character-defining features and construction*					

activities shall be provided to the City for review and concurrence, in addition to the historical resources evaluation. *If significant historical resources are identified on a development site and compliance with the Standards and or avoidance is not feasible, the applicant or developer shall provide a report explaining why compliance with the Standards and or avoidance is not feasible for the city's review and approval. Site-specific mitigation measures shall be established and undertaken, including, but not limited to, documentation of the historical resource in the form of a Historic American Buildings Survey-Like report. The report shall be commissioned by the project applicant or their consultant to comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation and shall generally follow the Historic American Buildings Survey Level III requirements, including digital photographic recordation, detailed historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the PQS and submitted to the City prior to issuance of any permits for demolition or alteration of the historical resource.*					
Mitigation Measure CUL-2: *In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Project:* *a. Cultural Resources Alert on Project Plans. The project proponent shall note on any plans that require ground*					

disturbing excavation that there is a potential for exposing buried cultural resources. *b. Stop Work Near any Discovered Cultural Resources. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 50 feet of the resources, and City of Salinas shall be notified immediately. The project archaeologist meeting the SOI's PQS for archeology shall immediately to evaluate the find pursuant to Public Resources Code Section 21083.2.* *c. Mitigation for Discovered Cultural Resources. If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. If the archaeologist and, if applicable, a Native American monitor or other interested tribal representative determine it is appropriate, cultural materials collected from the site shall be processed and analyzed in a laboratory according to standard archaeological procedures. The age of the materials shall be determined using radiocarbon dating and/or other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the site(s) shall be evaluated according to the criteria of the CRHR and if applicable, NRHP. The results of the investigations shall be presented in a technical report following the standards of the California Office of Historic Preservation publication*					

"Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)." Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the City of Salinas. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Northwest Information Center (NWIC). The resources shall be photo documented and collected by the archaeologist for submittal to the City of Salinas. The archaeologist shall be required to submit to the City of Salinas for review and approval a report of the findings and method of curation or protection of the resources. This report shall be submitted to the NWIC after completion. Recommendations contained therein shall be implemented throughout the remainder of ground disturbance activities. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken. *d. Data Recovery. Should the results of item c. yield resources that meet CRHR significance standards and if the resource cannot be avoided by project construction, the project applicant shall ensure that all feasible recommendations for mitigation of archaeological impacts are incorporated into the final design and approved by the City prior to construction. Any necessary data recovery excavation, conducted to exhaust the data potential of significant archaeological sites, shall be carried out by a qualified archaeologist meeting the SOI's PQS*					

for archeology. Data recovery shall be conducted in accordance with a research design reviewed and approved by the City, prepared in advance of fieldwork, and using the appropriate archaeological field and laboratory methods consistent with the California Office of Historic Preservation Planning Bulletin 5, Guidelines for Archaeological Research Design, or the latest edition thereof. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with the City and local California Native American tribe(s). As applicable, the final Data Recovery reports shall be submitted to the City prior to issuance of any grading or construction permit. Recommendations contained therein shall be implemented throughout all ground disturbance activities. Recommendations may include, but would not be limited to, Cultural Resources Monitoring, and/or measures for unanticipated discoveries. The final report shall be submitted to the NWIC upon completion. *e. Disposition of Cultural Resources. Upon coordination with the City of Salinas, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.* *f. Cultural Resources Monitoring. If mitigation measures are recommended by reports written under item c. or d., the project applicant shall retain a qualified archaeologist to monitor project-related, ground-disturbing activities which may include the following but not limited to: grubbing, vegetation removal, trenching, grading, and/or excavations. The archaeological monitor shall coordinate with any Native*					

American monitor as required. Monitoring logs must be completed by the archaeologist daily. Cultural resources monitoring may be reduced for the project if the qualified archaeologist finds it appropriate to reduce the monitoring efforts. Upon completion of ground disturbance for the project, a final report must be submitted to the City for review and approval documenting the monitoring efforts, cultural resources find, and resource disposition. The final report shall be submitted to the NWIC.					
Geology and Soils					
Mitigation Measure GEO-1: *If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or another appropriate facility regarding any discoveries of paleontological resources.* *If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations, and fossil recovery may be required to mitigate adverse impacts from Project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are*					

significant, they shall be avoided to ensure no adverse effects or such effects must be mitigated. Construction in that area shall not resume until the resource-appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the City of Kerman, Community Development Department.					
Mineral Resources					
Mitigation Measure MIN-1: *If development is proposed within the Project site designated as MRZ-3a, a soils reports and investigation shall be prepared prior to the approval of building permits to ensure that availability of valuable aggregate deposit will not decrease.*					
Noise					
Mitigation Measure NOI-1: *Prior to project approval of residential development within the SoTu Master Plan, the City of Porterville shall ensure that proposed residential structures are located at least 157 feet from the centerline of Westwood Street, 409 feet from the centerline of SR 190 (Poplar Avenue), 137 feet from the centerline of Newcomb Street, and 674 feet from SR 65. If the project does not provide the listed setback for residential structures, sound walls shall be proposed to ensure that exterior noise of the residential site would not exceed 60 dB L_{dn}. If the project proposes sound walls in place of setbacks from roadway centerlines, a noise study shall be*					

conducted as evidence that the sound wall is sufficient to maintain an exterior noise of 60 dB L_{dn} or 70 dB L_{dn}.					
Mitigation Measure NOI-2: *Prior to ground disturbing activities for projects within the SoTu Master Plan, the City of Porterville shall ensure the following with the Project proponent:* • *Per the City of Porterville Municipal Code, construction activities should not occur outside the hours of 6:00 a.m. to 9:00 p.m. during weekdays and 7:00 a.m. to 5:00 p.m. on weekends. Construction activities that occur outside these hours would be subject to the stationary noise standards as set forth in the City of Porterville Municipal Code Section 18-90.4.* • *All construction equipment shall be properly maintained and muffled as to minimize noise generation at the source.* • *Noise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor.* • *All noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from any noise-sensitive land uses.* • *Locate construction staging areas, to the extent possible, at the greatest possible distances from any noise-sensitive land uses.* • *Signs shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing the contact*					

phone number of a designated noise disturbance coordinator.					
Tribal Cultural Resources					
See Cultural Resources					

6 REPORT PREPARATION

Names of Persons Who Prepared or Participated in the Initial Study:

Lead Agency		
Lead Agency	City of Porterville 291 N. Main Street Porterville, CA 93257	Claudia Calderon, Acting Community Development Director, Community Development Department
Initial Study Consultant		
Initial Study	Precision Civil Engineering 1234 O Street Fresno, CA 93721 (559) 449-4500	Bonique Emerson, AICP, VP of Planning
Technical Studies		
Air Quality, Health Risk, Greenhouse Gas Emissions, and Energy Analysis Technical Report	Johnson Johnson & Miller Air Quality Consulting Services	(559) 392-3665
Biological Resource Assessment	Argonaut Ecological Consulting, Inc.	2377 Gold Meadow Way, Ste 100 Gold River, CA 95670 (916) 803-1454
Cultural Resource Overview Report	Peak & Associates, Inc.	3941 Park Drive Ste 20-329 El Dorado Hills, 95762
Noise Assessment	WJV Acoustics, Inc.	133 N. Church Street, Suite 203 Visalia, CA 93291 (559) 627-4923
Vehicle Miles Traveled Analysis	JLB Traffic Engineering, Inc.	516 W. Shaw Avenue, Suite 103 Fresno, CA 93704 (559) 570-8991

7 APPENDICES

7.1 Appendix A: Air Quality, Greenhouse Gas Emissions, and Energy Analysis

Prepared by Johnson, Johnson, and Miller Air Quality Consulting Services, dated August 17, 2023.

Air Quality, Greenhouse Gas, and Energy Analysis Report
SoTu Master Plan
City of Porterville, California

Prepared for:

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August 17, 2023

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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BACT	best available control technology
BAU	Business as Usual
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2	carbon dioxide
COG	Council of Governments
District	San Joaquin Valley Air Pollution Control District
DPM	diesel particulate matter
EMFAC	EMission FACtors Model
EPA	United States Environmental Protection Agency
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG Rx	Greenhouse Gas Reduction Exchange
GHG(s)	greenhouse gas(es)
HAP	hazardous air pollutant
HRA	health risk assessment
IPCC	United Nations Intergovernmental Panel on Climate Change
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
$MTCO_2e$	metric tons of carbon dioxide equivalent
NO_X	nitrogen oxides
NSR	New Source Review
PG&E	Pacific Gas & Electric
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCE	Southern California Edison

SJVAPCD	San Joaquin Valley Air Pollution Control District
SoCalGas	Southern California Gas Company
SO_X	sulfur oxides
TCAG	Tulare County Association of Governments
VOC	volatile organic compounds

SECTION 1: EXECUTIVE SUMMARY

1.1—Purpose and Methods of Analysis

The following air quality, greenhouse gas (GHG), and energy analyses were prepared to evaluate whether the estimated criteria air pollutants, toxic air contaminants (TACs), and GHG emissions generated from the SoTu Master Plan (proposed Master Plan) would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD or District) for quantification of emissions and evaluation of potential impacts to air resources,[1] and the SJVAPCD's Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA.[2] An energy analysis was prepared to satisfy the requirements of CEQA Guidelines.

1.2—Project Description

1.2.1 - Project Location and Surrounding Land Use

The project is located near the City of Porterville, within Tulare County, California. This project lies within the San Joaquin Valley Air Basin. Specifically, the SoTu Master Plan Area (Plan Area) consists of 19 parcels that total approximately 447.30 gross acres and are generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street

Descriptions of the land uses surrounding the project site are listed below.

- North – The Tule River is the primary boundary directly north of the plan area. North of the Tule River is primarily residential subdivisions closest to the plan area with a mix of businesses, residences and schools continuing throughout West Porterville (west of Highway 65 which runs North and South and divides Porterville into east and west sides).
- East – East of the plan area is primarily residential subdivisions closest to the plan area with a mix of businesses including Home Depot and Harbor Freight Tools. The developed area of East Porterville is approximately 3.5 miles from the project site. To the northeast is Downtown Porterville, Corona Heights, and Porterville Cemetery. Granite Hills High School is about 3 miles northeast of the plan area.
- South – South of the plan area is primarily agricultural farmland with a scattering of rural residences and businesses. Eagle Mountain Casino is approximately 1.4 miles southwest, and Porterville College is approximately 1.3 miles southeast. There is also a Walmart Distribution Center approximately one (1) mile southeast of the plan area.
- West – West of the plan area is agricultural farmland with a scattering of rural residences, businesses, and dairies.

[1] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed July 2023.

[2] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009a. Guidance for Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. Website: www.valleyair.org /programs/CCAP/11-05-09/3_CCAP_FINAL_LU_Guidance_Nov_05_2009.pdf. Accessed July 2023.

1.2.2 - Project Description

The City of Porterville is proposing a master plan, known as SoTu Master Plan, on approximately 447.30 acres adjacent to City limits to facilitate future growth. Although there is no physical development proposed with the SoTu Master Plan, the goal is to provide the necessary framework to guide development in this area as it transitions from agricultural land to a vibrant, distinct, and multi-modal district of mixed densities and uses that is attractive to residential and visitors to live, work, explore, and shop. Although the Plan Area is not within City Limits, the planned landed for this area includes Low Density Residential, Retail Centers, Education (Public), and Parks and Recreation.

The SoTu Master Plan Area consists of 19 parcels that total approximately 447.30 gross acres and are generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street. The complete project description and the project buildout assumptions used for the impact analysis are provided as part of Appendix A.

1.3—Summary of Analysis Results

The following is a summary of the analysis results. As shown below, the project would result in significant impacts for air quality impacts and less than significant for the GHG and energy impact criteria analyzed.

Impact AIR-1: The project would conflict with or obstruct implementation of the applicable air quality plan. **Significant and unavoidable impact.**

Impact AIR-2: The project would 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 (including releasing emissions, which exceed quantitative thresholds for ozone precursors)? **Significant and unavoidable impact.**

Impact AIR-3: The project could expose sensitive receptors to substantial pollutant concentrations. **Significant and unavoidable impact.**

Impact AIR-4: The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. **Less than significant impact.**

Impact GHG-1: The project would not generate direct or indirect greenhouse gas emissions that would result in a significant impact on the environment. **Less than significant impact.**

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less than significant impact**.

Impact ENERGY-1: The project would not 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.**

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **Less than significant impact.**

1.4—Standard Conditions and Mitigation Measures Applied to the Project

The following standard conditions are required by existing regulation:

SC AIR-1 New development under the proposed Master Plan would include installation of on-site charging units for electric vehicles. Plans for on-site electric vehicle charging shall demonstrate that proposed development projects would meet or exceed electric vehicle parking provisions required by California Green Building Standards.

SC AIR-2 Individual commercial projects subject to SJVAPCD Rule 9401 – Employee Trip Reduction, shall comply with this rule. Compliance with SJVAPCD 9401 will promote trip reductions through the use of strategies that may include, but are not limited to:

- Employee carpool/ride sharing program.
- Flex scheduling/compressed scheduling.
- Posting information about public transit, bicycling, and pedestrian facilities and programs in public areas and in employee breakrooms.
- Promote available websites providing transportation options for residents and businesses.
- Create and distribute a "new resident" or "new tenant" information packet addressing alternative modes of transportation for residential residents and commercial employees.
- Providing incentives for carpooling/ride sharing, transit ridership, bicycling, walking, and other forms of non-single occupant vehicle travel.
- Providing employee lockers.
- Providing preferential parking for carpool/ride share vehicles.
- Providing bicycle storage facilities in convenient and secure locations.

The following mitigation measures are required to reduce potential impacts:

MM AIR-2a The following measure shall be applied to all development under the proposed Master Plan to reduce emissions from construction.

Prior to the issuance of a grading permit for the proposed project, the project applicant, project sponsor, or construction contractor shall provide reasonably detailed compliance with the following requirements to the City of Porterville Planning Department:

- Where portable diesel engines are used during construction, all off-road equipment with engines greater than 75 horsepower shall have engines that meet either EPA or ARB Tier 4 Final off-road emission standards except as otherwise specified herein. If engines that comply with Tier 4 Final off-road emission standards are not commercially available, then the construction contractor shall use the next cleanest piece of off-road equipment (e.g., Tier 4 Interim) that is

commercially available. For purposes of this mitigation measure, "commercially available" shall mean the equipment at issue is available taking into consideration factors such as (i) critical-path timing of construction; and (ii) geographic proximity to the project site of equipment. If the relevant equipment is determined by the project applicant to not be commercially available, the contractor can confirm this conclusion by providing letters from at least two rental companies for each piece of off-road equipment that is at issue.

MM AIR-2b Prior to issuance of building permits for non-single-family residential and mixed-use residential development projects in the proposed Master Plan planning area, the project applicant shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.

- Electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the California Green Building Standards Code (CALGreen).
- Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.

MM AIR-2c Prior to the issuance of building permits for nonresidential development projects in the planning area, project applicants shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.

- For buildings with more than 10 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the California Green Building Standards Code (CALGreen).
- Preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code.
- Facilities shall be installed to support future electric vehicle charging at each nonresidential building with 30 or more parking spaces. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.

MM AIR-2d The following measure shall be applied to all development under the proposed Master Plan during construction to facilitate the use of electric landscaping equipment during project operations:

- Provide electrical outlets on the outside of buildings or in other accessible areas to facilitate the use of electrically powered landscape equipment.

MM AIR-3a Prior to future discretionary approval for proposed implementing development projects, the City of Porterville shall evaluate potential impacts from localized emissions of criteria pollutants. The project applicant, project sponsor, or

construction contractor shall submit an analysis demonstrating that the project would not result in a localized impact from criteria pollutants that follows SJVAPCD guidance. Options for relevant analyses to fulfill this mitigation measure are provided below:

- Provide a localized screening analysis demonstrating the project would not exceed 100 pounds per day of any criteria pollutant.

- Provide an Ambient Air Quality Analysis (AAQA) for the proposed project. An AAQA uses air dispersion modeling to determine if emission increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The SJVAPCD recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

- Supporting documentation approved by the SJVAPCD demonstrating that the proposed project would not have the potential to result in a significant impact from localized criteria pollutant emissions.

MM AIR-3b Prior to future discretionary approval for commercial or commercial mixed-use projects, the City of Porterville shall evaluate potential health risk impacts from new development proposals for any individual development projects within 1,000 feet of an existing or planned sensitive land use (e.g., residential, schools, day cares, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit the following to the City of Porterville Planning Department:

- A Health Risk Prioritization Screening Analysis or a Health Risk Assessment for the project's potential to expose sensitive receptors to elevated levels of Toxic Air Contaminants during project construction and operations prepared in accordance with SJVAPCD guidance. If the Health Risk Assessment shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the project applicant shall be required to identify and incorporate commercially feasible mitigation including appropriate enforcement mechanisms to reduce risks to an acceptable level. The City of Porterville shall submit each Health Risk Screening Analysis or Health Risk Assessment to the SJVAPCD for review. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.

MM AIR-3c To identify potential implementing development project-specific impacts resulting from the use of diesel trucks, proposed implementing development projects that include an excess of 10 dock doors for a single building, a minimum of 100 truck trips per day, 40 truck trips with Transport Refrigeration Units (TRUs) per day, or TRU operations exceeding 300 hours per week, and that are with 1,000 feet from existing or planned sensitive land uses; shall have a facility-specific Health Risk Assessment performed to assess the diesel particulate matter impacts from mobile source traffic generated by that implementing development project. If applicable, the results of

the Health Risk Assessment shall be included in the CEQA documentation for each implementing development project. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.

SECTION 2: AIR QUALITY SETTING

2.1—Environmental Setting

Air quality impacts are both local and regional. Local and regional air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season. The project is located in the San Joaquin Valley Air Basin (Air Basin), which experiences some of the most challenging environmental conditions for air quality in the nation. The following section describes these conditions as they pertain to the Air Basin. The information in this section is primarily from the SJVAPCD's GAMAQI.[3]

2.1.1 - San Joaquin Valley Air Basin

Topography

The topography of a region is important for air quality because mountains can block airflow that would help disperse pollutants and can channel air from upwind areas that transports pollutants to downwind areas. The SJVAPCD covers the entirety of the Air Basin. The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

Climate

The climate is important for air quality because of differences in the atmosphere's ability to trap pollutants close to the ground, which creates adverse air quality; inversely, the atmosphere's ability to rapidly disperse pollutants over a wide area prevents high concentrations from accumulating under different climatic conditions. The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually encountered 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Mojave Desert Air Basin portion of Kern County. As the wind moves through the Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

[3] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed July 2023.

The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong, low-level temperature inversions and very stable air conditions, which can lead to Tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10}.

2.2—Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the United States Environmental Protection Agency (EPA) with setting air quality standards. The State of California also sets air quality standards, which are in some cases more stringent than federal standards, in addition to addressing additional pollutants. The following section describes these federal and state standards and the health effects of the regulated pollutants.

2.2.1 - Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970 and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA: particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. The EPA labels these pollutants as criteria air pollutants because they are regulated by developing human health-based and/or environmentally based criteria (science-based guidelines), which sets permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards.[4]

The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO_2)
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

2.2.2 - California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality

[4] U.S. Environmental Protection Agency (EPA). 2014. Clean Air Act Requirements and History. Website: https://www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history. Accessed July 2023.

problems were and continue to be some of the most severe in the nation and require additional actions beyond the federal mandates. The California Air Resources Board (ARB) administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six federal standards listed above as well visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA.

2.2.3 - Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants (HAP). Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and HAPs in California.

2.2.4 - Air Pollutant Description and Health Effects

The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 1.

Table 1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NO_X, and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.070 ppm[f]			
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9.0 ppm	9 ppm			
Nitrogen dioxide[b] (NO_2)	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM-related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide (NO_2) forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfur dioxide[c] (SO_2)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human-caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	—	0.5 ppm			
	24 Hour	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal; and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.
	Mean	20 µg/m^3	—			
Particulate matter ($PM_{2.5}$)	24 Hour	—	35 µg/m^3			
	Annual	12 µg/m^3	12.0 µg/m^3			
Visibility-reducing particles	8 Hour	See note below[d]				

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfates	24 Hour	25 µg/m^3	—	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-}. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead[e]	30-day	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQ.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3			
Vinyl chloride[e]	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
				respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.		sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur-containing fuels (oil and coal).
Volatile organic compounds (VOC)		There are no state or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROG), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	DPM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources

Notes:
ppm = parts per million (concentration) µg/m^3 = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] To attain the 1-hour NO_2 national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb) (0.100 ppm).

[c] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[d] Visibility-reducing particles: In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

[e] The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[f] The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015 and became effective on December 28, 2015.

Several pollutants listed in Table 1 are not addressed in this analysis. Analysis of lead, hydrogen sulfide, sulfates, and vinyl chloride are not included in this report because no new sources of these pollutant emissions are anticipated with the project. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed as PM_{10} and $PM_{2.5}$.

Toxic Air Contaminants Health Effects

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants. Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and hazardous air pollutants in California.

Exposures to TACs emissions can have both chronic long-term (over a year or longer) and acute short-term (over a period of hours) health impacts. The TACs of greatest concern are those that cause serious health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects. Some health problems occur very soon after a person inhales a TAC. These immediate effects may be minor, such as watery eyes, or they may be serious, such as life-threatening lung damage. Other health problems may not appear until many months or years after a person's first exposure to the TAC. Cancer is one example of a delayed health problem.

The California Almanac of Emissions and Air Quality—2009 Edition[5] presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

DPM

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program[6] demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increased risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause a cough, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions,

[5] California Air Resources Board (ARB). 2009. The California Almanac of Emissions and Air Quality—2009 Edition. Chapter 4, Air Basin Trends and Forecasts—Criteria Pollutants. Website: https://www.cityofdavis.org/home/showdocument?id=4101. Accessed July 2023.

[6] California Air Resources Board (ARB). 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: http://www.arb.ca.gov /toxics/dieseltac/factsht1.pdf. Accessed July 2023.

emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on: engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

Health risks attributable to the top 10 TACs listed above are available from the ARB as part of its California Almanac of Emissions and Air Quality. As shown therein for data collected at air monitoring stations in urban areas of the San Joaquin Valley Air Basin, cancer risks attributable to all of the listed TACs above with the exception of DPM have declined about 70 percent from the mid-1990s to 2007. Risks associated with DPM emissions are provided only for the year 2000 and have not been updated in the Almanac. Although more recent editions of the Almanac do not provide estimated risk, they do provide emission inventories for DPM for later years. The 2013 Almanac provides emission inventory trends for DPM from 2000 through 2035. The same Almanac reports that DPM emissions were reduced in the SJVAB from 16 tons per day in 2000 to 11 tons per day in 2010, a 31 percent decrease. DPM emissions in the San Joaquin Valley are projected to decrease to 6 tons per day by 2015, a 62 percent reduction from year 2000 levels. ARB predicts a reduction to three tons per day by 2035, which would be an 81 percent reduction from year 2000 levels. Continued implementation of the ARB's Diesel Risk Reduction Plan is expected to provide continued reductions in DPM well into the future.[7]

Benzene

Out of the toxic compounds emitted from gasoline stations, benzene, ethylbenzene, and naphthalene have cancer toxicity values. However, benzene is the TAC which drives the risk, accounting for approximately 85 percent of cancer risk from gasoline vapors. Furthermore, benzene constitutes more than three to four times the weight of gasoline than ethylbenzene and naphthalene, respectively.[8]

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the

[7] California Air Resources Board (ARB). 2013. The California Almanac of Air Quality and Emissions—2013 Edition. Website: http://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm. Accessed July 2023.

[8] South Coast Air Quality Management District (SCAQMD). 2015. Risk Assessment Procedures for Rules 1401, 1401.1, and 212. Website: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/appx_1401riskassessproc_071517nw.pdf. Accessed July 2023.

lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. No naturally occurring asbestos is located near the project site/plan area.

2.3—Existing Air Quality Conditions

The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 2 provides a description of the health impacts of ozone at different concentrations.

Table 2: Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI 51–100—Moderate	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 55–70 ppb	**Health Effects Statements:** Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI 101–150—Unhealthy for Sensitive Groups	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 71–85 ppb	**Health Effects Statements:** Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151–200—Unhealthy	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 86–105 ppb	**Health Effects Statements:** Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201–300—Very Unhealthy	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 106–200 ppb	**Health Effects Statements:** Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.

	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
Source: Air Now. 2021. AQI Calculator: AQI to Concentration. Website: https://www.airnow.gov/aqi/aqi-calculator-concentration/. Accessed July 2023.	

The other nonattainment pollutant of concern is PM2.5. An AQI of 100 or lower is considered moderate and would be triggered by a 24-hour average concentration of 12.1 to 35.4 µg/m^3. The relationship of the AQI to health effects in shown Table 3.

Table 3: Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
AQI 51–100—Moderate	**Sensitive Groups:** Some people who may be unusually sensitive to particle.
Concentration 12.1–35.4 µg/m^3	**Health Effects Statements:** Unusually sensitive people should consider reducing prolonged or heavy exertion.
	Cautionary Statements: Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.
AQI 101–150—Unhealthy for Sensitive Groups	**Sensitive Groups:** Sensitive groups include people with heart or lung disease, older adults, children, and teenagers.
Concentration 35.5–55.4 µg/m^2	**Health Effects Statements:** Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly.
AQI 151–200—Unhealthy	**Sensitive Groups:** Everyone
Concentration 55.5–150.4 µg/m^3	**Health Effects Statements:** Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during outdoor activities.
AQI 201–300—Very Unhealthy	**Sensitive Groups:** Everyone
Concentration 150.5–250.4 µg/m^3	**Health Effects Statements:** Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.

Source: Air Now. 2021. AQI Calculator: AQI to Concentration. Website: https://www.airnow.gov/aqi/aqi-calculator-concentration/. Accessed July 2023.

2.3.1 - Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 4. The Air Basin is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

Table 4: San Joaquin Valley Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone—One Hour	Nonattainment/Severe	No Standard
Ozone—Eight Hour	Nonattainment	Nonattainment/Extreme
Carbon monoxide	Attainment/Unclassified	Merced, Madera, and Kings Counties are unclassified; others are in Attainment
Nitrogen dioxide	Attainment	Attainment/Unclassified
Sulfur dioxide	Attainment	Attainment/Unclassified
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	No Designation/Classification
Source of State status: California Air Resources Board (ARB 2013).[9] Source of National status: U.S. Environmental Protection Agency (EPA 2021).[10] Source of additional status information (SJVAPCD 2017).[11]		

[9] California Air Resources Board (ARB). 2013. Area Designation Maps/State and National. 2012 State Area Designations. Page last reviewed October 18, 2017. Website: https://ww2.arb.ca.gov /resources/documents/maps-state-and-federal-area-designations. Accessed July 2023.

[10] U.S. Environmental Protection Agency (EPA). 2021. Green Book Nonattainment Areas for Criteria Pollutants as of September 30, 2021. Website: https://www.epa.gov/green-book. Accessed July 2023.

[11] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2017. Ambient Air Quality Standards & Valley Attainment Status. Website: https://www.valleyair.org/aqinfo/attainment.htm. Accessed July 2023.

2.4—Air Quality Plans and Regulations

Air pollutants are regulated at the national, state, and air basin or county level, and each agency has a different level of regulatory responsibility: the EPA regulates at the national level, the ARB at the state level, and the SJVAPCD at the air basin level.

2.4.1 - San Joaquin Valley Air Pollution Control District

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The SJVAPCD also has roles under CEQA.

SJVAPCD Rules and Regulations

The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the project include but are not limited to the following:

Rule 4102—Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials. This rule is enforced on a complaint basis.

Rule 4601—Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.

Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This regulation is enforced on the asphalt provider.

Regulation VIII—Fugitive PM_{10} Prohibitions. Rules 8011–8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

Rule 9510—Indirect Source Review. This rule reduces the impact of NO_X and PM_{10} emissions from growth within the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site District-administered projects, or a combination of the two. This project is subject to Rule 9510.

CEQA

The SJVAPCD has three roles under CEQA:

1. **Lead Agency:** Responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the SJVAPCD where the SJVAPCD has primary approval authority over the project.
2. **Responsible Agency:** The discretionary authority of a responsible agency is more limited than a lead agency; having responsibility for mitigating or avoiding only the environmental effects of those parts of the project which it decides to approve, carry out, or finance. The SJVAPCD defers to the lead agency for preparation of environmental documents for land use projects that also have discretionary air quality permits, unless no document is prepared by the lead agency and potentially significant impacts related to the permit are possible. The SJVAPCD regularly submits comments on documents prepared by lead agencies to ensure that the SJVAPCD's concerns are addressed.
3. **Commenting Agency:** The SJVAPCD reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The SJVAPCD also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance, as well as state regulations to control air pollution, is an overall improvement in the Air Basin. In particular, the SJVAPCD's 2015 GAMAQI states the following:

1. The District's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs. The general plan is the primary long-range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions.
2. The Air Quality Guidelines for General Plans (AQGGP), adopted by the District in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1. When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific suggestions in the AQGGP are voluntary. The District strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs.

2.4.2 - Local

The City of Porterville 2030 General Plan was adopted on March 4, 2008. The City's applicable air quality goals and policies from the Air Quality section are listed below.

City of Porterville Air Quality Goals and Policies

The General Plan lists the following policies that are supportive of improved air quality. Policies that are directly related to the project are listed below:

Land Use Element

LU-G-3: Promote sustainability in the design and development of public and private development projects.

LU-G-11: Foster strong, visually attractive regional commercial centers with a mix of tenants to serve both local and regional needs.

LU-I-20: Establish standards for pedestrian-oriented design in neighborhood centers. Pedestrian-oriented design standards may include, but would not be limited to:

- Limitations on maximum block length;
- Minimum sidewalk width;
- Required streetscape improvements, including street trees;
- Building height and articulation;
- Building setbacks;
- Location of entries; and
- Parking location and required landscaping.

The City also may provide additional incentives for projects that contribute to the pedestrian, bicycle and transit networks, and/or the open space network.

Circulation Element

C-G-3: Make efficient use of existing transportation facilities and, through coordinated land use planning, strive to improve accessibility to shops, schools, parks and employment centers and reduce total vehicle miles traveled per household to minimize vehicle emissions and save energy.

C-I-2: Require all new developments to provide right-of-way and improvements consistent with the General Plan street designations and City street section standards.

C-I-3: Provide for greater street connectivity by: Incorporating in subdivision regulations requirements for a minimum number of access points to existing local or collector streets for each development;

Encouraging roundabouts over signals, where feasible and appropriate;

Requiring the bicycle and pedestrian connections from cul-de-sacs to nearby public areas and main streets; and

Requiring new residential communities on undeveloped land planned for urban uses to provide stubs for future connections to the edge of the property line. Where stubs exist on adjacent properties, new streets within the development should connect to these stubs.

C-G-8: Promote the use of public transit for daily trips to schools and work and for other purposes.

C-G-9: Promote the use of bicycles to alleviate vehicle traffic and improve public health.

C-G-10: Promote pedestrian activity.

C-I-21: Develop a series of continuous walkways within new office parks, commercial districts, and residential neighborhoods so they connect to one another.

Open Space & Conservation Element

OSC-G-9: Improve and protect Porterville's air quality by making air quality a priority in land use and transportation planning and in development review.

OSC-I-58: Continue to assess air quality impacts through environmental review and require developers to implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.

The City will use the San Joaquin Valley Air Pollution Control District (SJVAPCD) Guidelines for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The City shall cooperate with the SJVAPCD in the review of development proposals.

BMPs could include transportation demand management strategies for large development

projects such as:

- Providing bicycle access and parking facilities;

- Providing preferential parking for high-occupancy vehicles, carpools, or alternative fuels vehicles;

- Establishing telecommuting programs or satellite work centers;

- Allowing alternative work schedules;

- Subsidizing public transit costs for employee; and

- Scheduling deliveries at off-peak traffic periods.

OSC-I-59: Require preparation of a Health Risk Assessment for any development subject to the Air Toxics "Hot Spots" Act.

OSC-I-60: Require dust control measures as a condition of approval for subdivision maps, site plans, and all grading permits.

OSC-I-61: Coordinate air quality planning efforts with other local, regional and State agencies.

OSC-I-62. Be proactive in educating the public about the linkages between land use, transportation and air quality.

OSC-I-63: Notify local and regional jurisdictions of proposed projects that may affect regional air quality.

OSC-I-65: When asbestos has been identified in the preliminary soils report, require all new development and public works projects to comply with all provisions of State and regional ATCM regulations for control of airborne asbestos emissions relating to construction, road maintenance, and grading activities.

The City will establish Best Management Practices for construction, grading, and road maintenance in areas with naturally occurring asbestos, consistent with State and regional regulations for Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. BMPs may include but are not limited to:

- Wetting soil during excavation and other dust suppression measures;
- Wetting roads, excavated materials and rinsing equipment;
- Limiting vehicle speeds within construction areas;
- Creating wind breaks and berms;
- Suspending activities when wind creates visible dust;
- Prohibiting rock-crushing of asbestos-containing materials;
- Monitoring dust levels;
- Posting warning signs;
- Replanting; and
- Paving or other permanent sealants or covers.

2.4.3 - Existing Sources of Toxic Emissions

No existing sources were identified that exceed ARB recommendations in its Air Quality Land Use Handbook for siting sensitive land uses impact the project.

2.4.4 - ARB Air Quality Land Use Handbook

Table 5 lists the following ARB advisory recommendations that address the issue of siting “sensitive land uses” near specific sources of air pollution:[12]

- High traffic freeways and roads
- Refineries

[12] California Air Resources Board (ARB). 2005. California Environmental Protection Agency. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. Website: www.arb.ca.gov/ch/landuse.htm. Accessed July 2023.

- Distribution centers
- Rail yards
- Ports
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

The analysis examines the area around the site to determine if potential sources of TAC emissions may impact the project, based on the ARB recommended screening distances.

Table 5: Recommendations on Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.
Note: These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.	

SECTION 3: CLIMATE CHANGE SETTING

3.1—Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios.[13] The report also concluded that "[w]arming of the climate system is unequivocal," and that "most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the project participates in the potential for global climate change by its incremental contribution of GHGs—and when combined with the cumulative increase of all other sources of GHGs—constitute potential influences on global climate change.

3.1.1 - Consequences of Climate Change in California

In California, climate change may result in consequences such as the following:[14,15]

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by

[13] Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, Website: https://www.ipcc.ch /report/ar4/wg1/. Accessed July 2023.

[14] California Climate Change Center (CCCC). 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center. July 2006. CEC-500-2006-077. Website: www.scc.ca.gov/webmaster/ftp/pdf/climate_change /assessing_risks.pdf. Accessed July 2023.

[15] Moser et al. 2009. Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071. Website: http://www.susannemoser.com/documents/CEC-500-2008-071_Moseretal_FutureisNow.pdf. Accessed July 2023.

approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase in temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

3.2—Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, NO_X, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. CO_2, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. To describe how much global warming a given type and amount of GHG may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include CO_2, CH_4, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 6. A seventh GHG, nitrogen trifluoride, was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. The global warming potential amounts are from IPCC Fourth Assessment Report (AR4). The AR4 GWP amounts, incorporated into CalEEMod, are used in this analysis. Although the newer IPCC Fifth Assessment Report (AR5) includes new global warming potential amounts, ARB continues to use AR4 rates for inventory purposes. Until such time as ARB updates its Scoping Plan inventories to utilize AR5 GWPs, it is appropriate to continue using AR4 GWPs for CEQA analyses, which are based on Scoping Plan consistency.

Table 6: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 124 to 14,800.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.

	above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 7,390 to 12,200.	
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential of 22,800.	This gas is man-made and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.
Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and 2007b.		

The State has begun addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the governor on September 14, 2014 required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB was required to complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinated with other state agencies and districts to develop measures. The Short-Lived Climate Pollutant Strategy was approved by the ARB on March 24, 2017. The strategy calls for reductions of 50 percent from black carbon, 40 percent from methane, and 40 percent from HFCs from the 2030 Business as Usual (BAU) inventory for these pollutants.[16]

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 6 and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB will include it in its comprehensive strategy.[17]

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NO_X) on a regional scale and CH_4 on a hemispheric scale will be subject of the strategy.[18]

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—

[16] California Air Resources Board (ARB). 2017. Short-Lived Climate Pollutant Reduction Strategy. March. Website: https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf. Accessed July 2023.

[17] California Air Resources Board (ARB). 2015. Short-Lived Climate Pollutant Reduction Strategy, Concept Paper. May. Website: https://ww2.arb.ca.gov/resources/documents/slcp-strategy-draft-may2015. Accessed July 2023.

[18] California Air Resources Board (ARB). 2015. Short-Lived Climate Pollutant Reduction Strategy, Concept Paper. May. Website: https://ww2.arb.ca.gov/resources/documents/slcp-strategy-draft-may2015. Accessed July 2023.

particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion sources.[19] Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other GHGs, such that the warming brought about by increased carbon dioxide allows more water vapor to enter the atmosphere.[20]

3.2.1 - Emissions Inventories

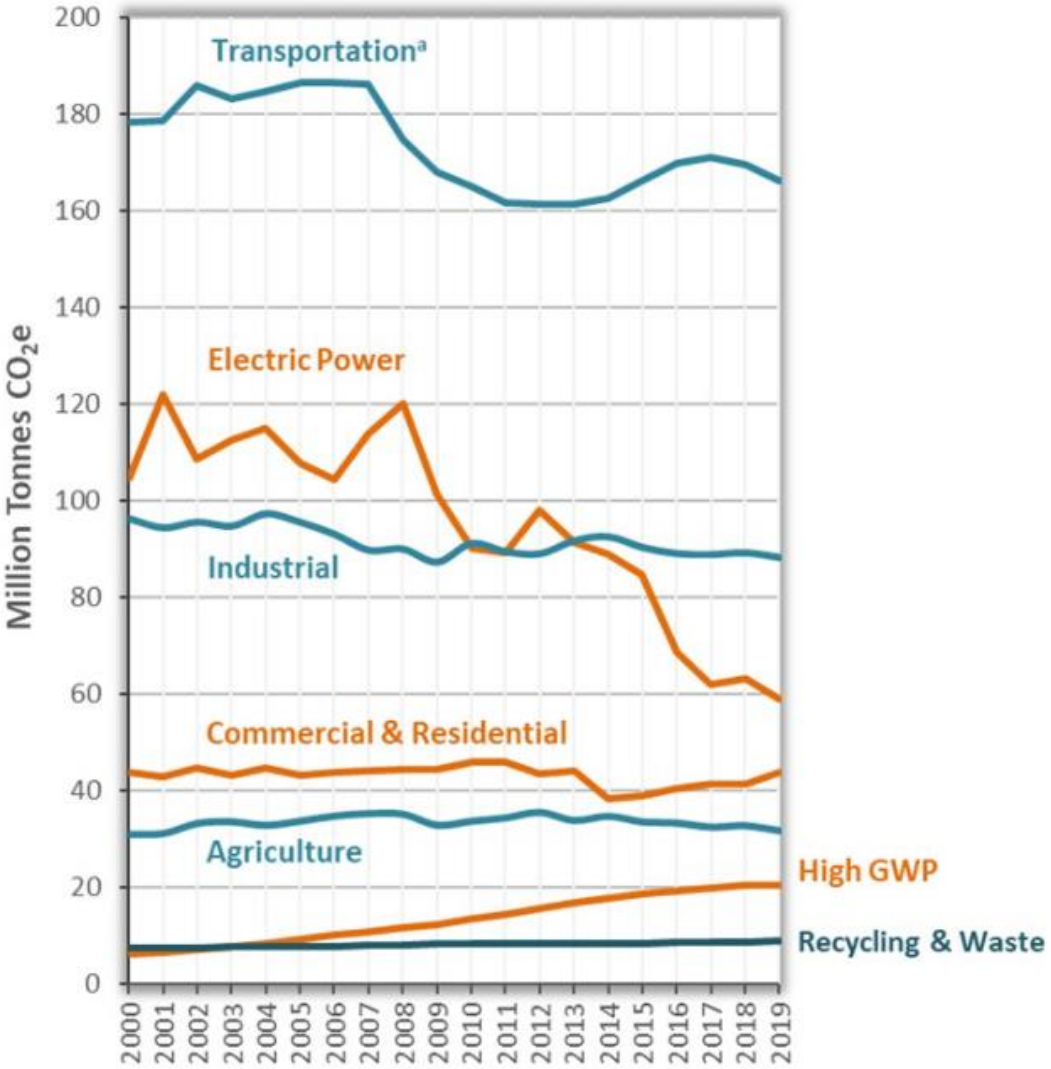
An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Figure 1 shows the contributors of GHG emissions in California between years 2000 and 2019 by Scoping Plan category. The main contributor was transportation. The second highest sector in 2019 was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019 due to increases in renewables. ARB reported that California's GHG emissions inventory was 418.2 $MMTCO_2e$ in 2019.[21]

[19] California Air Resources Board (ARB). 2015. ARB Emissions Trading Program. Website: http://www.arb.ca.gov/cc/capandtrade/guidance/cap_trade_overview.pdf. Accessed July 2023.

[20] National Aeronautics and Space Administration (NASA). 2021. NASA—Global Climate Change, Vital Signs of a Planet. September 28. Website: http://climate.nasa.gov/causes/. Accessed July 2023.

[21] California Air Resources Board (ARB). 2021. California Greenhouse Gas Emissions for 2000 to 2019: Trends of Emissions and Other Indicators. Website: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf. July 28. Accessed November July 2023.

Figure 1: Greenhouse Gas Emission Trends by Scoping Plan Category in California



Source: ARB 2021.[22]

3.3—Regulatory Environment

3.3.1 - California

California Air Resources Board Adopted Scoping Plans

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other

[22] California Air Resources Board (ARB). 2021. California Greenhouse Gas Emissions for 2000 to 2019: Trends of Emissions and Other Indicators. Website: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf. July 28. Accessed July 2023.

purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, NO_x, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The ARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB approved the 1990 GHG emissions level of 427 $MMTCO_2e$ on December 6, 2007.[23] Therefore, to meet the State's target, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a BAU scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations.[24] At that rate, a 28 percent reduction was required to achieve the 427 $MMTCO_2e$ 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted regulation was then estimated at 545 $MMTCO_2e$. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.[25]

Calculation of the original 1990 limit approved in 2007 was revised in 2014 using the scientifically updated IPCC AR4 global warming potential values, to 431 $MMTCO_2e$. ARB approved 431 $MMTCO_2e$ as the 2020 emission limit with the approval of the First Update to the Scoping Plan on May 22, 2014.

Progress in Achieving AB 32 Targets

The State made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress was evident in emission inventories prepared by ARB, which showed that the State inventory dropped below 1990 levels for the first time in 2016.[26] The 2017 Scoping Plan Update includes projections indicating that the State will meet or exceed the 2020 target with

[23] California Air Resources Board (ARB). 2007. Staff Report. California 1990 Greenhouse Gas Level and 2020 Emissions Limit. November 16, 2007. Website: www.arb.ca.gov/cc/inventory /pubs/reports/staff_report_1990_level.pdf. Accessed July 2023.

[24] California Air Resources Board (ARB). 2008. (includes edits made in 2009) Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed July 2023.

[25] California Air Resources Board (ARB). 2010. 2020 Greenhouse Gas Emissions Projection and BAU Scenario Emissions Estimate. Website: https://ww3.arb.ca.gov/cc/inventory/archive /captrade_2010_projection.pdf. Accessed July 2023.

[26] California Air Resources Board (ARB). 2018. Climate Pollutants Fall Below 1990 Levels for the First Time. Website: https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time. Accessed July 2023.

adopted regulations.[27] In 2019, emissions from GHG emitting activities statewide were 418.2 $MMTCO_2e$, 7.2 $MMTCO_2e$ lower than 2018 levels and almost 13 $MMTCO_2e$ below the 2020 GHG Limit of 431 $MMTCO_2e$.[28]

ARB 2008 Scoping Plan. The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32 (ARB 2008)[29]. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

SB 32 and the 2017 Scoping Plan. The Governor signed SB 32 on September 8, 2016. SB 32 now gives ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

[27] California Air Resources Board (ARB). 2017. The 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. January 17, 2017. Website: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed July 2023.

[28] California Air Resources Board (ARB). 2021. California Greenhouse Gas Emissions for 2000 to 2019: Trends of Emissions and Other Indicators. Website: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf. July 28. Accessed July 2023.

[29] California Air Resources Board (ARB). 2008. (includes edits made in 2009) Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed July 2023.

1. SB 350
   - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
   - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard (LCFS)
   - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
   - Maintaining existing GHG standards for light- and heavy-duty vehicles.
   - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
   - Increase ZEV buses, delivery and other trucks.
4. Sustainable Freight Action Plan
   - Improve freight system efficiency.
   - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
   - Deploy over 100,000 zero-emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant (SLCP) Reduction Strategy
   - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
   - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
   - Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program
   - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
   - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
8. 20 percent reduction in greenhouse gas emissions from the refinery sector.
9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.[30]

ARB's 2022 Scoping Plan

The most recent version of the ARB's Scoping Plan, the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), was adopted in December 2022. The 2022 Scoping Plan provides a detailed sector-by-sector guide to address climate change by reducing GHG emissions by 85 percent

[30] California Air Resources Board (ARB). 2017. The 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. January 17, 2017. Website: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed July 2023.

and achieving carbon neutrality by 2045, with the bulk of emission reductions efforts being tackled in the transportation and energy sectors.

The elements of the framework proposed to achieve the emission reduction targets are as follows:

- Transportation
  - Achieve 100 percent ZEV sales of light-duty vehicles by 2035 and medium heavy-duty vehicles by 2040.
  - Achieve a 20 percent zero-emission target for the aviation sector.
  - Prioritize and increase funding for clean transportation equity programs.
  - Accelerate the reduction and replacement of fossil fuel production and consumption in California.
  - Increase the stringency and scope of the Low Carbon Fuel Standard.
  - Achieve a per capita VMT reduction of at least 25 percent below 2019 levels by 2030 and 30 percent below by 2045.
- Clean Electricity Grid
  - Per SB 350, double Statewide energy efficiency savings by 2030.
  - Use long-term planning processes to support grid reliability and expansion of renewable and zero-carbon development.
  - Per SB 100 and 1020, achieve 90 percent, 95 percent, and 100 percent renewable and zero-carbon retail sales by 2035, 2040, and 2045, respectively.
- Sustainable Manufacturing and Buildings
  - Maximize air quality benefits using the best available control technologies for stationary sources in communities most in need.
  - Implement SB 905.
  - Develop a net-zero cement strategy to meet SB 956 targets for the GHG intensity of cement use.
  - Leverage energy efficiency and low carbon hydrogen programs.
  - Prioritize most vulnerable residents with the majority of funds in the new $922 million Equitable Building Decarbonization program.
  - Achieve three million all-electric and electric-ready homes by 2030 and seven million by 2035 with six million heat pumps installed by 2030.
  - Adopt a zero-emission standard for new space and water heaters sold in California beginning in 2030.
  - Implement biomethane procurement targets for investor-owned utilities as specified in SB 1440.
- Carbon Dioxide Removal and Capture
  - Implement SB 905.
  - Achieve the 85 percent reduction in anthropogenic sources below 1990 levels per AB 1279 by incorporating Carbon Capture and Storage (CCS) into sectors and programs beyond transportation.
  - Evaluate and propose the role for CCS in cement decarbonization and as part of hydrogen peroxide pathways.
  - Explore carbon capture application for zero-carbon power for reliability needs per SB 100.

- Short-Lived Climate Pollutants (Non-Combustion Gases)
  - Install anaerobic digesters to maximize air and water quality protection, maximize biomethane capture, and direct biomethane to specific sectors.
  - Increase alternative manure management projects.
  - Expand markets for products made from organic waste.
  - Pursuant to SB 1137, develop leak detection and repair plans for facilities in health protection zones, implement emission detection system standards, and provide public access to emissions data.
  - Convert large HFC emitters to the lowest practical global warming potential (GWP) technologies.
- Natural and Working Lands
  - Implement AB 1757 and SB 27.
  - Implement the Climate Smart Strategy.
  - Accelerate the pace and scale of climate smart forest management to at least 2.3 million acres annually by 2025.
  - Accelerate the pace and scale of healthy soils practices to 80,000 acres annually by 2025, conserve at least 8,000 acres of annual crops annually, and increase organic agriculture to 20 percent of all cultivated acres by 2045.
  - Restore 60,000 acres of Delta wetlands annually by 2045.
  - Increase urban forestry investment annually by 200 percent, relative to business as usual.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601–1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations including lighting, air conditioning, and most home appliances. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.[31]

Title 24 Energy Efficiency Standards. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 Building

[31] California Energy Commission (CEC). 2018a. California Code of Regulations Title 20, Division 2, Article 4 Appliance Efficiency Regulations. Website: https://govt.westlaw.com/calregs /Browse/Home/California/CaliforniaCodeofRegulations?guid=I8F8F3BC0D44E11DEA95CA4428EC25FA0&originationContext=documenttoc&transition Type=Default&contextData=(sc.Default). Accessed May 1, 2023.

Energy Efficiency Standards went into effect on January 1, 2020. The 2022 Standards went into effect January 1, 2023.

Title 24 California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

The California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for five percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of nonhazardous materials for recycling. (5.410.1).
- **Construction waste.** A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 80 percent for new homes and 80-percent for commercial projects. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
    1. The installation of water-conserving fixtures or
    2. Using nonpotable water systems (5.303.4).
- **Water use savings.** Twenty percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).

- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected for the ordinance. Former Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the ordinance through expedited regulation.[32] The California Water Commission approved the revised ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

California Supreme Court GHG Ruling

A November 30, 2015 ruling, the *California Supreme Court in Center for Biological Diversity (CBD) v. California Department of Fish and Wildlife (CDFW)* on the Newhall Ranch project, concluded that whether the project was consistent with meeting statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25 to 27 of the ruling to address this issue summarized below.

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU.** A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the

[32] Brown, Edmund G. Jr. 2015. Press Release: California Establishes Most Ambitious Greenhouse Gas Goal in North America. Website: https://www.ca.gov/archive/gov39/2015/04/29 /news18938/index.html. Accessed July 2023.

necessary project-level reductions from new land use development at the proposed location (p. 25).

- **Compliance with Regulatory Programs or Performance Based Standards.** "A lead agency might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.'].) To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions.' (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)" (p. 26).
- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs).** A lead agency may utilize "geographically specific GHG emission reduction plans" such as climate action plans or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26).
- **Compliance with Local Air District Thresholds.** A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (p. 27).

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the recently issued Newhall Ranch opinion, the GHG impacts would be considered significant if the project would:

- Conflict with a compliant GHG Reduction Plan if adopted by the lead agency;
- Exceed the SJVAPCD GHG Reduction Threshold; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

3.3.2 - San Joaquin Valley Air Pollution Control District

Climate Change Action Plan

On August 21, 2008, the SJVAPCD Governing Board approved a proposal called the Climate Change Action Plan (CCAP). The CCAP began with a public process bringing together stakeholders, land use agencies, environmental groups, and business groups to conduct public workshops to develop comprehensive policies for CEQA guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Board's consideration. The CCAP contains the following goals and actions:

- Develop GHG significance thresholds to address CEQA projects with GHG emission increases.
- Develop the San Joaquin Valley Carbon Exchange for banking and trading GHG reductions.

- Authorize use of the SJVAPCD's existing inventory reporting system to allow use for GHG reporting required by AB 32 regulations.
- Develop and administer GHG reduction agreements to mitigate proposed emission increases from new projects.
- Support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA," and the policy "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific GHG emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources, and must have a certified final CEQA document.

For non-exempt projects, those projects for which there is no applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency must evaluate the project against performance-based standards and would require the adoption of design elements, known as a Best Performance Standard, to reduce GHG emissions. The Best Performance Standards (BPS) have not yet fully been established, though they must be designed to achieve a 29 percent reduction when compared with the BAU projections identified in ARB's AB 32 Scoping Plan.

BAU represents the emissions that would occur in 2020 if the average baseline emissions during the 2002–2004 period were grown to 2020 levels, without control. Thus, these standards would carry with them pre-quantified emissions reductions, eliminating the need for project-specific quantification. Therefore, projects incorporating BPS would not require specific quantification of GHG emissions, and automatically would be determined to have a less than significant cumulative impact for GHG emissions.

For stationary source permitting projects, BPS means, "The most stringent of the identified alternatives for control of GHG emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class." The SJVAPCD has identified BPS for the following sources: boilers; dryers and dehydrators; oil and gas extraction; storage, transportation, and refining operations;

cogeneration; gasoline dispensing facilities; volatile organic compound control technology; and steam generators.

For development projects, BPS means, "Any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual."

Projects not incorporating BPS would require quantification of GHG emissions and demonstration that BAU GHG emissions have been reduced or mitigated by 29 percent. As stated earlier, ARB's adjusted inventory reduced the amount required by the State to achieve 1990 emission levels from 29 percent to 21.7 percent to account for slower growth experienced since the 2008 recession. The SJVAPCD has not yet adopted BPS for development projects. The SJVAPCD has not updated its guidance to address SB 32 2030 targets or AB 1279 2045 targets.

San Joaquin Valley Carbon Exchange

The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. However, the SJVAPCD has pursued an alternative strategy that incorporates the GHG emissions into its existing Rule 2301—Emission Reduction Credit Offset Banking that formerly only addressed criteria pollutants. The SJVAPCD is also participating with the California Air Pollution Control Officers Association (CAPCOA), of which it is a member, in the CAPCOA Greenhouse Gas Reduction Exchange (GHG Rx). The GHG Rx is operated cooperatively by air districts that have elected to participate. Participating districts have signed a Memorandum of Understanding (MOU) with CAPCOA and agree to post only those credits that meet the Rx standards for quality. The objective is to provide a secure, low-cost, high-quality greenhouse gas exchange for credits created in California. The GHG Rx is intended to help fulfill compliance obligations or mitigation needs of local projects subject to environmental review, reducing the uncertainty of using credits generated in distant locations. The SJVAPCD currently has no credits posted to the GHG Rx website as of this writing.[33]

Rule 2301

While the Climate Change Action Plan indicated that the GHG emission reduction program would be called the San Joaquin Valley Carbon Exchange, the District incorporated a method to register voluntary GHG emission reductions into its existing Rule 2301—Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.

[33] California Air Pollution Control Officers Association (CAPCOA). 2021. CAPCOA Greenhouse Gas Reduction Exchange. Website: http://www.ghgrx.org/. Accessed May 2023.

- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

3.3.3 - Local

The City of Porterville General Plan includes a number of air quality and energy policies that reduce GHG emissions. The air quality policies are listed in the Air Quality Section of this document. The energy policies are listed below.

City of Porterville General Plan

The City of Porterville General Plan includes numerous policies aimed at reducing and controlling GHG emissions. The General Plan includes the following goals and policies that would reduce GHG emissions:

> **OSC-G-10:** Reduce and conserve energy use in existing and new commercial, industrial, and public structures.
>
> **OSC-I-66:** Adopt guidelines and incentives for using green building standards in new construction. Green building design guidelines may include required and recommended "green" design and construction strategies including: Building Site and Form, Natural Heating or Cooling, transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.
>
> **OSC-I-70:** Ensure City codes allow for environmentally acceptable alternative forms of energy production and green building techniques.

Waste Diversion

With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates are measured. Targets are based on the per capita and employee disposal rates. The City of Porterville's disposal rate for 2018 was 4.6 pounds per person per day, and 13.2 pounds per employee per day, which is well below the target of 7.6 pounds per person per day and 18 pounds per day.[34]

[34] California Department of Resources Recycling and Recovery (CalRecycle). 2020. Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report06). Website https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DiversionDisposal. Accessed July 2023.

SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

4.1—Model Selection and Guidance

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant given the activity over time; for example, grams of NO_X per horsepower-hour or grams of NO_X per vehicle mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMission FACtors Model (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) was developed in cooperation with air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses.

The modeling follows SJVAPCD guidance where applicable from its GAMAQI. The models used in this analysis are summarized as follows:

- Construction emissions: CalEEMod, version 2022.1 (specifically, 2022.1.1.17)
- Operational emissions: CalEEMod, version 2022.1 (specifically, 2022.1.1.17)
- Other emission rates: EMFAC 2021

4.2—Air Pollutants and GHGs Assessed

4.2.1 - Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- Nitrogen oxides (NO_X)
- Carbon monoxide (CO)
- Sulfur dioxide (SO_2)
- Particulate matter less than 10 microns in diameter (PM_{10})
- Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the project would emit ozone precursors ROG and NO_X. However, the project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reaction of ozone precursors. Other criteria pollutants such as vinyl chloride, hydrogen sulfide, lead, and sulfates were not included because of their low levels of emissions from the project.

As noted previously, the project would emit ultrafine particles. However, there is currently no standard separate from the $PM_{2.5}$ standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

4.2.2 - Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include carbon dioxide, methane, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of GHGs, including several defined by AB 32 such as carbon dioxide, methane, and NO_X.

The project may emit GHGs that are not defined by AB 32. For example, the project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty.[35]

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

4.3—Construction Modeling Assumptions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

4.3.1 - Project Schedule

Although no physical development is proposed by the project, this analysis analyzes the potential buildout of the plan area at a programmatic level using reasonable assumptions so that future development of the site can tier from this Initial Study pursuant to CEQA Guidelines Section *15168(c)(1) and 15168(d)* for evaluations of environmental issues associated with later activities/subsequent projects. Buildout of development contemplated under the proposed Master

[35] Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, Website: https://www.ipcc.ch /report/ar4/wg1/. Accessed July 2023.

Plan would occur over several years. For the purpose of estimating emissions, construction was anticipated to occur starting as early as the first quarter of 2024. The use of an earlier construction schedule in this analysis represents a conservative estimate of emissions, as emissions resulting from construction equipment and vehicle use are expected to decrease over time due to turnover and other factors. Overall CalEEMod default HP hours were retained. In instances where the CalEEMod default schedule was modified for ground-up construction to reflect the anticipated buildout schedule, equipment usage was proportionally modified to retain the overall HP hours. Full assumptions are provided and summarized in Appendix A.

4.3.2 - Construction Equipment Emission Factors

The analysis uses CalEEMod default assumptions for the equipment used during construction. CalEEMod default construction equipment and equipment activity are based on surveys of construction projects of various sizes. The full modeling assumptions are provided as part of Appendix A of this report. CalEEMod contains an inventory of construction equipment that incorporates estimates of the number of equipment, age, horsepower, and equipment emission, and control level or tier from which rates of emissions are developed. The CalEEMod default equipment assumptions were used in this analysis for the estimation of emissions from on-site construction equipment. As previously noted, equipment usage was proportionally modified to retain the overall HP hours in instances where the CalEEMod default schedule was modified. CalEEMod's off-road emission factors and load factors are from the ARB OFFROAD model.

4.4—Operation

Operational emissions are those emissions that occur when development contemplated by the Master Plan is occupied by the future businesses and residents. The major sources are summarized below.

4.4.1 - Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the plan area/project site. Project trip generation rates were obtained from the project Traffic Impact Study and are provided in Appendix A.

A pass-by trip accounts for vehicles already on the roadway network that stop at the project site as they pass-by; the pass-by trips are existing vehicle trips in the community. CalEEMod default rates of three percent pass-by trips were used in this analysis for the commercial shopping center. The pass-by trips for the fast-food land uses were adjusted to match project-specific values provided in the project Traffic Impact Study.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The CalEEMod default vehicle fleet mixes were used to estimate emissions for commercial uses. The SJVAPCD-approved Residential Fleet Mix was used in the analysis for the residential land uses.

4.4.2 - Architectural Coatings (Painting)

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project is required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints 100 g/l by 2012 for an average rate of 65 g/l. Most of the coatings used for residential and shopping center/nonresidential painting are flat paints. Effective January 1, 2022, nonflat gloss and semi-gloss paints are required to meet the 50 g/l standard, providing lower VOC emissions for buildings constructed after that date.

4.4.3 - Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to: detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings.[36] CalEEMod includes default consumer product use rates based on building square footage. The default emission factors developed for CalEEMod were used for consumer products.

4.4.4 - Landscape Equipment

CalEEMod estimated the landscaping equipment using the default assumptions in the model.

4.4.5 - Electricity

Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity emissions estimates are only used in the GHG analysis. CalEEMod was used to estimate these emissions from the proposed Master Plan.

4.4.6 - Electricity Consumption

CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations, non-Title 24 electricity, and lighting. The Title 24 uses are defined as the major building envelope systems covered by California’s Building Code Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title 24. Since lighting is not considered as part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. Total electricity consumption in CalEEMod is divided into the three categories. The percentage for each category is determined by using percentages derived from the CalEEMod default electricity intensity factors. The percentages are then applied to the electricity consumption to result in the values used in the analysis.

[36] California Air Resources Board (ARB). 2020. Website: https://ww2.arb.ca.gov/sites/default/files/2020-12/cp_reg_article-2.pdf. Accessed July 2023.

4.4.7 - Natural Gas

The development under the proposed Master Plan would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. CalEEMod defaults were used in the analysis.

4.4.8 - Water and Wastewater

GHG emissions are emitted from the use of electricity to pump water to the plan area/project site and to treat wastewater. CalEEMod defaults were used.

4.4.9 - Refrigerants

During operation, air conditioners and refrigeration systems may leak refrigerants (hydrofluorocarbons). Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs. Regional and neighborhood commercial uses and residential uses of refrigerants are minor; however, CalEEMod default values were retained for all land uses analyzed to present a conservative estimate of GHG emissions.

4.4.10 - Solid Waste

GHG emissions would be generated from the decomposition of solid waste generated by implementation of the proposed Master Plan. CalEEMod was used to estimate the GHG emissions from this source.

4.4.11 - Vegetation

There is currently carbon sequestration occurring on-site from existing vegetation in the form of existing agricultural uses. Implementation of the proposed Master Plan would plant trees and integrate landscaping into the project design, which would provide carbon sequestration. However, the number of trees to be planted is unknown and data are insufficient to accurately determine the impact that existing plants have on carbon sequestration. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the proposed Master Plan would be balanced; therefore, emissions due to carbon sequestration were not included.

SECTION 5: AIR QUALITY IMPACT ANALYSIS

This section calculates the expected emissions from construction and operation of the project as a necessary requisite for assessing the regulatory significance of project emissions on a regional and localized level.

5.1—CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the current CEQA Guidelines. A significant impact would occur if the project would:

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 nonattainment under an applicable national or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations; or

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

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the lead agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable SJVAPCD thresholds and methodologies are contained under each impact statement below.

5.2—Impact Analysis

5.2.1 - Consistency with Air Quality Plan

Impact AIR-1: The project would conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis

The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable air quality plan (AQP). An additional criterion regarding the project's implementation of control measures was assessed to provide further evidence of the

project's consistency with current AQPs. This document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs?
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects include Regulation VIII—Fugitive PM_{10} Prohibitions and Rule 9510 Indirect Source Review.

Contribution to Air Quality Violations

A measure for determining if the project is consistent with the air quality plans is if the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the project is based on its cumulative contribution. Because of the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}—if project-generated emissions of either of the ozone precursor pollutants (ROG and NO_X), PM_{10}, or $PM_{2.5}$ would exceed the SJVAPCD's significance thresholds—then the project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans.

As discussed in Impact AIR-2 below, emissions of ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ associated with the operations of buildout under the proposed Master Plan would exceed the SJVAPCD's regional significance thresholds. Although the proposed Master Plan would exceed the criteria pollutant thresholds for several pollutants, the proposed Master Plan would facilitate future growth. The proposed Master Plan would provide residential uses that will be designed to satisfy existing and future demand for quality housing in the area and would provide conveniently located commercial development to serve Porterville residents and the SoTu Master Plan development in a growing area near and in the City of Porterville. Several goals and policies contained in the City of Porterville's General Plan promote walkable mixed-use development. As a mixed-use project located adjacent to develop areas of a built-up city, the proposed Master Plan would create a considerable amount of internal capture among its components to reduce VMT compared to the same level of development built with land uses geographically separated from each other. Nonetheless, the impact would remain significant and unavoidable under this criterion.

Compliance with Applicable Control Measures

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. A description of rules and regulations that apply to this project is provided below.

SJVAPCD Rule 9510—Indirect Source Review (ISR) is a control measure in the 2006 PM_{10} Plan that requires NO_X and PM_{10} emission reductions from development projects in the San Joaquin Valley. The NO_X emission reductions help reduce the secondary formation of PM_{10} in the atmosphere

(primarily ammonium nitrate and ammonium sulfate) and also reduce the formation of ozone. Reductions in directly emitted PM_{10} reduce particles such as dust, soot, and aerosols. Rule 9510 is also a control measure in the 2016 Plan for the 2008 8-Hour Ozone Standard. Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases through on-site measures, or pay off-site mitigation fees. The project is required to comply with Rule 9510.

Regulation VIII—Fugitive PM_{10} Prohibitions is a control measure that is one main strategies from the 2006 PM_{10} for reducing the PM_{10} emissions that are part of fugitive dust. Residential projects over 10 acres and non-residential projects over 5 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. The project, or individual developments contemplated under the proposed Master Plan, will be required to prepare a DCP to comply with Regulation VIII.

Other control measures that apply to the project are Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation that requires reductions in VOC emissions during paving and Rule 4601—Architectural Coatings that limits the VOC content of all types of paints and coatings sold in the San Joaquin Valley. These measures apply at the point of sale of the asphalt and the coatings, so project compliance is ensured without additional mitigation measures.

The project would comply with all applicable SJVAPCD rules and regulations. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan under this criterion.

Conclusion

The project's emissions are significant for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ and would be considered inconsistent with the AQP for this criterion. The project complies with applicable control measures of the AQP. Because the combined emissions from operations of development under the proposed Master Plan would continue to exceed at least one regional threshold after compliance with regulations and incorporation of mitigation, the impact would be significant.

Level of Significance Before Mitigation

Significant impact.

Mitigation Measures

Implement MM AIR-2a through AIR-2d (see Impact AIR-2).

Level of Significance After Mitigation

Significant and unavoidable impact.

5.2.2 - Cumulative Criteria Pollutant Impacts

Impact AIR-2: **The project would 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.**

Impact Analysis

To result in a less than significant impact, emissions of nonattainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD in its GAMAQI.

To result in a less than significant impact, the following criteria must be met:

1. Regional analysis: emissions of nonattainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD in its GAMAQI.
2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.

Criterion 1: Regional Emissions

Air pollutant emissions have both regional and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are assessed under Impact AIR-3.

The primary pollutants of concern during construction and operation of implementation of the proposed Master Plan are ROG, NO_X, PM_{10}, and $PM_{2.5}$. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NO_X, ROG, SO_X, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NO_X are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants. The SJVAPCD's annual emission significance thresholds used for the project define the substantial contribution for both operational and construction emissions as follows:

- 100 tons per year CO
- 10 tons per year NO_X
- 10 tons per year ROG
- 27 tons per year SO_X
- 15 tons per year PM_{10}
- 15 tons per year $PM_{2.5}$

The project does not contain sources that would produce substantial quantities of SO_X emissions during construction and operation. Modeling conducted for the project show that SO_X emissions are well below the SJVAPCD GAMAQI thresholds, as shown in the modeling results contained in Appendix A. No further analysis of SO_X is required.

Construction Emissions

Construction emissions were modeled using the CalEEMod version 2022.1. The results of the modeling are presented in Table 7 and Table 8. For large plan areas, individual residential tracts and

commercial projects are constructed gradually with the various construction activities happening throughout the buildout period. The specific timing of individual development projects contemplated under the proposed master Plan is unknown and are dependent on market demand and other factors; therefore, the annual average construction emissions were calculated for comparison to the annual threshold of significance (see Table 7). In addition, the highest annual emissions are presented and compared to the applicable thresholds in Table 8.

The emissions reflect compliance with SJVAPCD regulations that apply to construction activities. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. As shown in Table 7, the annual average emissions are below the SJVAPCD significance thresholds. The highest annual emissions exceed the applicable threshold for regional emissions of NO_X (see Table 8).

Table 7: Construction Air Pollutant Emissions Summary – Annual Average (Unmitigated)

Construction Year	Emissions (tons per construction period)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Annual Emissions (2024)	1.46	12.09	13.13	3.24	1.48
Total Annual Emissions (2025)	2.70	13.58	23.38	3.88	1.22
Total Annual Emissions (2026)	2.14	9.52	19.40	3.26	0.93
Total Annual Emissions (2027)	1.78	7.43	16.63	2.84	0.75
Total Annual Emissions (2028)	1.70	7.02	15.81	2.83	0.74
Total Annual Emissions (2029)	1.59	6.68	14.96	2.82	0.73
Total Annual Emissions (2030)	1.51	6.45	14.29	2.81	0.72
Total Annual Emissions (2031)	1.37	6.17	13.56	2.80	0.71
Total Annual Emissions (2032)	1.31	5.95	12.99	2.80	0.69
Total Annual Emissions (2033)	7.86	4.69	10.44	2.62	0.61
Total Annual Emissions (2034)	2.36	2.77	5.39	1.55	0.37
Total Annual Emissions (2035)	0.51	2.62	4.98	1.44	0.35
Total Annual Emissions (2036)	6.98	2.66	5.25	1.69	0.39
Total Annual Emissions (2037)	1.78	0.28	0.59	0.21	0.05
Grand Total for All Construction Activities	**35.05**	**87.91**	**170.8**	**34.79**	**9.74**
Annual Average Emissions (Tons/Year)					
Average Annual Construction Emissions*	**2.66**	**6.66**	**12.94**	**2.64**	**0.74**
Significance threshold (tons/year)	**10**	**10**	**100**	**15**	**15**
Exceed threshold—significant impact?	**No**	**No**	**No**	**No**	**No**

Notes:
PM_{10} and $PM_{2.5}$ emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM_{10} Prohibitions.
* Calculated using 13.2 years, consistent with the assumptions used to estimate emissions (see Appendix x A).
Source: CalEEMod output (Appendix A).

Table 8: Construction Air Pollutant Emissions Summary – Maximum Annual Emissions by Development Year (Unmitigated)

Construction Year	Maximum Annual Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Annual Emissions (2024)	1.46	12.09	13.13	3.24	1.48
Total Annual Emissions (2025)	2.70	13.58	23.38	3.88	1.22
Total Annual Emissions (2026)	2.14	9.52	19.40	3.26	0.93
Total Annual Emissions (2027)	1.78	7.43	16.63	2.84	0.75
Total Annual Emissions (2028)	1.70	7.02	15.81	2.83	0.74
Total Annual Emissions (2029)	1.59	6.68	14.96	2.82	0.73
Total Annual Emissions (2030)	1.51	6.45	14.29	2.81	0.72
Total Annual Emissions (2031)	1.37	6.17	13.56	2.80	0.71
Total Annual Emissions (2032)	1.31	5.95	12.99	2.80	0.69
Total Annual Emissions (2033)	7.86	4.69	10.44	2.62	0.61
Total Annual Emissions (2034)	2.36	2.77	5.39	1.55	0.37
Total Annual Emissions (2035)	0.51	2.62	4.98	1.44	0.35
Total Annual Emissions (2036)	6.98	2.66	5.25	1.69	0.39
Total Annual Emissions (2037)	1.78	0.28	0.59	0.21	0.05
Maximum Annual Emissions	**7.86**	**13.58**	**23.38**	**3.88**	**1.48**
Significance threshold (tons/year)	**10**	**10**	**100**	**15**	**15**
Exceed threshold—significant impact?	**No**	**Yes**	**No**	**No**	**No**

Notes:
PM_{10} and $PM_{2.5}$ emissions reflect compliance with Regulation VIII—Fugitive PM_{10} Prohibitions.
Calculations use unrounded numbers; therefore, totals may not appear to sum exactly due to rounding.
Source: CalEEMod output (Appendix A).

As shown in Table 7, annual average emissions are below the applicable SJVAPCD significance thresholds; however, construction of the project exceeds the regional threshold for NO_X under the unmitigated scenario presented in Table 8. Therefore, the regional construction emissions have potentially significant impact on a project basis and mitigation is required.

MM AIR-2a requires the project applicant, project sponsor, or construction contractor for individual development projects under the Master Plan to provide documentation to the City of Porterville that the construction fleet meet the following requirement: all off-road diesel-powered construction equipment greater than 75 horsepower meet EPA or ARB Tier 4 Final off-road emissions standards.

Impacts would be less than significant on a project-level basis after incorporation of MM AIR-2a. Therefore, regional construction emissions would have a less-than-significant impact on a project basis with the incorporation of mitigation.

Operational Emissions

Operational emissions occur over the lifetime of the project and are from four main sources: area sources, energy consumption, motor vehicles (or mobile sources) and permitted sources. Area and mobile sources are non-permitted sources, while gasoline fueling activities are permitted sources. The SJVAPCD considers construction and operational emissions separately when making significance determinations. Furthermore, the SJVAPCD considers permitted and non-permitted emission sources separately when making significance determinations related to criteria pollutants. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. Emissions resulting from non-permitted and permitted sources during project operations are discussed separately below.

Non-permitted Sources

The emissions modeling results for non-permitted sources from project operation are summarized in Table 9.

Table 9: Operational Air Pollutant Emissions (Non-permitted Sources)

Phase and Year	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
SoTu Master Plan Residential and Public Land Uses					
Area	12.69	0.79	10.86	0.06	0.06
Energy	0.13	2.22	0.98	0.18	0.18
Mobile	10.68	11.78	94.08	18.57	4.81
Residential and Public Uses Total	**23.50**	**14.79**	**105.92**	**18.81**	**5.05**
SoTu Master Plan Commercial and Industrial Land Uses					
Area	15.37	0.10	12.46	0.02	0.02
Energy	0.26	4.70	3.95	0.36	0.36
Mobile	42.51	62.58	255.49	49.77	13.46
Commercial and Industrial Uses Total	**58.14**	**67.38**	**271.9**	**50.15**	**13.84**
Combined (Full Buildout of the Proposed Master Plan in the Earliest Operational Year)					
Area	28.06	0.89	23.32	0.08	0.08
Energy	0.39	6.92	4.93	0.54	0.54
Mobile	53.19	74.36	349.57	68.34	18.27
Total Proposed Master Plan Emissions (Non-Permitted Sources)	**81.64**	**82.17**	**377.82**	**68.96**	**18.89**
Significance threshold	**10**	**10**	**100**	**15**	**15**
Exceed threshold—significant impact?	**Yes**	**Yes**	**Yes**	**Yes**	**No**

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

As shown in Table 9, the operational emissions for full buildout of the proposed Master Plan in the earliest operational year exceed the SJVAPCD thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$. Therefore, project operational emissions would result in a potentially significant impact prior to the incorporation of mitigation. MM AIR-2b through MM AIR-2d are recommended to reduce operational emissions from all development under the proposed Master Plan. Projects subject to project-level review would be required to assess residual impacts after incorporation of all applicable measures; however, it is not anticipated that all future development would be subject to discretionary review. These measures would help reduce operational emissions; however, at the time of this analysis, the precise emission reductions associated with these measures cannot be accurately determined because of a lack of sufficient information about how the proposed Master Plan would operate and to what extent the measures would affect those activities. Therefore, the project may continue to exceed the applicable thresholds of significance even after incorporation of mitigation. This represents a significant and unavoidable impact.

Permitted Sources

The SJVAPCD GAMAQI recommends assessing the emissions from permitted sources of emissions separate from non-permitted sources. The SJVAPCD's permitting process ensures that emissions of criteria pollutants from permitted equipment and activities at stationary sources are reduced or mitigated to below the SJVAPCD's thresholds of significance. SJVAPCD implementation of New Source Review (NSR) ensures that there is no net increase in emissions above specified thresholds from new and modified Stationary Sources subject to the rule for all nonattainment pollutants and their precursors. Permitted sources emitting more than the NSR Offset Thresholds for any criteria pollutant must, in general, offset all emission increases in excess of the thresholds.

It is anticipated that individual development projects that would be allowed under the proposed Master Plan could include stationary sources to support project operations that would require SJVAPCD permits; however, any details regarding potential permitted sources are currently unknown. The SJVAPCD will prepare an engineering evaluation of all permitted equipment to determine the controls required to achieve best available control technology (BACT) requirements. The permitted emissions are dependent on the control technology selected and any process limits included in the permit conditions.

Permitted sources will be required to comply with SJVAPCD BACT requirements. Compliance with regulations would ensure that the project's stationary sources would not exceed SJVAPCD thresholds of significance; therefore, the project's estimated permitted emissions would be less than significant.

Criterion 2: Plan Approach

Section 15130(b) of the CEQA Guidelines states the following:

> The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. The SJVAPCD attainment plans are based on a summary of projections that accounts for projected growth throughout the Air Basin, and the controls needed to achieve ambient air quality standards. This analysis considers the current CEQA Guidelines. The Air Basin is in nonattainment or maintenance status for ozone and particulate matter (PM_{10} and $PM_{2.5}$), which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants, or that the standards have recently been attained in the case of pollutants with maintenance status. When concentrations of ozone, PM_{10}, or $PM_{2.5}$ exceed the ambient air quality standard, then those sensitive to air pollution (such as children, the elderly, and the infirm) could experience health effects such as: decrease of pulmonary function and localized lung edema in humans and animals; increased mortality risk; and risk to public health, implied by altered connective tissue metabolism, altered pulmonary morphology in animals after long-term

exposures, and pulmonary function decrements in chronically exposed humans. See Section 2.3—Existing Air Quality Conditions for additional correlation of the health impacts with the existing pollutant concentrations experienced in the Porterville area.

Under the CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The geographic scope for cumulative criteria pollution from air quality impacts is the Air Basin because that is the area in which the air pollutants generated by the sources within the Air Basin circulate and are often trapped. The SJVAPCD is required to prepare and maintain air quality attainment plans and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SJVAPCD does not have authority over land use decisions, it is recognized that changes in land use and circulation planning would help the Air Basin achieve clean air mandates. The SJVAPCD evaluated emissions from land uses and transportation in the entire Air Basin when it developed its attainment plans. Emission inventories used to predict attainment of NAAQS must be based on the latest planning assumptions for mobile sources. The plan area is located directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California. The site is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street, consisting of 19 parcels that total approximately 447.30 gross acres. The proposed Master Plan project site has a City of Porterville General Plan land use designation of Low Density Residential, Parks, Public Institutional, and Retail Center (see Appendix A). The City of Porterville proposes a General Plan Amendment to change the land use designation to various land uses, as shown in the Master Plan Land Use Map (see Appendix A).

In accordance with CEQA Guidelines Section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program.

The history and development of the SJVAPCD's current Ozone Attainment Plan is described in Section 2.4, Air Quality Plans. The 2007 8-Hour Ozone Plan contains measures to achieve reductions in emissions of ozone precursors, and sets plans towards attainment of ambient ozone standards by 2023. The 2012 $PM_{2.5}$ Plan and the 2015 $PM_{2.5}$ Plan for the 1997 $PM_{2.5}$ Standard require fewer NO_X reductions to attain the $PM_{2.5}$ standard than the Ozone Plan, so the Ozone Plan is considered the applicable plan for reductions of the ozone precursors NO_X and ROG. The 2012 $PM_{2.5}$ Plan requires reductions in directly emitted $PM_{2.5}$ from combustion sources, such as diesel engines and fireplaces, and from fugitive dust to attain the ambient standard and is the applicable plan for $PM_{2.5}$ emissions. $PM_{2.5}$ is also formed in secondary reactions in the atmosphere involving NO_X and ammonia to form nitrate particles. Reductions in NO_X required for ozone attainment are also sufficient for $PM_{2.5}$ attainment. As discussed in Impact AIR-1, the proposed Master Plan is consistent with all applicable control measures in the air quality attainment plans. The proposed Master Plan would comply with any District rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be less than significant with regard to compliance with applicable rules and regulations.

In conclusion, the growth resulting from the project is generally accounted for in the General Plan and the applicable AQP, and the project will comply with applicable rules and regulations implementing the AQP; however, the project exceeds SJVAPCD thresholds for ROG, NOx, CO, PM_{10}

and $PM_{2.5}$ and has the potential to continue to exceed thresholds after implementation of applicable mitigation measures; therefore, the project is considered significant for this criterion.

Conclusion

The proposed Master Plan would incorporate design features and required mitigation measures that reduce air quality impacts. In addition, regulations adopted by the SJVAPCD and the State of California provide emission reductions that would align with requirements of the mitigation measures included in the EIR and relevant General Plan policies. For example, Rule 9510 ISR, adopted in 2006, requires projects subject to the Rule to reduce operational NO_X emissions by 33 percent and PM_{10} emissions by 50 percent through the implementation of design features or payment of off-site mitigation fees. Rule 4901 regulates the installation of wood burning devices in project residences. Rule 9401 Employee Trip Reduction requires large employers to prepare plans to reduce employee trips with measures listed in the mitigation measure, among others. Title 24 Building Energy Efficiency Standards are updated every three years and require increasingly stringent energy efficiency measures over time. Solar panels continue to be required under 2022 Title 24 standards that became effective on January 1, 2023. Individual development projects will be subject to the most recent Title 24 in effect that building permits are issued, which will ensure that building energy consumption would not be wasteful or inefficient. Buildout of the proposed Master Plan would provide future residents, visitors, and employees connectivity within the plan area/project site and to adjoining land uses through pedestrian and bicycle connections. The proximity of the proposed new development to existing buildout in the City of Porterville, coupled with the design features of the proposed Master Plan, would increase would improve mobility and connectivity within the plan/project area. Overall, the proposed Master Plan would create a considerable amount of internal capture between its components to reduce VMT compared to the same level of development built with land uses geographically separated from each other.

The project's operational emissions exceed SJVAPCD regional criteria pollutant thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$; therefore, this is considered a significant impact.

Level of Significance Before Mitigation

Significant impact.

Mitigation Measures

MM AIR-2a The following measure shall be applied to all development under the proposed Master Plan to reduce emissions from construction.

Prior to the issuance of a grading permit for the proposed project, the project applicant, project sponsor, or construction contractor shall provide reasonably detailed compliance with the following requirements to the City of Porterville Planning Department:

- Where portable diesel engines are used during construction, all off-road equipment with engines greater than 75 horsepower shall have engines that meet either EPA or ARB Tier 4 Final off-road emission standards except as otherwise specified herein. If engines that comply with Tier 4 Final off-road emission

standards are not commercially available, then the construction contractor shall use the next cleanest piece of off-road equipment (e.g., Tier 4 Interim) that is commercially available. For purposes of this mitigation measure, "commercially available" shall mean the equipment at issue is available taking into consideration factors such as (i) critical-path timing of construction; and (ii) geographic proximity to the project site of equipment. If the relevant equipment is determined by the project applicant to not be commercially available, the contractor can confirm this conclusion by providing letters from at least two rental companies for each piece of off-road equipment that is at issue.

MM AIR-2b Prior to issuance of building permits for non-single-family residential and mixed-use residential development projects in the proposed Master Plan planning area, the project applicant shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.

- Electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the California Green Building Standards Code (CALGreen).
- Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.

MM AIR-2c Prior to the issuance of building permits for nonresidential development projects in the planning area, project applicants shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of Porterville prior to the issuance of a Certificate of Occupancy.

- For buildings with more than 10 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the California Green Building Standards Code (CALGreen).
- Preferential parking for low-emitting, fuel-efficient, and carpool/van vehicles shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code.
- Facilities shall be installed to support future electric vehicle charging at each nonresidential building with 30 or more parking spaces. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.

MM AIR-2d The following measure shall be applied to all development under the proposed Master Plan during construction to facilitate the use of electric landscaping equipment during project operations:

- Provide electrical outlets on the outside of buildings or in other accessible areas to facilitate the use of electrically powered landscape equipment.

Level of Significance After Mitigation

Significant and unavoidable impact.

Sensitive Receptors

Impact AIR-3: The project could expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

Sensitive Receptors

Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The SJVAPCD considers a sensitive receptor a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest off-site sensitive receptors include existing residences located within approximately 220 feet from the plan area boundary to the north, east, south, and west.

Depending on the order of buildout of development contemplated under the proposed Master Plan, the nearest sensitive receptors for project activities are expected to change as newly developed uses included in plan area would begin to be occupied prior to full buildout.

The ARB Air Quality and Land Use Handbook contains recommendations that will "help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution" (ARB 2005), including recommendations for distances between sensitive receptors and certain land uses. In the *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) (Case No. S213478) the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions." Although the Court ruled that impacts from the existing environment on projects are not required to be addressed under CEQA, land uses such as gasoline stations, dry cleaners, distribution centers, and auto body shops can expose residents to high levels of TAC emissions if they are close to sensitive receptors.

Localized Air Pollutant Emissions and Toxic Air Contaminants

Construction activities are expected to occur over several years as the Master Plan area and individual developments are gradually built out. For each area, most emissions are expected to occur during the initial site preparation and grading activities and to a lesser extent during ground-up construction. Emissions occurring at or near the plan area have the potential to create a localized impact, also referred to as an air pollutant hotspot. Localized emissions are considered significant if, when combined with background emissions, they would result in exceedance of any health-based air quality standard.

The SJVAPCDs GAMAQI includes screening thresholds for identifying projects that need detailed analysis for localized impacts. Projects with on-site emission increases from construction activities or operational activities that exceed the 100 pounds per day screening level of any criteria pollutant after compliance with Rule 9510 and implementation of all enforceable mitigation measures would require preparation of an Ambient Air Quality Analysis. The criteria pollutants of concern for localized impact in the Air Basin are PM_{10}, $PM_{2.5}$, NO_X, and CO.

Localized emissions from full build out of the proposed Master Plan are provided in Appendix A. The combined localized emissions from buildout of the proposed Master Plan are well over the applicable SJVAPCD-recommended 100-pounds-per-day screening thresholds for several pollutants; however, it is not appropriate to combine all emissions to compare against the screening thresholds as the plan area totals 447.30 gross acres. Localized analyses are only informative when they are conducted at a project level; therefore, a meaningful quantification of localized impacts is not applicable for this program-level environmental analysis. Therefore, MM AIR-3a is required for implementing developing projects.

Toxic Air Contaminants and Health Risk Impacts

During construction and operation, the development contemplated under the proposed plan would result in emissions of several Toxic Air Contaminants (TACs) that could potentially impact existing and future sensitive receptors. For instance, project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD's latest threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million).

Construction and operational health risk assessments are only informative when they are conducted at a project level; therefore, a meaningful quantification of health risk is not applicable for this program-level environmental analysis. Therefore, MM AIR-3b and MM AIR-3c would be required to ensure that individual development accommodated under the proposed Master Plan would minimize adverse impacts and limit the construction and operational health risks to nearby sensitive receptors under thresholds determined by SJVAPCD. In addition, implementation of MM AIR-2a (see Impact AIR-2) would limit health risk impacts from project construction.

Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley fever. During 2000–2018, a total of 65,438 coccidioidomycosis cases were reported in California; median statewide annual incidence was 7.9 per 100,000 population and varied by region from 1.1 in Northern and Eastern California to 90.6 in the Southern San Joaquin Valley, with the largest increase (15-fold) occurring in the Northern San Joaquin Valley. Incidence has been consistently high in six counties in the Southern San Joaquin Valley (Fresno, Kern, Kings, Madera, Tulare, and Merced counties) and Central Coast (San Luis Obispo

County) regions.[37] California experienced 6,490 new cases of Valley fever in 2020. A total of 195 Valley fever cases were reported in Tulare County in 2020.[38]

The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

1) Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface)
2) Old (prehistoric) Indian campsites near fire pits
3) Areas with sparse vegetation and alkaline soils
4) Areas with high salinity soils
5) Areas adjacent to arroyos (where residual moisture may be available)
6) Packrat middens
7) Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils
8) Sandy, well-aerated soil with relatively high water-holding capacities

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

1) Cultivated fields
2) Heavily vegetated areas (e.g. grassy lawns)
3) Higher elevations (above 7,000 feet)
4) Areas where commercial fertilizers (e.g. ammonium sulfate) have been applied
5) Areas that are continually wet
6) Paved (asphalt or concrete) or oiled areas
7) Soils containing abundant microorganisms
8) Heavily urbanized areas where there is little undisturbed virgin soil (USGS 2000).

The proposed plan includes urbanization of a site that was formerly used for agricultural purposes.

[37] Centers for Disease Control and Prevention (CDC). 2020. Regional Analysis of Coccidioidomycosis Incidence—California, 2000–2018. Website: https://www.cdc.gov/mmwr/volumes/69/wr /mm6948a4.htm?s_cid=mm6948a4_e. Accessed July 2023.

[38] California Department of Public Health (CDPH). 2021. Coccidioidomycosis in California Provisional Monthly Report January 2021. Website: https://www.cdph.ca.gov/Programs/CID /DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf. Accessed July 2023.

Construction activities would generate fugitive dust that could contain *C. immitis* spores. Development contemplated under the proposed plan will minimize the generation of fugitive dust during construction activities by complying with the District's Regulation VIII. Therefore, this regulation, combined with the relatively low probability of the presence of *C. immitis* spores, would reduce Valley fever impacts to less than significant.

During operations, dust emissions are anticipated to be negligible, because most of the developed plan area would be occupied by buildings, pavement, and landscaped areas. This condition would preclude the possibility of individual projects providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be less than significant.

Naturally Occurring Asbestos

According to a map of areas where naturally occurring asbestos in California are likely to occur (U.S. Geological Survey 2011),[39] there are no such areas in the plan area. Ultramafic rock that contains asbestos is located at various locations in the foothills of Tulare County, but are not near the plan area. Therefore, development of the proposed Mater Plan is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

Conclusion

The plan area is not in an area with suitable habitat for Valley fever spores and is not in area known to have naturally occurring asbestos. Individual development projects under the proposed Master Plan would be required to implement MM AIR-3a to ensure localized impacts would not result in significant adverse impacts for any criteria pollutant. Similarly, individual development projects under the proposed Master Plan would be required to implement MM AIR-3b and MM AIR-3c to minimize health risk impacts. However, because impacts may remain significant after individual development projects identify all feasible and enforceable mitigation measures required to reduce impacts, the impact from the proposed Master Plan remains significant and unavoidable.

Level of Significance Before Mitigation

Significant impact.

Mitigation Measures

Implement MM AIR-2a and the following:

MM AIR-3a Prior to future discretionary approval for proposed implementing development projects, the City of Porterville shall evaluate potential impacts from localized emissions of criteria pollutants. The project applicant, project sponsor, or construction contractor shall submit an analysis demonstrating that the project would not result in a localized impact from criteria pollutants that follows SJVAPCD guidance. Options for relevant analyses to fulfill this mitigation measure are provided below:

[39] U.S. Geological Survey. 2011. Van Gosen, B.S., and Clinkenbeard, J.P. California Geological Survey Map Sheet 59. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Open-File Report 2011-1188 Website: http://pubs.usgs.gov/of/2011/1188/. Accessed July 2023.

- Provide a localized screening analysis demonstrating the project would not exceed 100 pounds per day of any criteria pollutant.

- Provide an Ambient Air Quality Analysis (AAQA) for the proposed project. An AAQA uses air dispersion modeling to determine if emission increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The SJVAPCD recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

- Supporting documentation approved by the SJVAPCD demonstrating that the proposed project would not have the potential to result in a significant impact from localized criteria pollutant emissions.

MM AIR-3b Prior to future discretionary approval for commercial or commercial mixed-use projects, the City of Porterville shall evaluate potential health risk impacts from new development proposals for any individual development projects within 1,000 feet of an existing or planned sensitive land use (e.g., residential, schools, day cares, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit the following to the City of Porterville Planning Department:

- A Health Risk Prioritization Screening Analysis or a Health Risk Assessment for the project's potential to expose sensitive receptors to elevated levels of Toxic Air Contaminants during project construction and operations prepared in accordance with SJVAPCD guidance. If the Health Risk Assessment shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the project applicant shall be required to identify and incorporate commercially feasible mitigation including appropriate enforcement mechanisms to reduce risks to an acceptable level. The City of Porterville shall submit each Health Risk Screening Analysis or Health Risk Assessment to the SJVAPCD for review. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.

MM AIR-3c To identify potential implementing development project-specific impacts resulting from the use of diesel trucks, proposed implementing development projects that include an excess of 10 dock doors for a single building, a minimum of 100 truck trips per day, 40 truck trips with Transport Refrigeration Units (TRUs) per day, or TRU operations exceeding 300 hours per week, and that are with 1,000 feet from existing or planned sensitive land uses; shall have a facility-specific Health Risk Assessment performed to assess the diesel particulate matter impacts from mobile source traffic generated by that implementing development project. If applicable, the results of the Health Risk Assessment shall be included in the CEQA documentation for each implementing development project. Development projects that exceed the applicable thresholds established by the SJVAPCD shall implement mitigation sufficient to reduce potential impacts to the extent feasible.

Level of Significance After Mitigation

Significant and unavoidable impact.

5.2.3 - Objectionable Odors

Impact AIR-4: The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Impact Analysis

Thresholds of Significance

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. According to the *CBIA v. BAAQMD* ruling, impacts of existing sources of odors on the project are not subject to CEQA review. The SJVAPCD has determined the common land use types that are known to produce odors in the Air Basin. These types are shown in Table 10.

Table 10: Screening Levels for Potential Odor Sources

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Source: SJVAPCD 2015.[40]	

[40] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Revised March 19, 2015. Website: http://www.valleyair.org /transportation/GAMAQI_3-19-15.pdf. Accessed July 2023.

According to the SJVAPCD GAMAQI, analysis of potential odor impacts should be conducted for the following two situations:

- **Generators:** projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
- **Receivers:** residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

Project Analysis

Project as a Generator

Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roasters, asphalt batch plants, and rendering plants. The proposed Master Plan is not anticipated to facilitate any development projects that engage in any of these activities. Therefore, the proposed Mater Plan would not be considered a generator of objectionable odors during operations.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the immediate area where construction would be occurring. Therefore, potential for odor impacts from construction of development of the proposed Master Plan would be less than significant.

Project as a Receiver

The buildout of the proposed Mater Plan would include the development of sensitive receptor land uses, including schools, parks, and residential uses. With the *CBIA v. BAAQMD* ruling, analysis of odor impacts on receivers is not required for CEQA compliance unless the project would exacerbate an existing impact. As noted above, the proposed Mater Plan would not result in odors that would adversely affect a substantial number of people. Therefore, no further analysis of the proposed Master Plan's as a receiver is required.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

SECTION 6: GREENHOUSE GAS IMPACT ANALYSIS

6.1—CEQA Guidelines

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97 and most recently amended December 28, 2019. A significant impact would occur if the project would:

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

(b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

6.2—Impact Analysis

6.2.1 - Greenhouse Gas Inventory

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Impact Analysis

Threshold of Significance

Section 15064.4(b) of the CEQA Guidelines' 2018 amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration #1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3**: 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. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of

impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* provides guidance for preparing a BAU analysis.[41] Under the SJVAPCD guidance, projects meeting one of the following would have a less than significant impact on climate change:

- Exempt from CEQA;
- Complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project achieves 29 percent GHG reductions by using approved Best Performance Standards; and
- Project achieves AB 32 targeted 29 percent GHG reductions compared with "business as usual."

The SJVAPCD has not yet adopted BPS for development projects. For development projects, BPS means, "Any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual."

The 29 percent GHG reduction level is based on the target established by ARB's AB 32 Scoping Plan, approved in 2008. The GHG reduction level for the State to reach 1990 emission levels by 2020 was reduced to 21.7 percent from BAU in 2020 in the 2014 First Update to the Scoping Plan to account for slower than projected growth after the 2008 recession.[42] First occupancy at the project site is expected to occur in 2024, which is after the AB 32 target year. The SJVAPCD has not updated its guidance to address SB 32 2030 targets or AB 1279 2045 targets.

The analysis also addresses consistency with the SB 32 targets and the 2017 Scoping Plan Update with an assessment of the project's reduction from BAU based on emissions in 2030 compared with the 21.7 percent reduction and with a consistency analysis. This approach provides estimates of project emissions in the new 2030 milestone year with the existing threshold to address Considerations 1 and 2 above. Therefore, whether the project's GHG emissions would result in a significant impact on the environment is determined by assessing consistency with relevant GHG reduction plans.

Impact Analysis

The following analysis assesses the proposed Master Plan's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Porterville has not adopted a GHG reduction plan. In addition, the City has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines amendments adopted for SB 97 and

[41] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009. "Final Staff Report, Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act." Website: http://www.valleyair.org/programs/CCAP/11-05-09/1_CCAP_FINAL_CEQA_GHG_Draft_Staff_Report_Nov_05_2009.pdf. December 2009. Accessed July 2023.

[42] California Air Resources Board (ARB). 2014. First Update to the Climate Change Scoping Plan. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm. Accessed July 2023.

clarifications provided in the CEQA Guidelines amendments adopted on December 28, 2018. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are applicable to the proposed Master Plan. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the proposed Master Plan. Since no other local or regional Climate Action Plan is in place, the proposed Master Plan is assessed for its consistency with ARB's adopted Scoping Plans.

Consistency with ARB's Adopted Scoping Plans

The State's regulatory program implementing the 2008 Scoping Plan is now fully mature. All regulations envisioned in the Scoping Plan have been adopted, and the effectiveness of those regulations has been estimated by the agencies during the adoption process and then tracked to verify their effectiveness after implementation. The combined effect of this successful effort is that the State now projects that it will meet the 2020 target and achieve continued progress toward meeting post-2020 targets. Governor Brown, in the introduction to Executive Order B-30-15, stated "California is on track to meet or exceed the current target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32)."

Consistency with SB 32 and the 2017 Scoping Plan

Table 11 provides an analysis of the proposed Master Plan's consistency with the 2017 Scoping Plan Update measures.

Table 11: Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50% Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent**: The individual development projects built out under the proposed Master Plan will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels	**Not Applicable**. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency until new development achieves zero net energy. While there are currently existing structures in the plan area, they are not a part of the individual development projects that would be built out under the proposed Master Plan.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Consistent**. Vehicles accessing the plan area will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario) Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent**. Future project occupants and visitors can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The 2022 CALGreen Code requires commercial developments to include EV infrastructure and requires electrical service in new single-family housing to be EV charger-ready. In addition, deliveries will be made by increasing numbers of ZEV delivery trucks.

Sustainable Freight Action Plan The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	**Not Applicable**. The measure applies to owners and operators of trucks and freight operations. Deliveries to the proposed commercial development are expected to be made by increasing number of ZEV delivery trucks.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent**. The future Master Plan residences will include only natural gas hearths that produce very little black carbon compared to woodburning fireplaces and heaters. Additionally, commercial uses contemplated as part of the proposed Master Plan are not expected to be sources of black carbon.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	**Consistent**. The proposed Master Plan will provide mixed-use residential and commercial development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT. The proposed Master Plan includes mixed-use development including schools, residential, and commercial within the same area, which will also contribute to reductions in VMT.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Consistent.** The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.

Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not Applicable**. The proposed Master Plan includes a mix of residential and commercial development and will not be considered natural or working lands.
Source: ARB 2017 Scoping Plan Update.	

As described in Table 11, the proposed Master Plan would be consistent with applicable 2017 Scoping Plan Update measures and would not obstruct the implementation of others that are not applicable. The State's regulatory program is able to target both new and existing development because the two most important strategies, motor vehicle fuel efficiency and emissions from electricity generation, obtain substantial reductions from both existing sources and new sources. This is because all vehicle operators use cleaner low carbon fuels and buy vehicles subject to the fuel efficiency regulations and all building owners or operators purchase cleaner energy from the grid that is produced by increasing percentages of renewable fuels. This includes regulations on mobile sources such as the Pavley standards that apply to all vehicles purchased in California, the LCFS (Low Carbon Fuel Standard) that applies to all fuel sold in California, and the Renewable Portfolio Standard and Renewable Energy Standard under SB 100 that apply to utilities providing electricity to all California end users.

Moreover, the Scoping Plan strategy will achieve more than average reductions from energy and mobile source sectors that are the primary sources related to development projects and lower than average reductions from other sources such as agriculture. Operational GHG emissions from development projects contemplated under the proposed Master Plan would principally be generated from electricity consumption and vehicle use (including heavy trucks), which are directly under the purview of the Scoping Plan strategy and have experienced reductions above the State average reduction. Considering the information summarized above, the proposed Master Plan would be consistent with the State's AB 32 and SB 32 GHG reduction goals. As such, the proposed Master Plan's GHG impacts would be less than significant.

Consistency Regarding GHG Reduction Goals for 2050 under Executive Order S-3-05 and GHG Reduction Goals for 2045 under the 2022 Scoping Plan

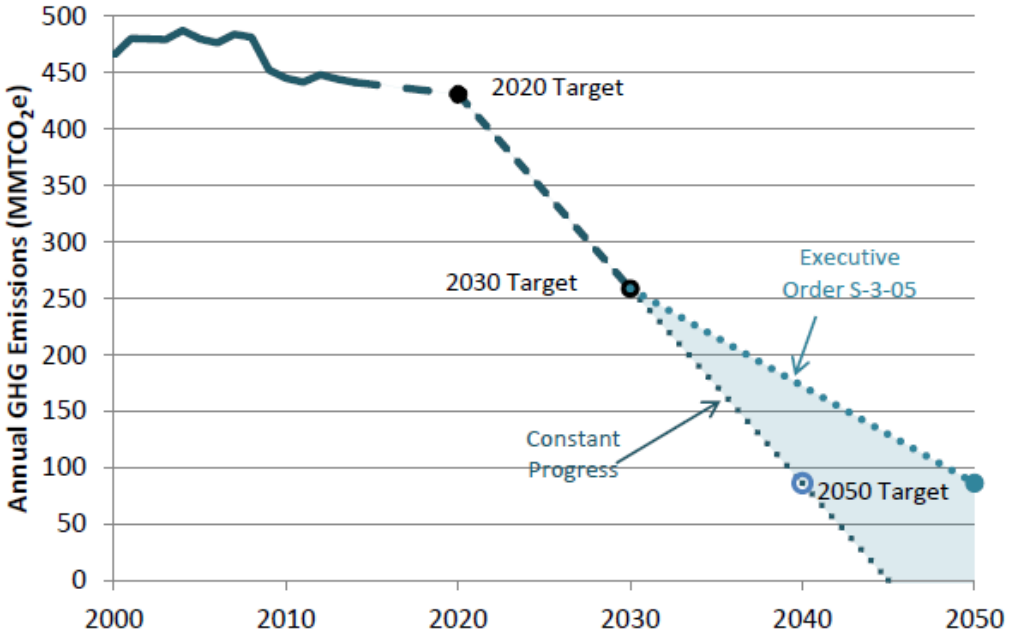
Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the development projects built out under the proposed Master Plan would comply with whatever measures are enacted that State lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, ARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update; however, ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."

The ARB recognized that AB 32 established an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

- **Energy Sector:** Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.
- **Water Sector:** The project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

For the reasons described above, the project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 2.

Figure 2: California's Path to Achieving the 2050 Target



Source: ARB 2017 Scoping Plan Update

In his January 2015 inaugural address, former Governor Brown expressed a commitment to achieve "three ambitious goals" that he would like to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed Master Plan future emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target. In addition, the 2022 Scoping Plan outlines objectives, regulations, planning efforts, and investments in clean technologies and infrastructure that outlines how the State can achieve carbon-neutrality by 2045. Accordingly, taking into account the proposed Master Plan's design features (including strategically planning new mixed-use development in such a way that minimizes VMT) and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the proposed Master Plan would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, carbon neutral by 2045, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

6.2.2 - Greenhouse Gas Reduction Plans

Impact GHG-2: The project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Impact Analysis

The following analysis assesses the proposed Master Plan's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Porterville has not adopted a GHG reduction plan. In addition, the City has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines amendments adopted for SB 97 and clarifications provided in the CEQA Guidelines amendments adopted on December 28, 2018. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are applicable to the project. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the project. Since no other local or regional Climate Action Plan is in place, the project is assessed for its consistency with ARB's adopted Scoping Plans. This assessment is included under Impact GHG-1 above. As demonstrated in the analysis contained under Impact GHG-1, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

SECTION 7: ENERGY

7.1—CEQA Guidelines

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Appendix F of the CEQA Guidelines applies to the direct and indirect impact analysis, as well as the cumulative impact analysis.

7.2—Impact Analysis

7.2.1 - Energy

Impact ENERGY-1: The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

Impact Analysis

Threshold of Significance

Appendix F does not prescribe a threshold for the determination of significance. Rather, Appendix F focuses on reducing and minimizing inefficient, wasteful, and unnecessary consumption of energy. Therefore, for the purposes of this analysis, a significant impact to energy would result if the project would:

1. Result in the wasteful and inefficient use of nonrenewable resources during its construction.
2. Result in the wasteful and inefficient use of nonrenewable resources during long-term operation.
3. Be inconsistent with Adopted Plans and Policies.

Construction Energy Consumption

Project construction associated with buildout of the proposed Master Plan is anticipated to be completed over several years. Construction activities would consume energy through the operation of heavy off-road equipment, trucks, and worker traffic. Construction equipment fuel consumption for each of was based on equipment lists generated using CalEEMod default values and the horsepower, usage hours, and load factors from CalEEMod model runs prepared for the project's air quality analysis. Equipment fuel consumption was calculated using Offroad2017 v1.0.1 for Tulare County. Fuel consumption was estimated assuming all equipment would be diesel-powered.

Based on the anticipated hours of use, off-road construction equipment would result in the consumption of approximately 431,722.08 gallons of diesel fuel over the entire construction period.

Worker, vendor, and haul trips would result in approximately 67,440,611 VMT over the entire construction period. Fuel consumption averages were calculated for worker, vendor, and haul trips separately and per phase based on data from EMFAC 2021 for Tulare County. The results indicate

that construction trips would consume approximately 3,719,560 gallons of gasoline and diesel combined over the entire construction period.

Although implementation of the proposed Master Plan would result in the consumption of an estimated 431,722 gallons of diesel from off-road equipment and 3,719,560 gallons of motor vehicle fuels during construction, the project is expected to achieve energy efficiencies typical for mixed-use projects in the City of Porterville and the larger Tulare County area. Construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency, combined with local, state, and federal regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during project construction. Considering these reductions in transportation fuel use, the proposed Master Plan would not result in the wasteful and inefficient use of energy resources during construction, and impacts would be less than significant. Detailed modeling results are provided in Appendix B of this technical report. Construction energy use is summarized in Table 12.

Table 12: Construction Energy Consumption

Activity		Energy Consumption Activity	Consumption Amount
Project Construction (Buildout of the Proposed Master Plan)			
Construction Equipment Diesel Fuel Use	Off-road Construction Equipment fuel	21,575,701 Horsepower Hours (total)	431,722 gallons (diesel)
On-road Construction Vehicle Fuel	Worker	52,551,881 VMT (miles)	2,047,336 gallons (gasoline and diesel combined)
	Vendor	14,638,730 VMT (miles)	1,629,698 gallons (gasoline and diesel combined)
	Haul	250,000 VMT (miles)	42,526 gallons (diesel)
	Project On-road Construction Vehicle Fuel Subtotal	*67,440,611 VMT (miles)*	*3,719,560 gallons (gasoline and diesel combined)*
Notes: VMT = vehicle miles traveled Source of data for construction and VMT: CalEEMod 2022.1 (see Appendix A). Source of data for consumption rates: EMFAC 2021 (see Appendix B). Energy calculations are provided in Appendix B.			

Operation Energy Consumption

Long-term energy consumption associated with the implementation of the proposed Master Plan includes electricity and natural gas consumption by residents and businesses, energy required for water supply, treatment, distribution, and wastewater treatment, and motor vehicle travel.

Electricity and Natural Gas Consumption

During operations, individual developments contemplated under the proposed Master Plan would consume natural gas for space heating, water heating, and cooking associated with the land uses within the plan area. The natural gas consumption was estimated using the CalEEMod default values and results. The results of the analysis indicate that the buildout under the proposed Master Plan

would consume approximately 143,971,024 thousand British thermal units (kBTU) of natural gas per year during operation.

In addition to the consumption of natural gas, the development built out under the proposed Master Plan would use electricity for lighting, appliances, and other uses associated with the individual developments. Electricity use during operations was estimated using CalEEMod default values. The results of the modeling indicate that the buildout of the development contemplated under the Master Plan would use approximately 112,006,579 kilowatt-hours (kWh) of electricity per year. Title 24 (2022 standards) requires the installation of solar panels in commercial developments, including most newly constructed shopping center developments. Title 24 (2022 standards) also requires the installation of solar panels in residential developments, including most newly constructed single-family homes and low-rise multi-family developments. Variations in the amount of solar installed can be due to local conditions and project design. In addition, some projects may use community solar instead of rooftop solar installations. Although the energy estimates show total consumption, a portion of the electricity used by the development contemplated under the proposed Master Plan is expected to be generated by zero emission renewable sources. In addition, additional solar panels may be installed voluntarily to take advantage of energy cost savings that are increasingly possible as the cost of solar has declined over time.

As described above, the development under the proposed Master Plan would result in a long-term increase in demand for electricity from Southern California Edison (SCE). However, individual development projects built out under the Master Plan would be designed to meet the most recent Title 24 standards in effect at the time building permits are issued. Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Title 24 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. Therefore, impacts from the wasteful or inefficient use of electricity or natural gas during operation of development under the Master Plan would be less than significant.

Fuel Consumption

During operation of the development built out under the proposed Master Plan, vehicle trips would be generated by the individual developments. Build out of the proposed Master Plan was modeled with CalEEMod using project-specific trip generation rates and default trip lengths (with longer trip lengths applied to the truck trips associated with the industrial park land use). The results show that the vehicle trips generated would result in approximately 188,565,656 annual VMT from build out of the proposed Master Plan. As shown in Table 13, the proposed Master Plan would result in the consumption of an estimated 7,914,219 gallons per year of transportation fuel.

Table 13: Long-term Operational Vehicle Fuel Consumption

Vehicle Type	Annual VMT	Average Fuel Economy (miles/gallon)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	81,575,631	37.19	2,193,569
Light Trucks and Medium Duty Vehicles (LDT1, LDT2, MDV)	75,053,399	27.76	2,703,846

Light-Heavy to Heavy-Heavy Diesel Trucks (LHD1, LHD2, MHDT, HHDT)	27,944,682	10.02	2,788,812
Motorcycles (MCY)	2,832,794	38.01	74,527
Other (OBUS, UBUS, SBUS, MH)	1,159,149	7.55	153,466
Mater Plan Total	**188,565,655**	**—**	**7,914,220**

Notes:
VMT = vehicle miles traveled
"Other" consists of buses and motor homes.
Source of data for vehicle trips and VMT: Appendix A.
Source of Tulare County miles/gallon for an early operational year (2025): EMFAC 2021.
Energy calculations are provided in Appendix B.

Various federal and state regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the projects' transportation fuel consumption progressively into the future. In addition, the proposed Master Plan would locate a mix of commercial and residential uses, providing connectivity within the community. Therefore, the proposed Master Plan would be designed to avoid the wasteful and inefficient use of transportation fuel during operations, and impacts would be less than significant.

State and federal regulatory requirements addressing fuel efficiency are expected to increase fuel efficiency over time as older, less fuel-efficient vehicles are retired. The efficiency standards and light/heavy vehicle efficiency/hybridization programs contribute to increased fuel efficiency and therefore would reduce vehicle fuel energy consumption rates over time. While build out of the proposed Master Plan would increase the consumption of gasoline and diesel proportionately with projected population growth, the increase would be accommodated within the projected growth as part of the energy projections for the State and the region and would not require the construction of new regional energy production facilities. Therefore, energy impacts related to fuel consumption/efficiency during project operations would be less than significant.

Impact Summary

As described above, the proposed Master Plan would result in less than significant impacts on the wasteful, inefficient, or unnecessary use of energy due to project design features that will comply with the City's design guidelines and regulations that apply to the project such as Title 24 Building Energy Efficiency Standards and the California Green Building Standards Code that apply to newly constructed commercial and residential buildings. The installation of solar panels required by 2022 Title 24 standards is expected to offset some of the electricity used by the development under the proposed Master Plan. Furthermore, various federal and state regulations—including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program—would serve to reduce the transportation fuel demand by the development under the proposed Master Plan.

With the adherence to the increasingly stringent building and vehicle efficiency standards as well as implementation of design features that would reduce energy consumption, the proposed Master Plan would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the proposed Master Plan would not result in a significant environmental impact, due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation of

buildout of the proposed Master Plan. A summary of estimated operational energy consumption from build out of the proposed Master Plan is provided in Table 14.

Table 14: Summary of Estimated Operational Annual Energy Consumption

Energy Consumption Activity	Annual Consumption
Project Operations	
Electricity Consumption	112,006,579 kWh/year
Natural Gas Consumption	143,971,024 kBTU/year
Total Vehicle Fuel Consumption	7,914,219 gallons/year (gallons of gasoline and diesel)
Notes: kWh = kilowatt-hour kBTU = kilo-British Thermal Unit VMT = vehicle miles traveled Source: Appendix B.	

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

7.2.2 - Renewable Energy or Energy Efficiency Plans

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact Analysis

The City of Porterville General Plan includes goals and strategies related to energy efficiency. The following policies relate to energy efficiency and are relevant to the proposed Master Plan:

- **OSC-G-10:** Reduce and conserve energy use in existing and new commercial, industrial, and public structures.
- **OSC-I-66:** Adopt guidelines and incentives for using green building standards in new construction. Green building design guidelines may include required and recommended "green" design and construction strategies including: Building Site and Form, Natural Heating or Cooling, transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.
- **OSC-I-70:** Ensure City codes allow for environmentally acceptable alternative forms of energy production and green building techniques.

Construction

As discussed under Impact ENERGY-1, the proposed Master Plan would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. California Code of Regulations Title 13, Sections 2449(d)(3) and 2485, limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. Individual

development under the proposed Master Plan would comply with these regulations. Consistent with required regulations, buildout of the proposed Master would increase the use of energy conservation features and renewable sources of energy within the City of Porterville and Tulare County due to the previously discussed design features. Thus, the proposed Master Plan would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, construction-related energy efficiency and renewable energy standards consistency impacts would be less than significant.

Operation

The proposed Master Plan would be served with electricity provided by SCE. SCE's 2019 Green Rate 50 percent option includes 67.5 percent eligible renewable resources, including wind, geothermal, solar, eligible hydroelectric, and biomass and biowaste; 4 percent large hydroelectric; 8.1 percent natural gas; 4.1 percent nuclear; 0.1 percent other; and 16.3 percent unspecified sources of power[43] SCE's 2019 Green Rate 100 percent option includes 100 percent eligible renewable resources, composed entirely of solar. Approximately 43 percent of the electricity that SCE delivered in 2020 was a combination of renewable and GHG-emissions-free resources.[44] SCE was ahead of schedule in meeting the California's RPS 2020 mandate of serving their load with at least 33 percent RPS-eligible resources. SCE would be required to meet California's RPS standards of 60 percent by 2030 and carbon-free sourced-electricity by 2045.

Part 11, Chapter 4 and 5, of the State's Title 24 energy efficiency standards establishes mandatory measures for residential and nonresidential buildings, including solar, electric vehicle (EV) charging equipment, bicycle parking, energy efficiency, water efficiency and conservation, and material conservation and resource efficiency. Development under the proposed Master Plan would be required to comply with these mandatory measures. The proposed Master Plan would locate housing next to jobs in order to reduce or eliminate motor vehicle travel for home-to-work trips and provide connectivity through pedestrian and bicycle connections. In addition, the proposed Master Plan's location adjacent to an existing community (built up areas the City of Porterville) allows future development to provide further connectivity. Compliance with the mandatory measures previously mentioned would ensure that the development built out under the proposed Master Plan would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, operational energy efficiency and renewable energy standards consistency impacts would be less than significant.

The proposed Master Plan was reviewed for consistency with local and State of California plans that aim to reduce GHG emissions in GHG impact analysis. These plans also serve as the applicable energy plans. The ARB 2008 Scoping Plan, the ARB 2017 Scoping Plan, and the ARB 2022 Scoping Plan provide the State's strategy for achieving legislated GHG reduction targets. Although the primary purpose of the Scoping Plans is to reduce GHG emissions, the strategies to achieve the GHG reduction targets rely on the use of increasing amounts of renewable fuels under the LCFS and RPS, and energy efficiency with updates to Title 24 and the CalGreen Code. Buildings constructed under implementation of the proposed Master Plan will meet the latest efficiency standards in effect that building permits are issued. In addition, vehicles and equipment will continue to become cleaner over time as new vehicles and equipment are required to adhere to the latest fuel efficiency

[43] "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

[44] Edison International. 2021. 2020 Sustainability Report. Website: https://www.edison.com/home/sustainability/sustainability-report.html. Accessed July 2023.

standards. For instance, vehicles and equipment associated with build out of the proposed Master Plan will use fuels subject to the LCFS.[45]

Summary

The proposed Master Plan is consistent with applicable plans and policies and would not result in wasteful or inefficient use of nonrenewable energy sources; therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

[45] California Energy Commission (CEC). 2019. Final Staff Report 2019 California Energy Action Plan. Website: https://www.energy.ca.gov/filebrowser/download/1900. Accessed July 2023.

Appendix A: CalEEMod Modeling Assumptions and Results

City of Porterville – SoTu Master Plan
Project Description

1 Project Title

South of the Tule River Master Plan (General Plan Amendment, Prezone, Conditional Use Permit)

2 Applicant

City of Porterville
291 N. Main Street
Porterville, CA, 93257

3 Project Location

The Project site is directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California (see Figure 2-1). The site is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street, consisting of 19 parcels that total approximately 447.30 gross acres. Figure 2-2 shows the ariel image of the site. The site is identified by the Tulare County Assessor as Assessor's Parcel Number (APN) 259-150-001, 259-030-031,259-270-004, 259-030-011, 259-040-041, 259-040-044, 259-040-028, 259-040-027, 259-040-026, 259-040-025, 259-040-043, 259-040-042, 259-040-045, 259-040-046, 259-040-010, 259-040-039, 259-320-001, 259-370-058, and 259-370-002 (see Figure 2-3). The site is a portion of Township 21 South, Range 27 East, Section 33 and 34, Mount Diablo Base and Meridian.

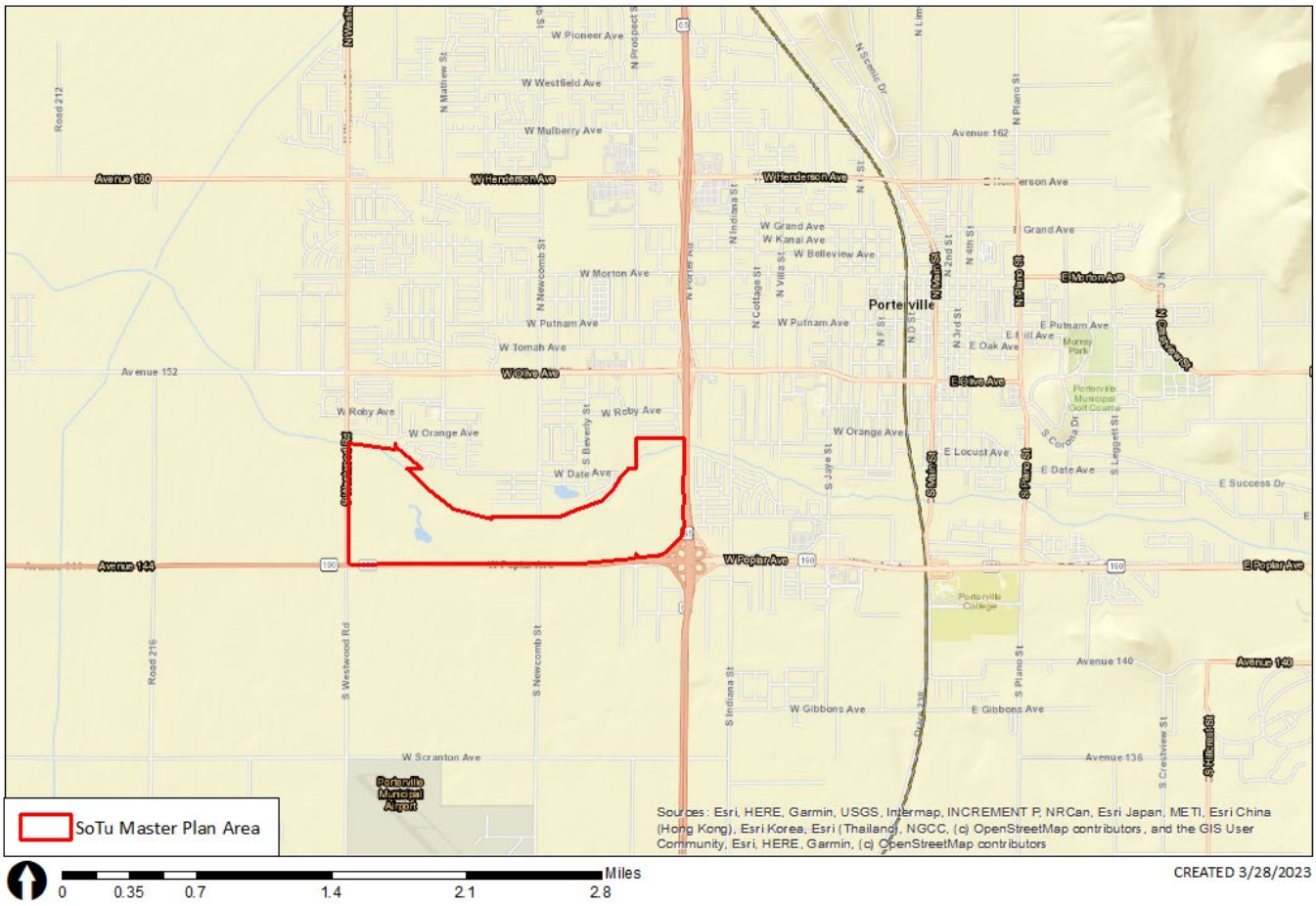


Figure 2-1 Regional Location

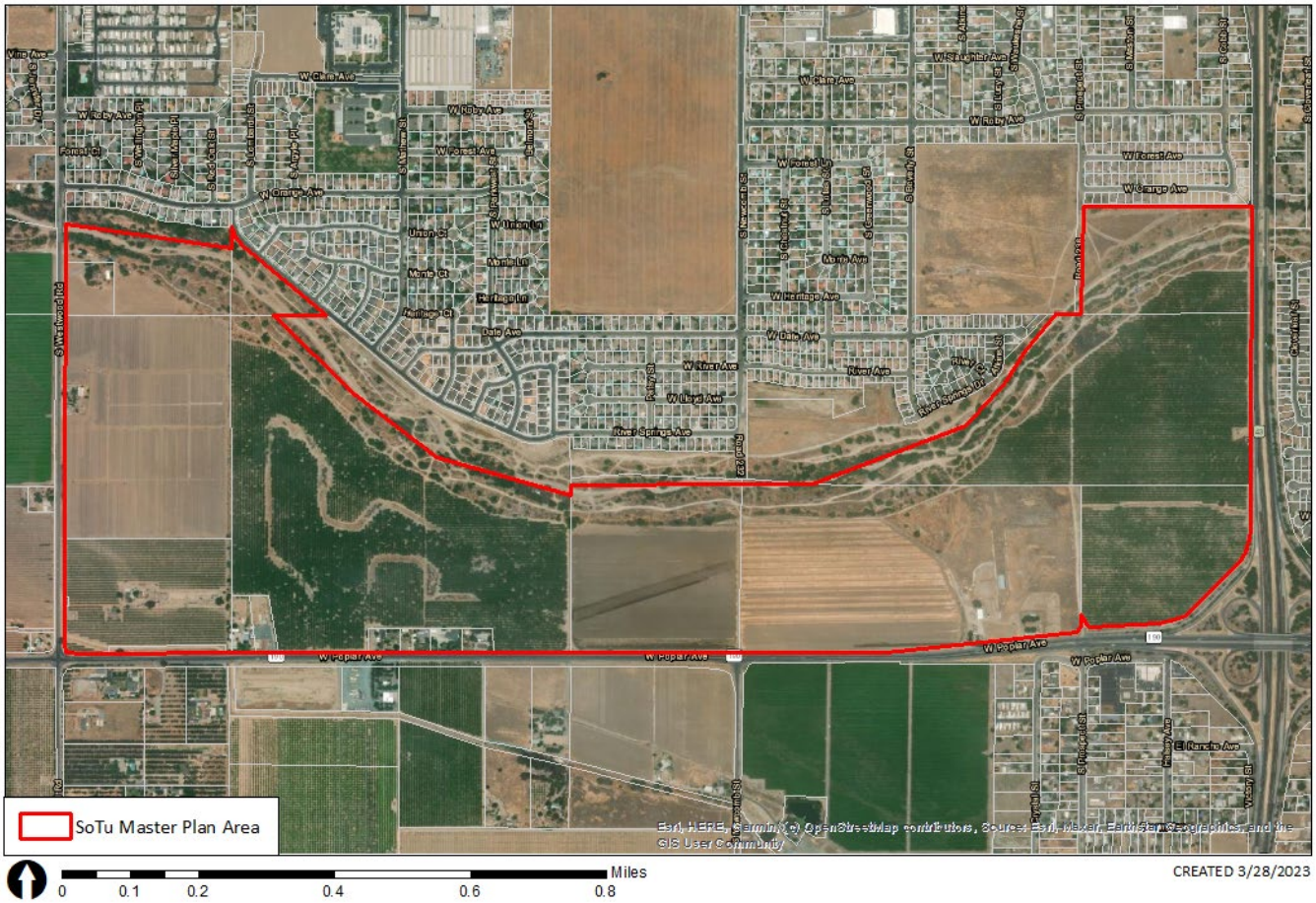


Figure 2-2 Project Site Aerial Image

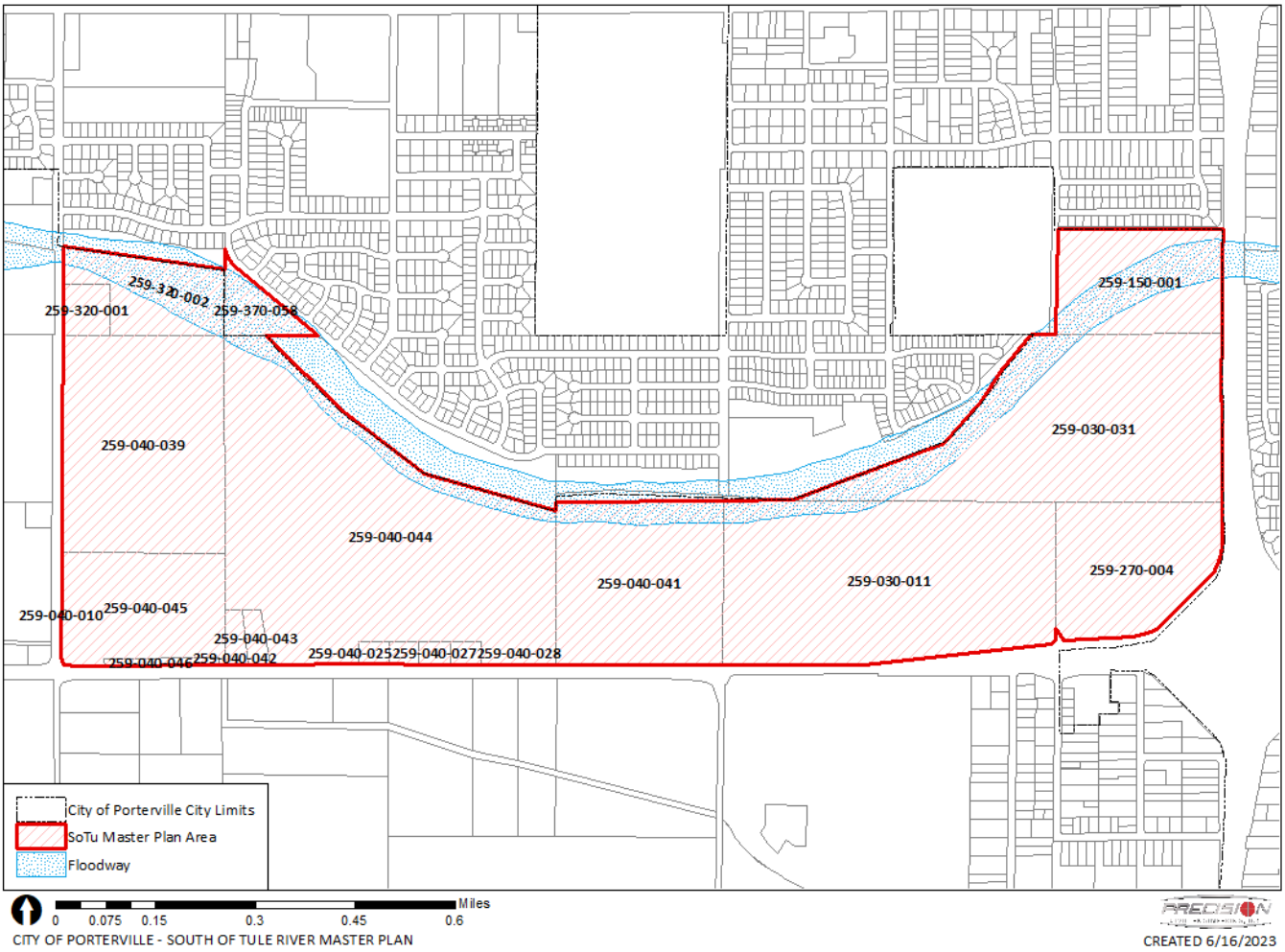


Figure 2-3 APN Map

4 General Plan Designation

The Project site has a City of Porterville General Plan (General Plan) land use designation of Low Density Residential, Parks, Public Institutional, and Retail Center (see Figure 2-4). The City of Porterville (Applicant) proposes a General Plan Amendment (GPA) to change the land use designation to various land uses, as shown in the Master Plan Land Use Map in Figure 2-5. According to the City of Porterville General Plan, the purpose of each land use and their permitted intensity and density are shown in Table 2-1.

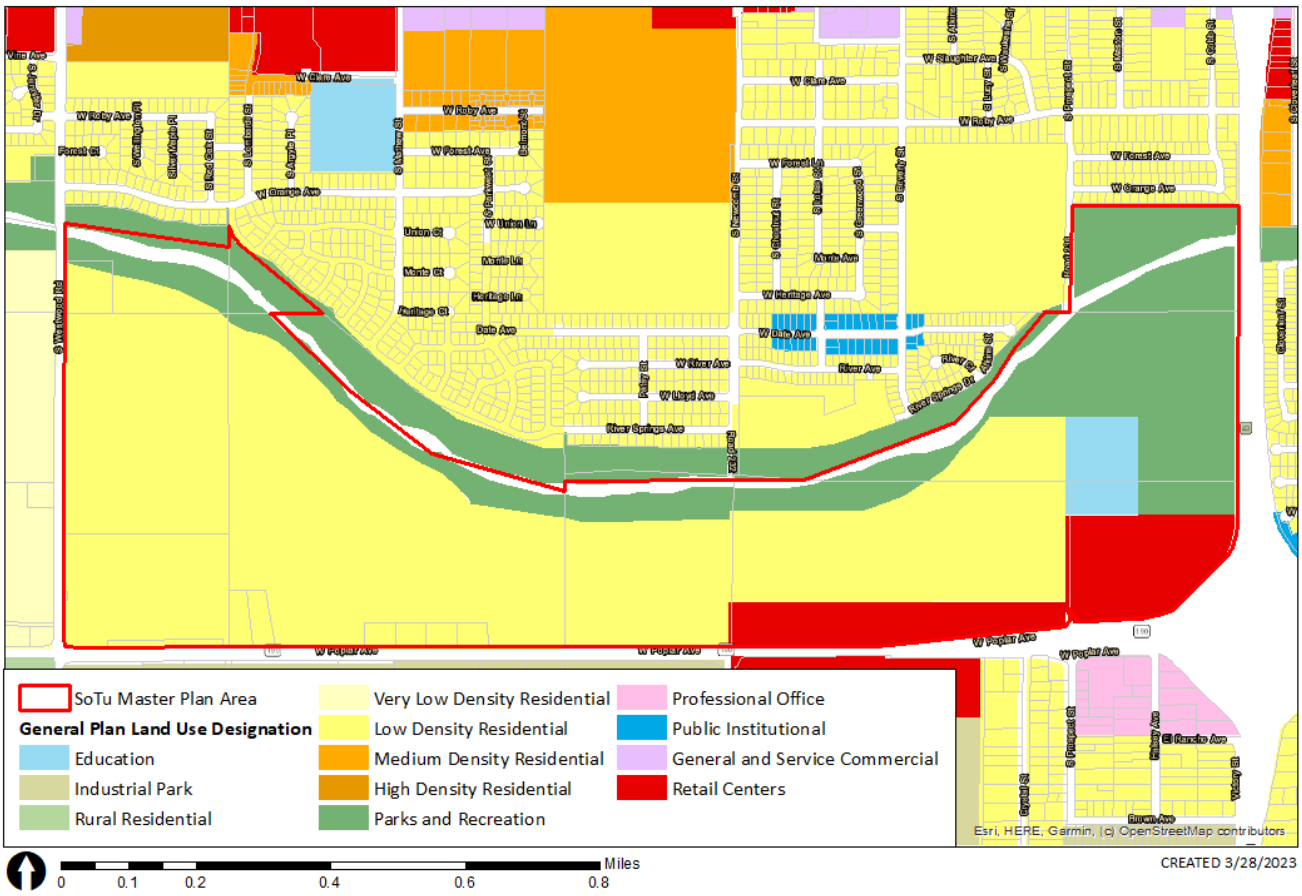


Figure 2-4 City of Porterville General Plan Land Use Designation Map (Existing)

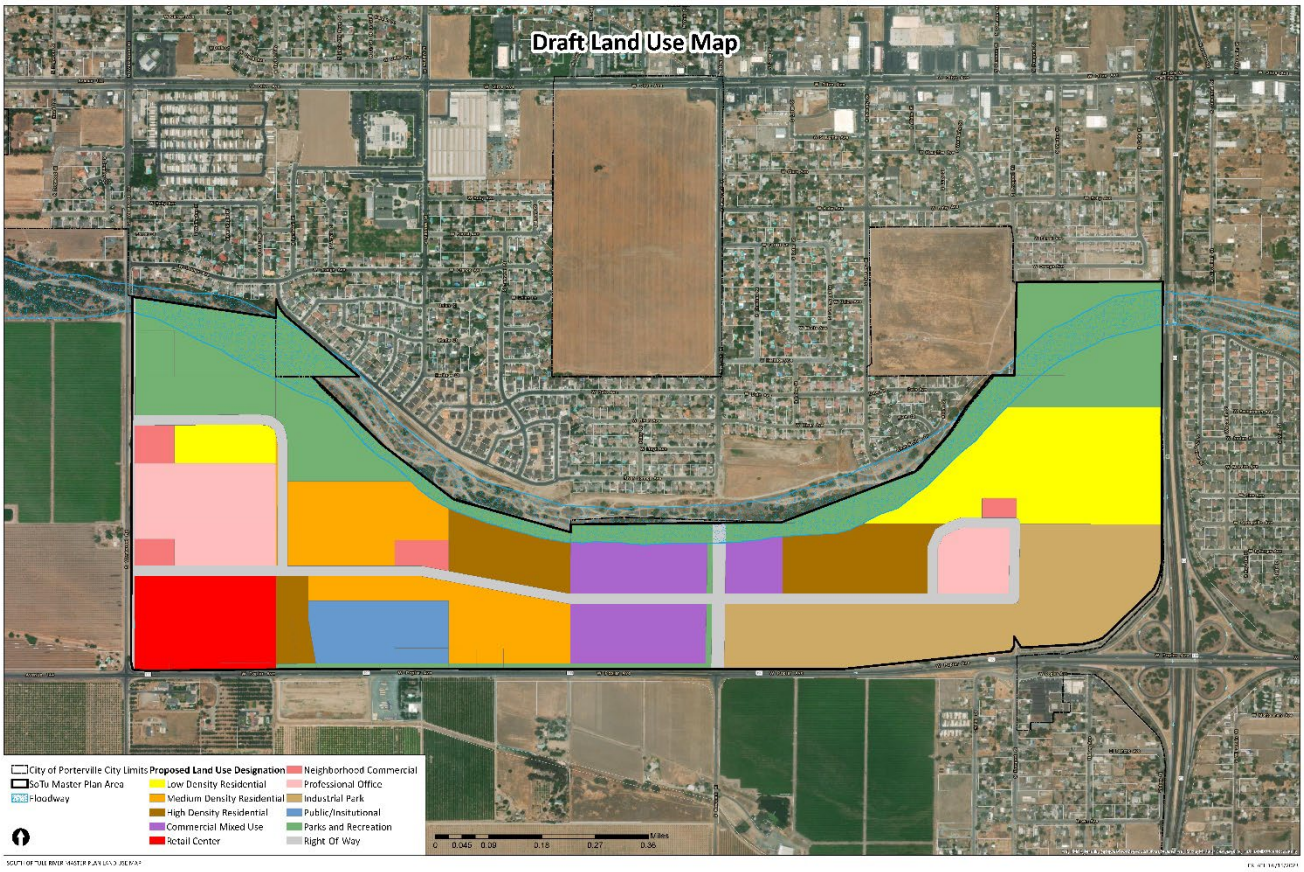


Figure 2-5 City of Porterville General Plan Land Use Designation Map/ SoTu Land Use Map (Proposed)

Table 2-1 General Plan Land Use Designation Descriptions

Land Use Designation	Purpose	Permitted Intensity/Density
Low Density Residential	This density represents typical single-family subdivisions.	maximum residential density of 6.0 units per gross acre
Medium Density Residential	This density range would accommodate a variety of housing types, such as small-lot single-family homes, detached zero lot line developments, duplexes, townhouses, and garden apartments. Pedestrian-oriented design and clustered development can support higher levels of density.	maximum residential density of 12.0 units per gross acre
High Density Residential	This classification is intended to accommodate attached homes, two- to four-plexes, and apartment buildings.	maximum residential density of 24.0 units per gross acre
Commercial Mixed Use	This designation allows for either horizontal or vertical mixed-use development. Commercial, service, office, and residential uses are allowed. Buildings more than one story are strongly encouraged.	maximum FAR of 2.0 and maximum residential density of 24.0 units per gross acre
Retail Centers	Design and use standards will be established for regional shopping centers located at major circulation intersections. Large format or “big box” retail and auto sales as well as travel related services, such as hotels and gas stations are allowed.	maximum FAR of 0.35
Neighborhood Commercial	This designation is intended for small-scale commercial development that primarily provides office space and convenience retail for local neighborhoods.	maximum FAR of 0.30
Professional Office	This designation is intended for office complex development, including professional and medical offices, as well as research and development activities. Small restaurants, support services, convenience retail and limited medium and high density residential are also allowed.	maximum FAR of 0.50
Industrial Park	This designation comprises a mix of light industrial, secondary office, bulk retail, and service uses. Typical uses include warehouse, mini-storage, research and development, wholesale, bulk retail, and office space with limited customer access. Other uses may be allowed, such as commercial recreation, distribution centers, or other uses that require large, warehouse-style buildings. Small-scale retail and service uses serving local employees and visitors are permitted as secondary uses.	maximum FAR of 0.40

5 Zoning

The Project site is in the RS-1 – Very Low Density Residential, RS-2 – Low Density Residential, CR – Retail Centers, and PK – Parks and Public Recreation Facilities zoning districts (Figure 2-6). The City of Porterville (Applicant) proposes a Pre-zone/Rezone (RZ) to change the zoning districts in consistent with the proposed land use designations (Figure 2-5).

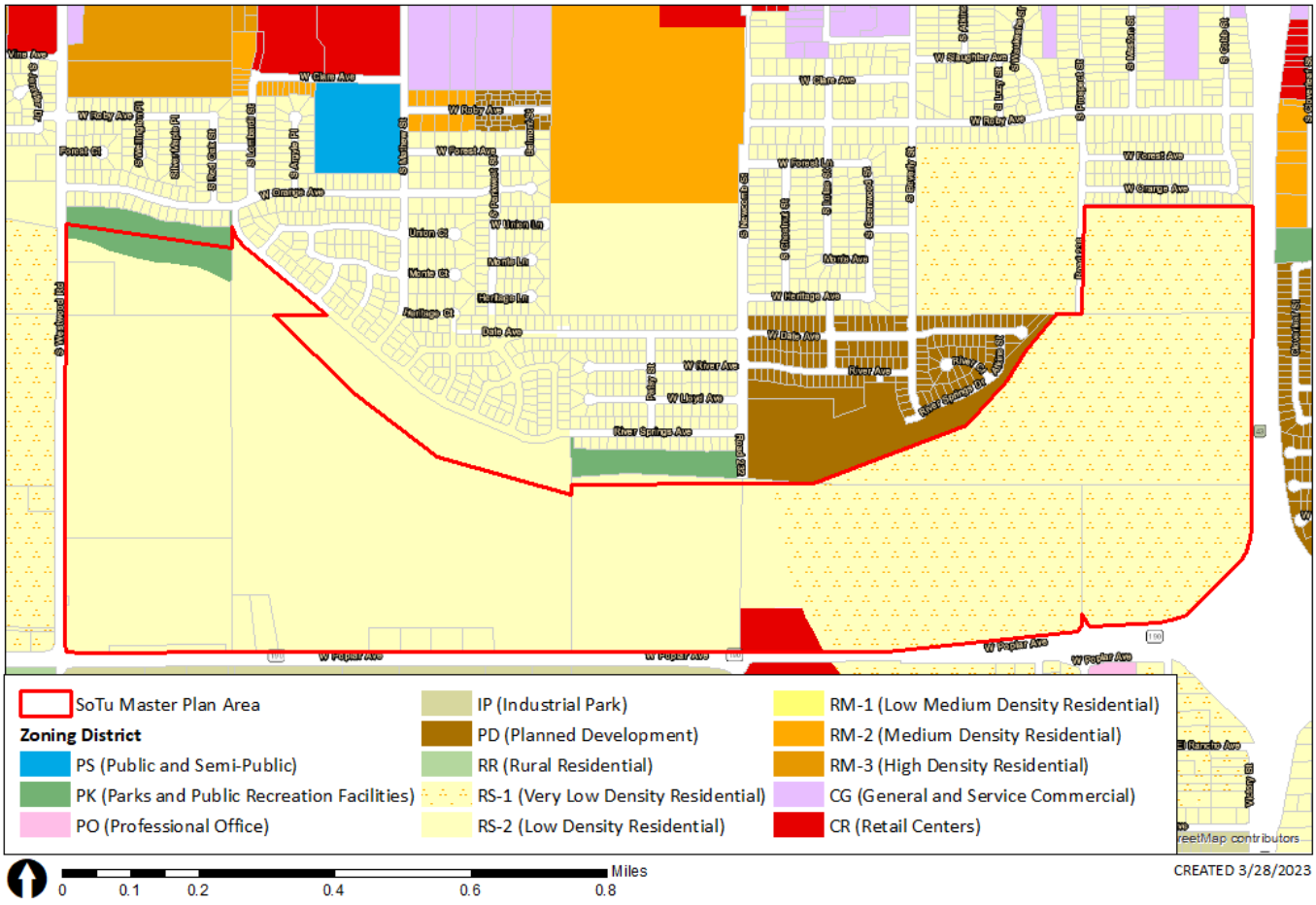


Figure 2-6 City of Porterville Zoning District Map (Existing)

6 Description of Project

South of Tule River (SoTu) Master Plan, including entitlements for a Conditional Use Permit (CUP) General Plan Amendment (GPA), and Pre-zone/Rezone (PZ), is filed by the City of Porterville (Applicant) and pertain to 19 parcels that is located directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California. The SoTu Master Plan is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street ("Project site"). The site totals approximately 447.30 gross acres. The site is identified by the Tulare County Assessor as APNs 259-150-001, 259-030-031,259-270-004, 259-030-011, 259-040-041, 259-040-044, 259-040-028, 259-040-027, 259-040-026, 259-040-025, 259-040-043, 259-040-042, 259-040-045, 259-040-046, 259-040-010, 259-040-039, 259-320-001, 259-370-058, and 259-370-002. The CUP facilitates the adoption of the SoTu Master Plan. The GPA requests amendment of the existing land use designations to the mix of 10 different land uses proposed in the SoTu Master Plan. The PZ requests a prezone from the existing zoning districts to zoning districts that are consistent with the proposed land use designation. No physical development is proposed.

Project Assumptions

This Project is funded by LEAP funding for the purpose of providing the necessary framework to guide development in this area as it transitions from agricultural land to a vibrant, distinct, and multi-modal district of mixed densities and uses that is attractive to residential and visitors to live, work, explore, and shop. Currently, the site is primarily occupied by agricultural operations with a few single-family residential dwellings.

Although no physical development is proposed by the Project, this Initial Study analyzes the potential buildout of the Project site at a programmatic level, using reasonable assumptions so that future development of the site can tier from this Initial Study pursuant to CEQA Guidelines *Section 15168(c)(1)* and *15168(d)* for evaluations of environmental issues associated with later activities/subsequent projects. However, depending on the final design of future physical development, additional project specific CEQA review may be required as determined by the City through the entitlement review and approval process.

For the purposes of the analysis contained in this Initial Study, Table 2-2 shows the assumption of the Project buildout. As shown in the table, the Project assumes the development of 2,213 dwelling units, 2,873,801 square feet of mixed-use, and 1,821,492 square feet of employment uses.

Table 2-2 Project Buildout Assumption for Impact Analysis

Land Use Designation	Acreage	Permitted Intensity/Density	Average Density		Assumed	
Residential						
Low Density Residential	51.37	7.5 du/ac	5.35 du/ac		5.35 du/ac	
Medium Density Residential	43.72	15.0 du/ac	6.0 du/ac for Single Family Residential		6.0 du/ac for Single Family Residential	
			11.30 du/ac for Multi-family Residential		11.30 du/ac for Multi-family Residential	
High Density Residential	35.08	30.0 du/ac	22.55 du/ac		22.55 du/ac	
Mixed-Use						
Commercial Mixed Use	32.99	30.0 du/ac	20.0 du/ac	2.0 FAR	20.0 du/ac	2.0 FAR
Employment						
Retail Centers	24.35	0.35 FAR	0.35 FAR		0.35 FAR	
Neighborhood Commercial	8.61	0.30 FAR	0.30 FAR		0.30 FAR	
Professional Office	32.83	0.50 FAR	0.30 FAR		0.30 FAR	
Industrial Park	59.61	0.60 FAR	0.35 FAR		0.35 FAR	
Public Uses and Open Space						
Public/Institutional	15.81	0.25 FAR	0.25 FAR		0.25 FAR	
Parks	30.79	0.10 FAR	0.10 FAR		0.10 FAR	
Right-of-Way (ROW)	30.79					
Total	**447.30**					

SoTu Master Plan Analysis—Construction Assumptions

Construction Phase			Num Days	
Phase Name	Start Date	End Date	Week	Num Days
Residential and Public Uses				
Site Preparation	1/1/2024	9/6/2024	5	180
Grading	9/7/2024	6/19/2026	5	465
Building Construction	9/7/2024	8/5/2033	5	2,325
Paving	9/7/2024	4/25/2025	5	165
Architectural Coating	1/1/2033	4/7/2034	5	330
Commercial and Industrial Uses				
Site Preparation	1/1/2024	10/4/2024	5	200
Grading	10/05/2024	3/21/2025	5	120
Building Construction	3/22/2025	2/6/2037	5	3,100
Paving	3/22/2025	1/23/2026	5	220
Architectural Coating	5/3/2036	3/6/2037	5	220

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Residential and Public Uses					
Site Preparation	Rubber Tired Dozers	3	8	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37
Grading	Excavators	2	8	36	0.38
Grading	Graders	1	8	148	0.41
Grading	Rubber Tired Dozers	1	8	367	0.40
Grading	Scrapers	2	8	423	0.48
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37
Building Construction	Cranes	2	7	367	0.29
Building Construction	Forklifts	6	8	82	0.20
Building Construction	Generator Sets	2	8	14	0.74
Building Construction	Tractors/Loaders/Backhoes	6	7	84	0.37
Building Construction	Welders	2	8	46	0.45
Paving	Pavers	4	8	81	0.42
Paving	Paving Equipment	4	8	89	0.36
Paving	Rollers	4	8	36	0.38
Architectural Coating	Air Compressors	1	6	37	0.48
Commercial and Industrial Uses					
Site Preparation	Rubber Tired Dozers	3	8	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37
Grading	Excavators	2	8	36	0.38
Grading	Graders	1	8	148	0.41
Grading	Rubber Tired Dozers	1	8	367	0.40
Grading	Scrapers	2	8	423	0.48
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37
Building Construction	Cranes	1	7	367	0.29
Building Construction	Forklifts	3	8	82	0.20
Building Construction	Generator Sets	1	8	14	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7	84	0.37
Building Construction	Welders	1	8	46	0.45
Paving	Pavers	2	8	81	0.42
Paving	Paving Equipment	2	8	89	0.36
Paving	Rollers	2	8	36	0.38
Architectural Coating	Air Compressors	1	6	37	0.48

Trips and VMT Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Residential and Public Uses						
Site Preparation	17.50	4	0	7.7	6.8	20
Grading	20	4	0	7.7	6.8	20
Building Construction	1290.30	226.75	0	7.7	6.8	20
Paving	15	4	0	7.7	6.8	20
Architectural Coating	258.06	4	0	7.7	6.8	20
Commercial and Industrial Uses						
Site Preparation	17.50	4	62.50	7.7	6.8	20
Grading	20	4	0	7.7	6.8	20
Building Construction	1181.84	521.92	0	7.7	6.8	20
Paving	15	4	0	7.7	6.8	20
Architectural Coating	236.37	4	0	7.7	6.8	20

Project Name

Completed By: MA 4/24/2023
Checked By: CS 4/24/2023

Proposed Project Land Use Trip Generation

Land Use (ITE CODE)	Size	Unit	Daily		A.M. Peak Hour					P.M. Peak Hour				
			Rate	Total	Trip Rate	In %	Out %	In	Out	Total	Trip Rate	In %	Out %	In	Out	Total
Industrial Park (130)	1628.300	k.s.f.	3.37	5,487	0.34	81	19	449	105	554	0.34	22	78	122	432	554
Single-Family Detached Housing (210)	539	d.u.	9.43	5,083	0.70	26	74	98	279	377	0.94	63	37	319	188	507
Multifamily Housing (Low Rise) Not Close to Transit (220)	1486	d.u.	6.74	10,016	0.40	24	76	143	451	594	0.51	63	37	478	280	758
Public Park (411)	66.48	Acres	0.78	52	0.02	59	41	1	0	1	0.11	55	45	4	3	7
Elementary School (520)	750	Students	2.27	1,703	0.74	54	46	300	255	555	0.16	46	54	55	65	120
General Office Building (710)	761.700	k.s.f.	10.84	8,257	1.52	88	12	1,019	139	1,158	1.44	17	83	186	911	1,097
Shopping Center (>150k) (820)	403.200	k.s.f.	37.01	14,922	0.84	62	38	210	129	339	3.40	48	52	658	713	1,371
Shopping Plaza (40-150k) - Supermarket - Yes (821)	256.400	k.s.f.	94.49	24,227	3.53	62	38	561	344	905	9.03	48	52	1,111	1,204	2,315
Strip Retail Plaza (<40k) (822)	134.800	k.s.f.	54.45	7,340	2.36	60	40	191	127	318	6.59	50	50	444	444	888
Sub Total Project Trips				**77,087**				**2972**	**1829**	**4801**				**3377**	**4240**	**7617**

* Source ITE Trip Generation 11th Edition

SoTu Master Plan - Residential and Public Uses Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	SoTu Master Plan - Residential and Public Uses
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.10
Precipitation (days)	23.0
Location	36.053553, -119.055397
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2736
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.17

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

Single Family Housing	539	Dwelling Unit	73.2	1,051,050	6,313,230	—	1,822	—
Apartments Low Rise	1,486	Dwelling Unit	56.9	1,575,160	372,046	—	5,023	—
City Park	66.5	Acre	66.5	0.00	2,895,869	2,895,869	—	—
Elementary School	750	Student	15.8	62,703	103,303	103,303	—	—
Other Asphalt Surfaces	14.6	Acre	14.6	0.00	95,527	—	—	—
Parking Lot	21.7	Acre	21.7	0.00	141,722	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	17.6	16.0	84.3	148	0.17	3.29	17.1	20.4	3.04	4.13	7.01	—	27,764	27,764	1.21	1.25	47.2	28,213
2025	16.2	15.0	76.8	140	0.17	2.87	17.1	20.0	2.64	3.98	6.62	—	27,500	27,500	1.18	1.21	44.3	27,935
2026	13.4	11.9	57.3	114	0.14	1.95	15.3	17.3	1.80	3.79	5.59	—	24,027	24,027	1.05	1.17	39.5	24,440
2027	9.13	8.09	28.3	80.4	0.08	0.74	9.96	10.7	0.69	2.17	2.85	—	16,955	16,955	0.75	1.09	35.1	17,335
2028	8.49	7.69	26.8	76.2	0.08	0.67	9.96	10.6	0.62	2.17	2.79	—	16,692	16,692	0.71	1.03	31.4	17,048
2029	8.02	7.23	25.6	72.3	0.08	0.62	9.96	10.6	0.58	2.17	2.74	—	16,425	16,425	0.49	1.03	27.9	16,772
2030	7.43	6.87	24.7	68.9	0.08	0.59	9.96	10.6	0.55	2.17	2.71	—	16,163	16,163	0.49	0.99	24.7	16,496
2031	7.06	6.29	23.7	65.5	0.08	0.55	9.96	10.5	0.52	2.17	2.68	—	15,905	15,905	0.43	0.99	21.8	16,233
2032	6.66	5.90	22.8	62.6	0.08	0.52	9.96	10.5	0.45	2.17	2.61	—	15,655	15,655	0.43	0.96	19.1	15,971

2033	7.25	58.5	23.4	67.7	0.08	0.45	13.0	13.5	0.42	2.67	3.08	—	16,981	16,981	0.44	0.74	19.1	17,230
2034	0.82	52.8	1.21	7.21	< 0.005	0.01	3.08	3.08	0.01	0.50	0.51	—	1,534	1,534	0.04	0.03	2.18	1,546
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	16.6	14.9	86.0	133	0.17	3.29	17.1	20.4	3.04	4.13	7.01	—	26,824	26,824	1.33	1.25	1.22	27,230
2025	15.3	14.0	78.2	127	0.17	2.87	17.1	20.0	2.64	3.98	6.62	—	26,584	26,584	1.30	1.21	1.15	26,978
2026	12.6	10.9	58.8	101	0.14	1.95	15.3	17.3	1.80	3.79	5.59	—	23,143	23,143	1.13	1.17	1.03	23,520
2027	8.21	7.33	29.5	69.1	0.08	0.74	9.96	10.7	0.69	2.17	2.85	—	16,105	16,105	0.61	1.09	0.91	16,447
2028	7.83	7.00	28.0	65.9	0.08	0.67	9.96	10.6	0.62	2.17	2.79	—	15,861	15,861	0.58	1.06	0.82	16,192
2029	7.22	6.59	26.6	63.0	0.08	0.62	9.96	10.6	0.58	2.17	2.74	—	15,612	15,612	0.58	1.06	0.72	15,943
2030	6.88	6.29	25.7	60.1	0.08	0.59	9.96	10.6	0.55	2.17	2.71	—	15,367	15,367	0.55	1.03	0.64	15,687
2031	6.54	5.74	24.7	57.5	0.08	0.55	9.96	10.5	0.52	2.17	2.68	—	15,125	15,125	0.49	1.00	0.57	15,435
2032	6.20	5.44	23.7	55.1	0.08	0.52	9.96	10.5	0.45	2.17	2.61	—	14,890	14,890	0.49	0.96	0.50	15,188
2033	6.53	58.0	24.2	59.4	0.08	0.45	13.0	13.5	0.42	2.67	3.08	—	16,076	16,076	0.51	1.00	0.50	16,387
2034	0.76	52.7	1.28	5.91	< 0.005	0.01	3.08	3.08	0.01	0.50	0.51	—	1,385	1,385	0.05	0.07	0.06	1,408
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	6.00	5.29	37.2	47.3	0.06	1.54	8.38	9.92	1.42	2.92	4.34	—	8,860	8,860	0.40	0.31	4.76	8,969
2025	10.0	8.99	48.1	81.6	0.11	1.71	11.1	12.8	1.57	2.71	4.28	—	17,606	17,606	0.82	0.84	13.5	17,891
2026	7.62	6.81	31.0	62.5	0.08	0.96	8.71	9.67	0.89	2.06	2.95	—	14,113	14,113	0.67	0.81	12.1	14,382
2027	5.93	5.31	20.8	50.4	0.06	0.53	6.96	7.49	0.49	1.52	2.01	—	11,676	11,676	0.55	0.78	10.8	11,933
2028	5.67	5.08	19.6	48.1	0.06	0.48	6.97	7.45	0.44	1.52	1.97	—	11,530	11,530	0.39	0.76	9.72	11,775
2029	5.36	4.78	18.6	45.6	0.06	0.44	6.96	7.40	0.41	1.52	1.93	—	11,317	11,317	0.37	0.74	8.60	11,554
2030	4.96	4.54	18.1	43.7	0.06	0.42	6.96	7.38	0.39	1.52	1.91	—	11,138	11,138	0.37	0.71	7.65	11,368
2031	4.69	4.15	17.3	41.7	0.06	0.40	6.96	7.35	0.37	1.52	1.89	—	10,962	10,962	0.33	0.71	6.74	11,188
2032	4.48	3.94	16.7	40.1	0.06	0.37	6.97	7.34	0.32	1.52	1.84	—	10,821	10,821	0.33	0.69	5.91	11,040
2033	3.17	40.0	10.4	27.5	0.04	0.19	6.24	6.44	0.18	1.25	1.43	—	7,356	7,356	0.21	0.45	3.81	7,497
2034	0.15	10.0	0.24	1.15	< 0.005	< 0.005	0.56	0.56	< 0.005	0.09	0.09	—	271	271	0.01	0.01	0.18	273

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.09	0.96	6.79	8.64	0.01	0.28	1.53	1.81	0.26	0.53	0.79	—	1,467	1,467	0.07	0.05	0.79	1,485
2025	1.83	1.64	8.77	14.9	0.02	0.31	2.02	2.33	0.29	0.49	0.78	—	2,915	2,915	0.14	0.14	2.24	2,962
2026	1.39	1.24	5.65	11.4	0.01	0.18	1.59	1.76	0.16	0.38	0.54	—	2,337	2,337	0.11	0.13	2.01	2,381
2027	1.08	0.97	3.79	9.19	0.01	0.10	1.27	1.37	0.09	0.28	0.37	—	1,933	1,933	0.09	0.13	1.79	1,976
2028	1.04	0.93	3.57	8.77	0.01	0.09	1.27	1.36	0.08	0.28	0.36	—	1,909	1,909	0.07	0.13	1.61	1,950
2029	0.98	0.87	3.40	8.33	0.01	0.08	1.27	1.35	0.07	0.28	0.35	—	1,874	1,874	0.06	0.12	1.42	1,913
2030	0.90	0.83	3.29	7.98	0.01	0.08	1.27	1.35	0.07	0.28	0.35	—	1,844	1,844	0.06	0.12	1.27	1,882
2031	0.86	0.76	3.16	7.60	0.01	0.07	1.27	1.34	0.07	0.28	0.34	—	1,815	1,815	0.05	0.12	1.12	1,852
2032	0.82	0.72	3.04	7.31	0.01	0.07	1.27	1.34	0.06	0.28	0.34	—	1,792	1,792	0.05	0.11	0.98	1,828
2033	0.58	7.29	1.90	5.02	0.01	0.04	1.14	1.17	0.03	0.23	0.26	—	1,218	1,218	0.04	0.07	0.63	1,241
2034	0.03	1.83	0.04	0.21	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.02	—	44.9	44.9	< 0.005	< 0.005	0.03	45.2

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	77.6	71.5	63.9	685	1.27	0.90	111	111	0.85	28.0	28.9	—	130,547	130,547	6.08	6.25	491	133,052
Area	13.3	75.8	17.9	125	0.11	1.42	—	1.42	1.41	—	1.41	0.00	21,637	21,637	0.41	0.04	—	21,661
Energy	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	34,193	34,193	2.53	0.17	—	34,307
Water	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Waste	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Total	92.3	148	94.0	815	1.46	3.31	111	114	3.23	28.0	31.2	1,131	187,650	188,781	123	6.88	510	194,406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	67.9	61.5	75.1	537	1.15	0.91	111	111	0.85	28.0	28.9	—	117,698	117,698	6.88	6.82	12.7	119,913
Area	1.97	65.0	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341
Energy	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	34,193	34,193	2.53	0.17	—	34,307
Water	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Waste	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Total	71.3	127	104	549	1.33	3.25	111	114	3.19	28.0	31.2	1,131	174,482	175,613	123	7.45	31.8	180,948
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	64.2	58.5	64.5	516	1.10	0.84	101	102	0.79	25.6	26.4	—	112,493	112,493	5.97	6.04	197	114,640
Area	6.05	69.5	4.34	59.5	0.03	0.34	—	0.34	0.33	—	0.33	0.00	4,947	4,947	0.10	0.01	—	4,952
Energy	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	34,193	34,193	2.53	0.17	—	34,307
Water	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Waste	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Total	71.7	129	81.1	580	1.20	2.16	101	103	2.10	25.6	27.7	1,131	152,905	154,036	122	6.65	216	159,286
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.7	10.7	11.8	94.1	0.20	0.15	18.4	18.6	0.14	4.67	4.81	—	18,624	18,624	0.99	1.00	32.5	18,980
Area	1.10	12.7	0.79	10.9	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	819	819	0.02	< 0.005	—	820
Energy	0.26	0.13	2.22	0.98	0.01	0.18	—	0.18	0.18	—	0.18	—	5,661	5,661	0.42	0.03	—	5,680
Water	—	—	—	—	—	—	—	—	—	—	—	27.9	211	239	2.88	0.07	—	331
Waste	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	557
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	13.1	23.5	14.8	106	0.22	0.39	18.4	18.8	0.38	4.67	5.05	187	25,315	25,502	20.2	1.10	35.7	26,372

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.68	7.68	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.68	7.68	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.14	1.80	17.7	16.2	0.02	0.79	—	0.79	0.73	—	0.73	—	2,612	2,612	0.11	0.02	—	2,621
Dust From Material Movement	—	—	—	—	—	—	3.79	3.79	—	1.94	1.94	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.76	0.76	< 0.005	0.08	0.08	—	7.07	7.07	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.33	3.24	2.96	< 0.005	0.14	—	0.14	0.13	—	0.13	—	432	432	0.02	< 0.005	—	434
Dust From Material Movement	—	—	—	—	—	—	0.69	0.69	—	0.35	0.35	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	1.17	1.17	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.06	0.91	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.44	—
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.23	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.4	95.4	0.01	< 0.005	0.01	—
Vendor	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.5	87.5	< 0.005	0.01	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.36	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.8	48.8	< 0.005	< 0.005	0.09	—
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.1	43.1	< 0.005	0.01	0.05	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.08	8.08	< 0.005	< 0.005	0.02	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.14	7.14	< 0.005	< 0.005	0.01	—

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	—

3.3. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.78	6.85	0.01	0.33	—	0.33	0.30	—	0.30	—	1,498	1,498	0.06	0.01	—	1,503

Dust From Material Movement	—	—	—	—	—	—	0.81	0.81	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	3.26	3.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	1.42	1.25	< 0.005	0.06	—	0.06	0.06	—	0.06	—	248	248	0.01	< 0.005	—	249
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.54	0.54	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.07	1.04	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	123	123	0.01	0.01	0.50	—
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.23	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	0.01	0.01	0.01	—
Vendor	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.5	87.5	< 0.005	0.01	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.19	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.9	19.9	< 0.005	< 0.005	0.02	—
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	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.25	4.25	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.29	3.29	< 0.005	< 0.005	< 0.005	—
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	—

3.5. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
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	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.72	2.28	21.2	20.2	0.04	0.88	—	0.88	0.81	—	0.81	—	4,713	4,713	0.19	0.04	—	4,730
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	10.1	10.1	< 0.005	< 0.005	0.01	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.87	3.69	0.01	0.16	—	0.16	0.15	—	0.15	—	780	780	0.03	0.01	—	783
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.66	1.66	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.06	0.95	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	121	121	0.01	0.01	0.46	—
Vendor	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	85.9	85.9	< 0.005	0.01	0.23	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.07	0.75	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	107	107	0.01	0.01	0.01	—
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	86.0	86.0	< 0.005	0.01	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.55	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.1	79.1	0.01	< 0.005	0.14	—

Vendor	< 0.005	< 0.005	0.09	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.4	61.4	< 0.005	0.01	0.07	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	—
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	—

3.7. Grading (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.7	13.7	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.21	1.01	9.06	9.17	0.02	0.37	—	0.37	0.34	—	0.34	—	2,195	2,195	0.09	0.02	—	2,203
Dust From Material Movement	—	—	—	—	—	—	1.19	1.19	—	0.47	0.47	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	4.59	4.59	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.65	1.67	< 0.005	0.07	—	0.07	0.06	—	0.06	—	363	363	0.01	< 0.005	—	365
Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.05	0.88	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	118	118	0.01	0.01	0.42	—
Vendor	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	84.4	84.4	< 0.005	0.01	0.21	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.69	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	105	105	0.01	0.01	0.01	—
Vendor	< 0.005	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	84.5	84.5	< 0.005	0.01	0.01	—

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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.1	36.1	< 0.005	< 0.005	0.06	—
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.1	28.1	< 0.005	< 0.005	0.03	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.97	5.97	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.65	4.65	< 0.005	< 0.005	< 0.005	—
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	—

3.9. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.87	2.41	22.4	26.2	0.05	1.00	—	1.00	0.92	—	0.92	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.87	2.41	22.4	26.2	0.05	1.00	—	1.00	0.92	—	0.92	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.65	0.55	5.09	5.95	0.01	0.23	—	0.23	0.21	—	0.21	—	1,089	1,089	0.04	0.01	—	1,092
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	3.26	3.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.93	1.09	< 0.005	0.04	—	0.04	0.04	—	0.04	—	180	180	0.01	< 0.005	—	181
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.54	0.54	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	7.95	7.37	4.23	67.1	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,957	7,957	0.50	0.33	32.6	—
Vendor	0.33	0.22	7.17	2.64	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,957	4,957	0.10	0.75	13.2	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.98	6.35	5.31	52.6	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,037	7,037	0.62	0.33	0.84	—
Vendor	0.31	0.21	7.66	2.72	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,962	4,962	0.10	0.75	0.34	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.62	1.49	1.07	12.3	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,657	1,657	0.13	0.08	3.19	—
Vendor	0.07	0.05	1.70	0.61	0.01	0.02	0.29	0.31	0.02	0.08	0.10	—	1,126	1,126	0.02	0.17	1.29	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.20	2.25	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	274	274	0.02	0.01	0.53	—
Vendor	0.01	0.01	0.31	0.11	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	186	186	< 0.005	0.03	0.21	—
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	—

3.11. 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	2.69	2.25	20.9	26.1	0.05	0.86	—	0.86	0.79	—	0.79	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.69	2.25	20.9	26.1	0.05	0.86	—	0.86	0.79	—	0.79	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.92	1.61	14.9	18.6	0.03	0.62	—	0.62	0.57	—	0.57	—	3,425	3,425	0.14	0.03	—	3,437
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	10.1	10.1	< 0.005	< 0.005	0.01	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.72	3.40	0.01	0.11	—	0.11	0.10	—	0.10	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.66	1.66	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	7.28	6.94	3.93	61.5	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,786	7,786	0.48	0.33	29.8	—
Vendor	0.33	0.19	6.88	2.53	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,872	4,872	0.10	0.72	13.2	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.39	6.00	4.78	48.2	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,888	6,888	0.59	0.33	0.77	—
Vendor	0.31	0.17	7.30	2.59	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,877	4,877	0.10	0.72	0.34	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.65	4.39	3.18	35.6	0.00	0.00	4.94	4.94	0.00	1.16	1.16	—	5,103	5,103	0.38	0.24	9.17	—
Vendor	0.23	0.13	5.12	1.83	0.02	0.05	0.91	0.96	0.05	0.25	0.30	—	3,481	3,481	0.07	0.51	4.06	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.85	0.80	0.58	6.50	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	845	845	0.06	0.04	1.52	—
Vendor	0.04	0.02	0.93	0.33	< 0.005	0.01	0.17	0.18	0.01	0.05	0.05	—	576	576	0.01	0.09	0.67	—
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	—

3.13. Building Construction (2026) - Unmitigated

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

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

Off-Road Equipment	2.56	2.14	19.7	25.9	0.05	0.76	—	0.76	0.70	—	0.70	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.7	13.7	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.56	2.14	19.7	25.9	0.05	0.76	—	0.76	0.70	—	0.70	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.83	1.53	14.1	18.5	0.03	0.54	—	0.54	0.50	—	0.50	—	3,425	3,425	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.86	9.86	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.28	2.57	3.38	0.01	0.10	—	0.10	0.09	—	0.09	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.63	1.63	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.79	6.46	3.43	56.7	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,621	7,621	0.48	0.33	27.1	—
Vendor	0.30	0.19	6.58	2.41	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,783	4,783	0.10	0.72	11.8	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.02	5.44	4.48	44.5	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,745	6,745	0.56	0.33	0.70	—

Vendor	0.28	0.17	7.01	2.50	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,788	4,788	0.10	0.72	0.31	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.34	4.11	2.81	32.8	0.00	0.00	4.94	4.94	0.00	1.16	1.16	—	4,996	4,996	0.36	0.24	8.37	—
Vendor	0.20	0.13	4.88	1.75	0.02	0.05	0.91	0.96	0.05	0.25	0.30	—	3,418	3,418	0.07	0.51	3.65	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.75	0.51	5.98	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	827	827	0.06	0.04	1.39	—
Vendor	0.04	0.02	0.89	0.32	< 0.005	0.01	0.17	0.18	0.01	0.05	0.05	—	566	566	0.01	0.09	0.60	—
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	—

3.15. Building Construction (2027) - 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	2.46	2.06	18.8	25.9	0.05	0.67	—	0.67	0.62	—	0.62	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.5	13.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.06	18.8	25.9	0.05	0.67	—	0.67	0.62	—	0.62	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.6	13.6	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.76	1.47	13.4	18.5	0.03	0.48	—	0.48	0.44	—	0.44	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.66	9.66	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.45	3.37	0.01	0.09	—	0.09	0.08	—	0.08	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.60	1.60	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.37	5.84	3.16	52.1	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,465	7,465	0.45	0.33	24.6	—
Vendor	0.30	0.18	6.28	2.33	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,683	4,683	0.10	0.72	10.5	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.46	5.10	3.96	40.8	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,609	6,609	0.31	0.33	0.64	—
Vendor	0.28	0.17	6.71	2.41	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,688	4,688	0.10	0.72	0.27	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.96	3.71	2.61	30.2	0.00	0.00	4.94	4.94	0.00	1.16	1.16	—	4,895	4,895	0.34	0.24	7.58	—
Vendor	0.20	0.13	4.69	1.69	0.02	0.05	0.91	0.96	0.05	0.25	0.30	—	3,347	3,347	0.07	0.51	3.22	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72	0.68	0.48	5.50	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	810	810	0.06	0.04	1.26	—

Vendor	0.04	0.02	0.86	0.31	< 0.005	0.01	0.17	0.18	0.01	0.05	0.05	—	554	554	0.01	0.09	0.53	—
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	—

3.17. Building Construction (2028) - 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	2.37	1.98	17.8	25.9	0.05	0.60	—	0.60	0.55	—	0.55	—	4,795	4,795	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.2	13.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.37	1.98	17.8	25.9	0.05	0.60	—	0.60	0.55	—	0.55	—	4,795	4,795	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.3	13.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.8	18.5	0.03	0.43	—	0.43	0.40	—	0.40	—	3,434	3,434	0.14	0.03	—	3,446
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	9.49	9.49	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.33	3.38	0.01	0.08	—	0.08	0.07	—	0.07	—	569	569	0.02	< 0.005	—	571
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.57	1.57	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.53	2.85	48.0	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,315	7,315	0.42	0.30	22.2	—
Vendor	0.29	0.18	6.04	2.24	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,569	4,569	0.10	0.69	9.24	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.18	4.85	3.68	37.7	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,478	6,478	0.28	0.33	0.58	—
Vendor	0.28	0.16	6.44	2.33	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,575	4,575	0.10	0.69	0.24	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.77	3.53	2.24	27.9	0.00	0.00	4.95	4.95	0.00	1.16	1.16	—	4,811	4,811	0.18	0.24	6.86	—
Vendor	0.20	0.12	4.51	1.63	0.02	0.05	0.91	0.96	0.05	0.25	0.30	—	3,274	3,274	0.07	0.49	2.85	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.64	0.41	5.08	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	797	797	0.03	0.04	1.14	—
Vendor	0.04	0.02	0.82	0.30	< 0.005	0.01	0.17	0.18	0.01	0.05	0.06	—	542	542	0.01	0.08	0.47	—
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	—

3.19. Building Construction (2029) - 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	2.31	1.93	17.2	25.8	0.05	0.55	—	0.55	0.51	—	0.51	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.9	12.9	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.2	25.8	0.05	0.55	—	0.55	0.51	—	0.51	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.1	13.1	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	1.38	12.3	18.4	0.03	0.39	—	0.39	0.36	—	0.36	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.26	9.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.25	2.24	3.36	0.01	0.07	—	0.07	0.07	—	0.07	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.53	1.53	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.46	5.16	2.61	44.3	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,173	7,173	0.20	0.30	19.9	—
Vendor	0.25	0.14	5.80	2.20	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,446	4,446	0.10	0.69	8.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.68	4.53	3.19	34.9	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,354	6,354	0.28	0.33	0.52	—

Vendor	0.23	0.12	6.16	2.28	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,451	4,451	0.10	0.69	0.21	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.54	3.30	2.04	25.6	0.00	0.00	4.94	4.94	0.00	1.16	1.16	—	4,706	4,706	0.16	0.22	6.13	—
Vendor	0.17	0.10	4.30	1.59	0.02	0.05	0.91	0.96	0.05	0.25	0.30	—	3,177	3,177	0.07	0.49	2.47	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.60	0.37	4.67	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	779	779	0.03	0.04	1.01	—
Vendor	0.03	0.02	0.78	0.29	< 0.005	0.01	0.17	0.18	0.01	0.05	0.05	—	526	526	0.01	0.08	0.41	—
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	—

3.21. Building Construction (2030) - 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	2.25	1.88	16.8	25.8	0.05	0.52	—	0.52	0.48	—	0.48	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.25	1.88	16.8	25.8	0.05	0.52	—	0.52	0.48	—	0.48	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.8	12.8	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.61	1.34	12.0	18.4	0.03	0.37	—	0.37	0.34	—	0.34	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.08	9.08	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.25	2.19	3.36	0.01	0.07	—	0.07	0.06	—	0.06	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.50	1.50	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.93	4.85	2.33	41.0	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	7,041	7,041	0.20	0.30	17.7	—
Vendor	0.25	0.14	5.56	2.12	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,316	4,316	0.10	0.65	7.00	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.39	4.28	2.91	32.1	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,240	6,240	0.26	0.33	0.46	—
Vendor	0.23	0.12	5.96	2.20	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,321	4,321	0.10	0.65	0.18	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.18	3.10	1.86	23.8	0.00	0.00	4.94	4.94	0.00	1.16	1.16	—	4,621	4,621	0.16	0.22	5.48	—
Vendor	0.17	0.10	4.15	1.54	0.02	0.05	0.91	0.96	0.05	0.25	0.30	—	3,084	3,084	0.07	0.47	2.16	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.57	0.34	4.34	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	765	765	0.03	0.04	0.91	—

Vendor	0.03	0.02	0.76	0.28	< 0.005	0.01	0.17	0.18	0.01	0.05	0.05	—	511	511	0.01	0.08	0.36	—
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	—

3.23. Building Construction (2031) - 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	2.20	1.84	16.2	25.7	0.05	0.49	—	0.49	0.45	—	0.45	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.4	12.4	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.20	1.84	16.2	25.7	0.05	0.49	—	0.49	0.45	—	0.45	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.57	1.31	11.6	18.4	0.03	0.35	—	0.35	0.32	—	0.32	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.90	8.90	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.12	3.35	0.01	0.06	—	0.06	0.06	—	0.06	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.47	1.47	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.62	4.32	2.05	37.7	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,920	6,920	0.17	0.30	15.7	—
Vendor	0.24	0.13	5.38	2.08	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,179	4,179	0.06	0.65	6.08	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.11	3.77	2.63	29.6	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,134	6,134	0.23	0.30	0.41	—
Vendor	0.23	0.12	5.72	2.15	0.03	0.07	1.29	1.36	0.07	0.36	0.43	—	4,184	4,184	0.06	0.65	0.16	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.95	2.74	1.66	21.8	0.00	0.00	4.94	4.94	0.00	1.16	1.16	—	4,543	4,543	0.14	0.22	4.85	—
Vendor	0.17	0.10	3.98	1.51	0.02	0.05	0.91	0.96	0.05	0.25	0.30	—	2,986	2,986	0.05	0.46	1.88	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.50	0.30	3.97	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	752	752	0.02	0.04	0.80	—
Vendor	0.03	0.02	0.73	0.28	< 0.005	0.01	0.17	0.18	0.01	0.05	0.05	—	494	494	0.01	0.08	0.31	—
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	—

3.25. Building Construction (2032) - 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	2.14	1.79	15.7	25.6	0.05	0.45	—	0.45	0.41	—	0.41	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.2	12.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.14	1.79	15.7	25.6	0.05	0.45	—	0.45	0.41	—	0.41	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.3	12.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.53	1.28	11.3	18.3	0.03	0.32	—	0.32	0.30	—	0.30	—	3,433	3,433	0.14	0.03	—	3,445
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	8.76	8.76	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.06	3.34	0.01	0.06	—	0.06	0.05	—	0.05	—	568	568	0.02	< 0.005	—	570
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.45	1.45	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.28	3.97	1.81	34.9	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,805	6,805	0.17	0.30	13.9	—
Vendor	0.24	0.13	5.18	2.04	0.03	0.07	1.29	1.36	0.03	0.36	0.39	—	4,045	4,045	0.06	0.61	5.25	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.82	3.52	2.36	27.4	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,033	6,033	0.23	0.30	0.36	—

Vendor	0.23	0.12	5.51	2.11	0.03	0.07	1.29	1.36	0.03	0.36	0.39	—	4,051	4,051	0.06	0.61	0.14	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.78	2.56	1.47	20.2	0.00	0.00	4.95	4.95	0.00	1.16	1.16	—	4,480	4,480	0.14	0.22	4.28	—
Vendor	0.17	0.10	3.87	1.49	0.02	0.05	0.91	0.96	0.02	0.25	0.28	—	2,899	2,899	0.05	0.44	1.62	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.47	0.27	3.69	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	742	742	0.02	0.04	0.71	—
Vendor	0.03	0.02	0.71	0.27	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	480	480	0.01	0.07	0.27	—
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	—

3.27. Building Construction (2033) - 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	2.10	1.75	15.3	25.6	0.05	0.41	—	0.41	0.37	—	0.37	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.0	12.0	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.10	1.75	15.3	25.6	0.05	0.41	—	0.41	0.37	—	0.37	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.1	12.1	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	0.74	6.51	10.9	0.02	0.17	—	0.17	0.16	—	0.16	—	2,036	2,036	0.08	0.02	—	2,043
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	5.11	5.11	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.19	1.98	< 0.005	0.03	—	0.03	0.03	—	0.03	—	337	337	0.01	< 0.005	—	338
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	0.85	0.85	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.02	3.75	1.75	32.4	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	6,702	6,702	0.14	0.09	12.2	—
Vendor	0.21	0.14	5.01	2.01	0.03	0.03	1.29	1.33	0.03	0.36	0.39	—	3,918	3,918	0.06	0.58	4.46	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.43	3.35	2.08	25.5	0.00	0.00	7.02	7.02	0.00	1.65	1.65	—	5,943	5,943	0.20	0.30	0.32	—
Vendor	0.19	0.12	5.35	2.07	0.03	0.03	1.29	1.33	0.03	0.36	0.39	—	3,924	3,924	0.06	0.58	0.12	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.58	1.45	0.77	11.2	0.00	0.00	2.94	2.94	0.00	0.69	0.69	—	2,616	2,616	0.07	0.13	2.22	—
Vendor	0.09	0.06	2.21	0.86	0.01	0.01	0.54	0.56	0.01	0.15	0.16	—	1,665	1,665	0.03	0.25	0.82	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.14	2.04	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	433	433	0.01	0.02	0.37	—

Vendor	0.02	0.01	0.40	0.16	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	276	276	< 0.005	0.04	0.14	—
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	—

3.29. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	1.70	15.6	20.1	0.03	0.78	—	0.78	0.72	—	0.72	—	3,023	3,023	0.12	0.02	—	3,034
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	1.70	15.6	20.1	0.03	0.78	—	0.78	0.72	—	0.72	—	3,023	3,023	0.12	0.02	—	3,034
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.55	4.55	0.01	0.18	—	0.18	0.16	—	0.16	—	686	686	0.03	0.01	—	689
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	3.26	3.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.07	0.65	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.54	0.54	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	—
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.23	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.61	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.8	81.8	0.01	< 0.005	0.01	—
Vendor	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.5	87.5	< 0.005	0.01	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	0.04	—
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.9	19.9	< 0.005	< 0.005	0.02	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.19	3.19	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.29	3.29	< 0.005	< 0.005	< 0.005	—
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	—

3.31. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.60	14.9	20.0	0.03	0.70	—	0.70	0.64	—	0.64	—	3,023	3,023	0.12	0.02	—	3,033
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.60	14.9	20.0	0.03	0.70	—	0.70	0.64	—	0.64	—	3,023	3,023	0.12	0.02	—	3,033
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.36	3.36	4.49	0.01	0.16	—	0.16	0.14	—	0.14	—	680	680	0.03	0.01	—	683
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.03	—	3.17	3.17	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.61	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	113	113	< 0.005	< 0.005	—	113
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.52	0.52	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.71	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	90.5	90.5	0.01	< 0.005	0.35	—
Vendor	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	85.9	85.9	< 0.005	0.01	0.23	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.56	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.1	80.1	0.01	< 0.005	0.01	—
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	86.0	86.0	< 0.005	0.01	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.13	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.03	—
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.4	19.4	< 0.005	< 0.005	0.02	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.09	3.09	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.20	3.20	< 0.005	< 0.005	< 0.005	—
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	—

3.33. Architectural Coating (2033) - Unmitigated

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

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

Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.0	12.0	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.1	12.1	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.55	0.79	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	—	37.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.59	8.59	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	—	6.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.42	1.42	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.80	0.75	0.35	6.48	0.00	0.00	1.40	1.40	0.00	0.33	0.33	—	1,340	1,340	0.03	0.02	2.43	—
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69.1	69.1	< 0.005	0.01	0.08	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.67	0.42	5.10	0.00	0.00	1.40	1.40	0.00	0.33	0.33	—	1,189	1,189	0.04	0.06	0.06	—
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	69.2	69.2	< 0.005	0.01	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.49	0.26	3.76	0.00	0.00	0.99	0.99	0.00	0.23	0.23	—	880	880	0.02	0.04	0.75	—
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	49.4	49.4	< 0.005	0.01	0.02	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.05	0.69	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	146	146	< 0.005	0.01	0.12	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.18	8.18	< 0.005	< 0.005	< 0.005	—
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	—

3.35. Architectural Coating (2034) - Unmitigated

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

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

Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.8	11.8	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.9	11.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.3	25.3	< 0.005	< 0.005	—	25.4
Architectural Coatings	—	9.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.25	2.25	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.20	4.20	< 0.005	< 0.005	—	4.21
Architectural Coatings	—	1.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	0.37	0.37	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.69	0.30	6.03	0.00	0.00	1.40	1.40	0.00	0.33	0.33	—	1,322	1,322	0.03	0.02	2.11	—
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	67.0	67.0	< 0.005	0.01	0.07	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64	0.62	0.37	4.72	0.00	0.00	1.40	1.40	0.00	0.33	0.33	—	1,172	1,172	0.04	0.06	0.05	—
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	67.1	67.1	< 0.005	0.01	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.07	0.92	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	231	231	0.01	< 0.005	0.17	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.03	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.11	2.11	< 0.005	< 0.005	< 0.005	—
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	—

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	23.1	21.3	18.9	209	0.38	0.26	33.7	33.9	0.25	8.53	8.77	—	39,442	39,442	1.85	1.88	148	40,196
Apartments Low Rise	45.3	41.7	37.0	410	0.75	0.52	66.0	66.5	0.48	16.7	17.2	—	77,314	77,314	3.63	3.69	289	78,792
City Park	0.72	0.67	0.63	5.17	0.01	0.01	0.86	0.87	0.01	0.22	0.23	—	1,086	1,086	0.05	0.05	4.27	1,108
Elementary School	8.41	7.85	7.36	60.4	0.12	0.12	10.1	10.2	0.11	2.56	2.67	—	12,705	12,705	0.55	0.63	50.0	12,955
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	77.6	71.5	63.9	685	1.27	0.90	111	111	0.85	28.0	28.9	—	130,547	130,547	6.08	6.25	491	133,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	20.2	18.3	22.3	163	0.35	0.26	33.7	33.9	0.25	8.53	8.77	—	35,496	35,496	2.09	2.05	3.83	36,164
Apartments Low Rise	39.6	35.8	43.6	319	0.68	0.52	66.0	66.5	0.48	16.7	17.2	—	69,578	69,578	4.11	4.03	7.50	70,888
City Park	0.64	0.59	0.72	4.33	0.01	0.01	0.86	0.87	0.01	0.22	0.23	—	994	994	0.05	0.06	0.11	1,013
Elementary School	7.48	6.90	8.46	50.7	0.11	0.12	10.1	10.2	0.11	2.56	2.67	—	11,629	11,629	0.63	0.68	1.30	11,848
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	67.9	61.5	75.1	537	1.15	0.91	111	111	0.85	28.0	28.9	—	117,698	117,698	6.88	6.82	12.7	119,913
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.69	3.36	3.69	30.3	0.06	0.05	5.94	5.99	0.04	1.50	1.55	—	5,950	5,950	0.32	0.32	10.3	6,063
Apartments Low Rise	6.58	5.98	6.58	54.0	0.11	0.08	10.6	10.7	0.08	2.68	2.76	—	10,609	10,609	0.57	0.57	18.5	10,812
City Park	0.06	0.06	0.07	0.42	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	88.8	88.8	< 0.005	< 0.005	0.16	90.6
Elementary School	1.39	1.28	1.45	9.37	0.02	0.02	1.81	1.83	0.02	0.46	0.48	—	1,976	1,976	0.10	0.11	3.57	2,014
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	11.7	10.7	11.8	94.1	0.20	0.15	18.4	18.6	0.14	4.67	4.81	—	18,624	18,624	0.99	1.00	32.5	18,980

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	6,981	6,981	0.43	0.05	—	7,008

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	9,984	9,984	0.62	0.08	—	10,022
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Element ary School	—	—	—	—	—	—	—	—	—	—	—	—	603	603	0.04	< 0.005	—	605
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,206	1,206	0.07	0.01	—	1,211
Total	—	—	—	—	—	—	—	—	—	—	—	—	18,774	18,774	1.16	0.14	—	18,846
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	6,981	6,981	0.43	0.05	—	7,008
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	9,984	9,984	0.62	0.08	—	10,022
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Element ary School	—	—	—	—	—	—	—	—	—	—	—	—	603	603	0.04	< 0.005	—	605
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,206	1,206	0.07	0.01	—	1,211
Total	—	—	—	—	—	—	—	—	—	—	—	—	18,774	18,774	1.16	0.14	—	18,846
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,156	1,156	0.07	0.01	—	1,160

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,653	1,653	0.10	0.01	—	1,659
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	99.8	99.8	0.01	< 0.005	—	100
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	200	200	0.01	< 0.005	—	200
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,108	3,108	0.19	0.02	—	3,120

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.58	0.29	4.97	2.11	0.03	0.40	—	0.40	0.40	—	0.40	—	6,307	6,307	0.56	0.01	—	6,324
Apartments Low Rise	0.79	0.40	6.75	2.87	0.04	0.55	—	0.55	0.55	—	0.55	—	8,572	8,572	0.76	0.02	—	8,596
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	540	540	0.05	< 0.005	—	541
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	15,419	15,419	1.36	0.03	—	15,462
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.58	0.29	4.97	2.11	0.03	0.40	—	0.40	0.40	—	0.40	—	6,307	6,307	0.56	0.01	—	6,324
Apartments Low Rise	0.79	0.40	6.75	2.87	0.04	0.55	—	0.55	0.55	—	0.55	—	8,572	8,572	0.76	0.02	—	8,596
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	540	540	0.05	< 0.005	—	541
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	15,419	15,419	1.36	0.03	—	15,462
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.05	0.91	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,044	1,044	0.09	< 0.005	—	1,047
Apartments Low Rise	0.14	0.07	1.23	0.52	0.01	0.10	—	0.10	0.10	—	0.10	—	1,419	1,419	0.13	< 0.005	—	1,423
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	89.3	89.3	0.01	< 0.005	—	89.6

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.26	0.13	2.22	0.98	0.01	0.18	—	0.18	0.18	—	0.18	—	2,553	2,553	0.23	< 0.005	—	2,560

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.97	0.98	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341
Consumer Products	—	59.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	11.4	10.8	1.15	117	0.01	0.06	—	0.06	0.05	—	0.05	—	318	318	0.01	< 0.005	—	320
Total	13.3	75.8	17.9	125	0.11	1.42	—	1.42	1.41	—	1.41	0.00	21,637	21,637	0.41	0.04	—	21,661
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.97	0.98	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341

Consumer Products	—	59.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.97	65.0	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.69	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	793	793	0.01	< 0.005	—	794
Consumer Products	—	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.02	0.97	0.10	10.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Total	1.10	12.7	0.79	10.9	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	819	819	0.02	< 0.005	—	820

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	44.0	524	568	4.54	0.11	—	715

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	386	507	12.5	0.30	—	908
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	328	328	0.02	< 0.005	—	329
Element ary School	—	—	—	—	—	—	—	—	—	—	—	3.48	22.1	25.6	0.36	0.01	—	37.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	4.86	4.86	< 0.005	< 0.005	—	4.88
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	7.21	7.21	< 0.005	< 0.005	—	7.24
Total	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	44.0	524	568	4.54	0.11	—	715
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	386	507	12.5	0.30	—	908
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	328	328	0.02	< 0.005	—	329
Element ary School	—	—	—	—	—	—	—	—	—	—	—	3.48	22.1	25.6	0.36	0.01	—	37.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	4.86	4.86	< 0.005	< 0.005	—	4.88
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	7.21	7.21	< 0.005	< 0.005	—	7.24
Total	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.28	86.8	94.1	0.75	0.02	—	118

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.1	64.0	84.0	2.06	0.05	—	150
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	54.2	54.2	< 0.005	< 0.005	—	54.4
Element ary School	—	—	—	—	—	—	—	—	—	—	—	0.58	3.66	4.24	0.06	< 0.005	—	6.15
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.80	0.80	< 0.005	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	1.19	1.19	< 0.005	< 0.005	—	1.20
Total	—	—	—	—	—	—	—	—	—	—	—	27.9	211	239	2.88	0.07	—	331

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	293	0.00	293	29.3	0.00	—	1,025
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	592	0.00	592	59.2	0.00	—	2,072
City Park	—	—	—	—	—	—	—	—	—	—	—	3.08	0.00	3.08	0.31	0.00	—	10.8
Element ary School	—	—	—	—	—	—	—	—	—	—	—	73.8	0.00	73.8	7.37	0.00	—	258

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	293	0.00	293	29.3	0.00	—	1,025
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	592	0.00	592	59.2	0.00	—	2,072
City Park	—	—	—	—	—	—	—	—	—	—	—	3.08	0.00	3.08	0.31	0.00	—	10.8
Elementary School	—	—	—	—	—	—	—	—	—	—	—	73.8	0.00	73.8	7.37	0.00	—	258
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.5	0.00	48.5	4.85	0.00	—	170
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	98.1	0.00	98.1	9.80	0.00	—	343
City Park	—	—	—	—	—	—	—	—	—	—	—	0.51	0.00	0.51	0.05	0.00	—	1.78

Elementary School	—	—	—	—	—	—	—	—	—	—	—	12.2	0.00	12.2	1.22	0.00	—	42.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	557

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.3	11.3
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.3	11.3
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.87	1.87
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	1/01/2024	9/6/2024	5.00	180	—
Grading	Grading	9/7/2024	6/19/2026	5.00	465	—
Building Construction	Building Construction	9/7/2024	8/5/2033	5.00	2,325	Halved duration to account for concurrent development
Paving	Paving	9/7/2024	4/25/2025	5.00	165	Halved duration to account for concurrent development
Architectural Coating	Architectural Coating	1/1/2033	4/7/2034	5.00	330	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	2.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	6.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	4.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	4.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	4.00	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	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	4.00	6.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	4.00	0.50	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,290	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	227	6.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	4.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	4.00	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	4.00	0.50	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	258	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	4.00	0.50	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	5,318,075	1,772,692	94,055	31,352	94,900

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	50,000	50,000	270	0.00	—
Grading	—	—	1,395	0.00	—
Paving	0.00	0.00	0.00	0.00	179,442

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	5.94	0%
Apartments Low Rise	—	0%
City Park	145,000	0%
Elementary School	34,400	0%
Other Asphalt Surfaces	14.6	100%
Parking Lot	21.7	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005
2029	0.00	532	0.03	< 0.005
2030	0.00	532	0.03	< 0.005
2031	0.00	532	0.03	< 0.005
2032	0.00	532	0.03	< 0.005
2033	0.00	532	0.03	< 0.005
2034	0.00	532	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
Single Family Housing	5,083	5,110	4,571	1,829,977	47,510	47,760	42,722	17,104,420
Apartments Low Rise	10,016	6,761	5,736	3,262,957	93,618	63,197	53,613	30,498,199
City Park	52.0	130	146	27,943	432	1,082	1,209	231,957
Elementary School	1,703	1,703	1,703	621,595	14,137	14,137	14,137	5,159,922
Other Asphalt Surfaces	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	270
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	270
Conventional Wood Stoves	0
Catalytic Wood Stoves	27

Non-Catalytic Wood Stoves	27
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	743
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	743
Conventional Wood Stoves	0
Catalytic Wood Stoves	74
Non-Catalytic Wood Stoves	74
Pellet Wood Stoves	0

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)
5318075.25	1,772,692	94,055	31,352	94,900

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)
Single Family Housing	4,789,802	532	0.0330	0.0040	19,679,429
Apartments Low Rise	6,850,371	532	0.0330	0.0040	26,748,148
City Park	0.00	532	0.0330	0.0040	0.00
Elementary School	413,525	532	0.0330	0.0040	1,683,691
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Parking Lot	827,659	532	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)
Single Family Housing	22,941,268	111,359,776
Apartments Low Rise	63,248,098	6,562,560
City Park	0.00	92,873,745
Elementary School	1,818,180	3,313,028
Other Asphalt Surfaces	0.00	1,378,647
Parking Lot	0.00	2,045,339

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	544	—
Apartments Low Rise	1,099	—
City Park	5.72	—
Elementary School	137	—

Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Elementary School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

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)

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on project description and traffic report. Run includes Low Density Residential, Medium Density Residential, High Density Residential, Public/Institutional, Parks, and portion of Right-of-Ways.
Construction: Construction Phases	Default phase durations. The SoTu Master Plan is intended to be a guiding document for future development. There are no individual projects proposed at this time.
Construction: Off-Road Equipment	Adjusted equipment to match CalEEMod default total HP hours (increased equipment in paving and building construction phases).
Construction: Paving	Added paved area for park and elementary school land uses (5%).
Operations: Vehicle Data	Trip generation rates adjusted to match rates from the Institute of Transportation Engineers (ITE) Manual, 11th Edition - consistent with the project-specific traffic study.
Operations: Hearths	SJVAPCD Rule 4901 - Woodburning No woodburning fireplaces or wood stoves
Operations: Fleet Mix	SJVAPCD-approved residential fleet mix for the 2025 operational year applied to residential land uses. The use of an earlier operational year provides a conservative estimate of emissions.

SoTu Master Plan - Commercial and Industrial Uses Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	SoTu Master Plan - Commercial and Industrial Uses
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.10
Precipitation (days)	23.0
Location	36.053553, -119.055397
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2736
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.17

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

General Office Building	762	1000sqft	17.5	761,700	114,255	—	—	—
Industrial Park	1,628	1000sqft	37.4	1,628,300	244,245	—	—	—
Regional Shopping Center	403	1000sqft	9.26	403,200	60,480	—	—	—
Supermarket	256	1000sqft	5.89	256,400	38,460	—	—	—
Strip Mall	135	1000sqft	3.09	134,800	20,220	—	—	—
Other Non-Asphalt Surfaces	8.53	Acre	8.53	0.00	55,726	—	—	—
Other Asphalt Surfaces	24.7	Acre	24.7	0.00	161,381	—	—	—
Parking Lot	92.2	Acre	92.2	0.00	602,428	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.66	3.86	41.9	35.3	0.08	1.68	10.6	12.3	1.56	4.45	6.01	—	10,000	10,000	0.32	0.77	11.4	10,249
2025	9.82	10.2	37.6	86.0	0.12	0.94	12.8	13.7	0.88	2.68	3.56	—	22,459	22,459	0.84	2.01	58.2	23,139
2026	8.19	7.42	28.2	70.4	0.10	0.54	11.1	11.6	0.50	2.49	3.00	—	20,400	20,400	0.77	1.98	51.9	21,063
2027	7.75	6.81	26.8	66.1	0.10	0.49	11.1	11.5	0.47	2.49	2.96	—	20,027	20,027	0.74	1.98	46.6	20,683
2028	7.19	6.47	25.5	62.2	0.10	0.46	11.1	11.5	0.43	2.49	2.93	—	19,628	19,628	0.71	1.88	41.6	20,247
2029	6.73	6.01	24.4	58.5	0.10	0.43	11.1	11.5	0.41	2.49	2.90	—	19,212	19,212	0.51	1.88	36.7	19,822

2030	6.21	5.70	23.4	55.3	0.10	0.42	11.1	11.5	0.40	2.49	2.89	—	18,792	18,792	0.51	1.79	32.4	19,370
2031	5.89	5.18	22.5	52.2	0.10	0.40	11.1	11.5	0.38	2.49	2.87	—	18,366	18,366	0.40	1.79	28.4	18,938
2032	5.55	4.85	21.5	49.5	0.10	0.38	11.1	11.4	0.28	2.49	2.78	—	17,952	17,952	0.40	1.71	24.8	18,497
2033	5.22	4.63	20.9	47.1	0.10	0.28	11.1	11.3	0.27	2.49	2.76	—	17,565	17,565	0.38	1.43	21.4	18,023
2034	4.74	4.36	20.2	45.0	0.10	0.27	11.1	11.3	0.26	2.49	2.75	—	17,202	17,202	0.38	1.43	18.3	17,656
2035	4.59	4.21	19.6	43.1	0.10	0.26	11.1	11.3	0.24	2.49	2.74	—	16,865	16,865	0.38	1.35	15.6	17,293
2036	5.10	78.7	20.0	47.4	0.10	0.25	14.0	14.3	0.24	2.97	3.21	—	17,950	17,950	0.38	1.38	14.6	18,386
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.64	3.84	42.4	35.2	0.08	1.68	10.6	12.3	1.56	4.45	6.01	—	9,991	9,991	0.32	0.77	0.30	10,228
2025	8.97	9.30	39.4	73.9	0.12	1.24	12.8	13.7	1.14	2.68	3.56	—	21,639	21,639	0.95	2.01	1.51	22,264
2026	8.43	8.68	37.5	70.0	0.12	0.86	12.8	13.7	0.80	2.68	3.48	—	21,298	21,298	0.91	2.01	1.36	21,922
2027	6.88	6.09	28.5	55.9	0.10	0.49	11.1	11.5	0.47	2.49	2.96	—	19,255	19,255	0.61	1.98	1.21	19,863
2028	6.57	5.81	27.2	52.9	0.10	0.46	11.1	11.5	0.43	2.49	2.93	—	18,874	18,874	0.58	1.91	1.08	19,457
2029	5.97	5.41	25.8	50.1	0.10	0.43	11.1	11.5	0.41	2.49	2.90	—	18,476	18,476	0.58	1.91	0.95	19,059
2030	5.68	5.15	24.8	47.4	0.10	0.42	11.1	11.5	0.40	2.49	2.89	—	18,071	18,071	0.56	1.83	0.84	18,630
2031	5.40	4.66	23.8	44.9	0.10	0.40	11.1	11.5	0.38	2.49	2.87	—	17,659	17,659	0.45	1.80	0.74	18,208
2032	5.11	4.41	22.8	42.8	0.10	0.38	11.1	11.4	0.28	2.49	2.78	—	17,259	17,259	0.45	1.71	0.64	17,780
2033	4.64	4.22	21.9	40.9	0.10	0.28	11.1	11.3	0.27	2.49	2.76	—	16,884	16,884	0.43	1.63	0.56	17,382
2034	4.42	4.00	21.2	39.1	0.10	0.27	11.1	11.3	0.26	2.49	2.75	—	16,531	16,531	0.43	1.63	0.48	17,029
2035	4.28	3.90	20.7	37.7	0.10	0.26	11.1	11.3	0.24	2.49	2.74	—	16,204	16,204	0.40	1.35	0.40	16,618
2036	4.82	78.4	21.2	41.2	0.10	0.25	14.0	14.3	0.24	2.97	3.21	—	17,164	17,164	0.44	1.38	0.38	17,587
2037	4.62	78.2	20.7	39.8	0.10	0.24	14.0	14.3	0.23	2.97	3.19	—	16,888	16,888	0.44	1.38	0.32	17,311
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.29	2.73	29.1	24.6	0.05	1.17	6.65	7.82	1.08	2.71	3.79	—	6,649	6,649	0.23	0.43	2.75	6,787
2025	5.68	5.78	26.3	46.6	0.07	0.72	7.78	8.49	0.67	1.72	2.39	—	13,263	13,263	0.54	1.14	14.1	13,629
2026	5.41	4.92	21.2	43.8	0.07	0.40	7.80	8.20	0.37	1.76	2.13	—	14,242	14,242	0.57	1.42	16.1	14,695

2027	4.98	4.42	19.9	40.8	0.07	0.35	7.73	8.08	0.33	1.75	2.08	—	13,909	13,909	0.54	1.42	14.4	14,359
2028	4.77	4.23	18.9	38.6	0.07	0.33	7.75	8.08	0.31	1.76	2.07	—	13,670	13,670	0.40	1.36	12.9	14,100
2029	4.46	3.93	17.9	36.4	0.07	0.31	7.73	8.04	0.29	1.75	2.04	—	13,345	13,345	0.38	1.34	11.3	13,766
2030	4.11	3.73	17.3	34.6	0.07	0.30	7.73	8.03	0.28	1.75	2.03	—	13,053	13,053	0.38	1.29	10.0	13,456
2031	3.88	3.39	16.5	32.6	0.07	0.29	7.73	8.01	0.27	1.75	2.02	—	12,756	12,756	0.31	1.28	8.78	13,153
2032	3.71	3.21	15.9	31.1	0.07	0.27	7.75	8.02	0.20	1.76	1.96	—	12,501	12,501	0.31	1.23	7.66	12,882
2033	3.51	3.08	15.3	29.7	0.07	0.20	7.73	7.93	0.19	1.75	1.94	—	12,197	12,197	0.29	1.17	6.59	12,558
2034	3.18	2.89	14.9	28.4	0.07	0.19	7.73	7.92	0.18	1.75	1.93	—	11,943	11,943	0.29	1.02	5.66	12,260
2035	3.09	2.81	14.4	27.3	0.07	0.18	7.73	7.91	0.17	1.75	1.92	—	11,707	11,707	0.27	0.97	4.81	12,007
2036	3.33	38.2	14.6	28.8	0.07	0.18	9.10	9.28	0.17	1.97	2.14	—	12,141	12,141	0.28	0.98	4.35	12,445
2037	0.37	9.75	1.52	3.21	0.01	0.02	1.14	1.16	0.02	0.24	0.25	—	1,309	1,309	0.03	0.10	0.41	1,340
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.60	0.50	5.31	4.49	0.01	0.21	1.21	1.43	0.20	0.49	0.69	—	1,101	1,101	0.04	0.07	0.45	1,124
2025	1.04	1.06	4.80	8.50	0.01	0.13	1.42	1.55	0.12	0.31	0.44	—	2,196	2,196	0.09	0.19	2.33	2,256
2026	0.99	0.90	3.88	8.00	0.01	0.07	1.42	1.50	0.07	0.32	0.39	—	2,358	2,358	0.09	0.23	2.66	2,433
2027	0.91	0.81	3.64	7.44	0.01	0.06	1.41	1.47	0.06	0.32	0.38	—	2,303	2,303	0.09	0.23	2.38	2,377
2028	0.87	0.77	3.44	7.04	0.01	0.06	1.41	1.47	0.06	0.32	0.38	—	2,263	2,263	0.07	0.23	2.13	2,334
2029	0.81	0.72	3.27	6.63	0.01	0.06	1.41	1.47	0.05	0.32	0.37	—	2,209	2,209	0.06	0.22	1.87	2,279
2030	0.75	0.68	3.16	6.31	0.01	0.05	1.41	1.46	0.05	0.32	0.37	—	2,161	2,161	0.06	0.21	1.66	2,228
2031	0.71	0.62	3.02	5.95	0.01	0.05	1.41	1.46	0.05	0.32	0.37	—	2,112	2,112	0.05	0.21	1.45	2,178
2032	0.68	0.59	2.91	5.68	0.01	0.05	1.41	1.46	0.04	0.32	0.36	—	2,070	2,070	0.05	0.20	1.27	2,133
2033	0.64	0.56	2.79	5.42	0.01	0.04	1.41	1.45	0.03	0.32	0.35	—	2,019	2,019	0.05	0.19	1.09	2,079
2034	0.58	0.53	2.72	5.18	0.01	0.04	1.41	1.45	0.03	0.32	0.35	—	1,977	1,977	0.05	0.17	0.94	2,030
2035	0.56	0.51	2.62	4.98	0.01	0.03	1.41	1.44	0.03	0.32	0.35	—	1,938	1,938	0.04	0.16	0.80	1,988
2036	0.61	6.98	2.66	5.25	0.01	0.03	1.66	1.69	0.03	0.36	0.39	—	2,010	2,010	0.05	0.16	0.72	2,060
2037	0.07	1.78	0.28	0.59	< 0.005	< 0.005	0.21	0.21	< 0.005	0.04	0.05	—	217	217	0.01	0.02	0.07	222

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	348	325	404	2,281	5.40	6.85	396	403	6.50	101	108	—	553,671	553,671	22.4	34.9	2,272	566,917
Area	24.6	95.8	1.17	138	0.01	0.25	—	0.25	0.19	—	0.19	—	570	570	0.02	< 0.005	—	572
Energy	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	123,848	123,848	8.50	0.76	—	124,287
Water	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Waste	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Total	375	422	431	2,441	5.56	9.06	396	405	8.64	101	110	3,672	681,504	685,176	401	38.5	55,857	762,518
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	310	285	454	1,959	5.02	6.86	396	403	6.50	101	108	—	515,618	515,618	25.8	36.9	58.9	527,302
Area	—	73.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	123,848	123,848	8.50	0.76	—	124,287
Water	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Waste	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Total	313	360	480	1,980	5.18	8.82	396	405	8.46	101	110	3,672	642,881	646,553	404	40.4	53,644	722,332
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	250	233	343	1,400	3.69	5.46	267	273	5.18	68.5	73.7	—	379,823	379,823	18.3	28.5	713	389,482
Area	12.1	84.2	0.58	68.3	< 0.005	0.12	—	0.12	0.09	—	0.09	—	281	281	0.01	< 0.005	—	282
Energy	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	123,848	123,848	8.50	0.76	—	124,287
Water	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223

Waste	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Total	265	319	369	1,490	3.85	7.54	267	275	7.23	68.5	75.8	3,672	507,367	511,039	397	32.0	54,298	584,794
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	45.7	42.5	62.6	255	0.67	1.00	48.8	49.8	0.95	12.5	13.5	—	62,884	62,884	3.03	4.72	118	64,483
Area	2.22	15.4	0.10	12.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.5	46.5	< 0.005	< 0.005	—	46.7
Energy	0.52	0.26	4.70	3.95	0.03	0.36	—	0.36	0.36	—	0.36	—	20,504	20,504	1.41	0.13	—	20,577
Water	—	—	—	—	—	—	—	—	—	—	—	185	565	751	19.0	0.46	—	1,361
Waste	—	—	—	—	—	—	—	—	—	—	—	423	0.00	423	42.3	0.00	—	1,479
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,872	8,872
Total	48.4	58.1	67.4	272	0.70	1.38	48.8	50.1	1.32	12.5	13.8	608	84,000	84,608	65.7	5.30	8,990	96,819

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.38	2.00	19.7	18.0	0.03	0.88	—	0.88	0.81	—	0.81	—	2,902	2,902	0.12	0.02	—	2,912
Dust From Material Movement	—	—	—	—	—	—	4.21	4.21	—	2.16	2.16	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	0.85	0.85	< 0.005	0.08	0.08	—	7.86	7.86	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.36	3.60	3.29	< 0.005	0.16	—	0.16	0.15	—	0.15	—	480	480	0.02	< 0.005	—	482
Dust From Material Movement	—	—	—	—	—	—	0.77	0.77	—	0.39	0.39	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.02	0.02	—	1.30	1.30	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.06	0.91	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.44	—

Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.23	—
Hauling	0.21	0.10	5.70	1.40	0.03	0.08	1.16	1.24	0.08	0.32	0.40	—	4,495	4,495	0.10	0.71	10.7	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.4	95.4	0.01	< 0.005	0.01	—
Vendor	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.5	87.5	< 0.005	0.01	0.01	—
Hauling	0.20	0.10	6.12	1.43	0.03	0.08	1.16	1.24	0.08	0.32	0.40	—	4,497	4,497	0.10	0.71	0.28	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.40	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.2	54.2	< 0.005	< 0.005	0.10	—
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.9	47.9	< 0.005	0.01	0.05	—
Hauling	0.11	0.06	3.27	0.78	0.02	0.05	0.63	0.67	0.05	0.17	0.22	—	2,464	2,464	0.05	0.39	2.53	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.98	8.98	< 0.005	< 0.005	0.02	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	—
Hauling	0.02	0.01	0.60	0.14	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	408	408	0.01	0.06	0.42	—

3.3. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.61	5.90	5.20	0.01	0.25	—	0.25	0.23	—	0.23	—	1,136	1,136	0.05	0.01	—	1,140
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.25	0.25	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	2.47	2.47	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.08	0.95	< 0.005	0.05	—	0.05	0.04	—	0.04	—	188	188	0.01	< 0.005	—	189
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	0.01	0.01	0.01	—
Vendor	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.5	87.5	< 0.005	0.01	0.01	—
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	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.5	19.5	< 0.005	< 0.005	0.04	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.02	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.23	3.23	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.49	2.49	< 0.005	< 0.005	< 0.005	—
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	—

3.5. 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	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	0.50	4.65	4.43	0.01	0.19	—	0.19	0.18	—	0.18	—	1,033	1,033	0.04	0.01	—	1,037

Dust From Material Movement	—	—	—	—	—	—	0.56	0.56	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	2.20	2.20	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.81	< 0.005	0.04	—	0.04	0.03	—	0.03	—	171	171	0.01	< 0.005	—	172
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.07	0.75	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	107	107	0.01	0.01	0.01	—
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	86.0	86.0	< 0.005	0.01	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.87	2.87	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	—

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	—

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.63	5.83	7.27	0.01	0.24	—	0.24	0.22	—	0.22	—	1,337	1,337	0.05	0.01	—	1,342
Onsite truck	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	0.86	0.86	< 0.005	0.09	0.09	—	7.85	7.85	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	1.06	1.33	< 0.005	0.04	—	0.04	0.04	—	0.04	—	221	221	0.01	< 0.005	—	222
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	1.30	1.30	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.66	6.36	3.60	56.3	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	7,132	7,132	0.44	0.30	27.3	—
Vendor	0.76	0.43	15.8	5.82	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	11,214	11,214	0.24	1.66	30.3	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.86	5.50	4.38	44.2	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,309	6,309	0.54	0.30	0.71	—
Vendor	0.72	0.40	16.8	5.96	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	11,226	11,226	0.24	1.66	0.79	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.32	3.14	2.27	25.5	0.00	0.00	3.53	3.53	0.00	0.83	0.83	—	3,650	3,650	0.27	0.17	6.56	—
Vendor	0.41	0.23	9.20	3.30	0.04	0.09	1.64	1.73	0.09	0.45	0.54	—	6,257	6,257	0.13	0.92	7.30	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.57	0.42	4.65	0.00	0.00	0.64	0.64	0.00	0.15	0.15	—	604	604	0.04	0.03	1.09	—
Vendor	0.07	0.04	1.68	0.60	0.01	0.02	0.30	0.32	0.02	0.08	0.10	—	1,036	1,036	0.02	0.15	1.21	—
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	—

3.9. Building Construction (2026) - Unmitigated

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

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

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.7	13.7	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.86	9.86	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.63	1.63	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.22	5.92	3.14	51.9	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,980	6,980	0.44	0.30	24.8	—
Vendor	0.68	0.43	15.2	5.54	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	11,009	11,009	0.24	1.66	27.1	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.52	4.99	4.10	40.7	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,178	6,178	0.51	0.30	0.65	—

Vendor	0.65	0.40	16.1	5.76	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	11,021	11,021	0.23	1.66	0.70	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.98	3.76	2.57	30.0	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	4,576	4,576	0.33	0.22	7.66	—
Vendor	0.47	0.29	11.2	4.03	0.06	0.11	2.10	2.21	0.11	0.58	0.69	—	7,867	7,867	0.17	1.18	8.39	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.69	0.47	5.48	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	758	758	0.05	0.04	1.27	—
Vendor	0.09	0.05	2.05	0.74	0.01	0.02	0.38	0.40	0.02	0.11	0.13	—	1,303	1,303	0.03	0.20	1.39	—
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	—

3.11. Building Construction (2027) - 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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.5	13.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.6	13.6	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.66	9.66	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.60	1.60	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.83	5.35	2.89	47.7	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,837	6,837	0.41	0.30	22.5	—
Vendor	0.68	0.42	14.5	5.36	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	10,779	10,779	0.24	1.66	24.1	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.01	4.67	3.62	37.4	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,053	6,053	0.29	0.30	0.59	—
Vendor	0.64	0.39	15.5	5.55	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	10,791	10,791	0.23	1.66	0.62	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.63	3.39	2.39	27.6	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	4,484	4,484	0.31	0.22	6.95	—
Vendor	0.47	0.29	10.8	3.88	0.06	0.11	2.10	2.21	0.11	0.58	0.69	—	7,703	7,703	0.16	1.18	7.40	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.62	0.44	5.04	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	742	742	0.05	0.04	1.15	—

Vendor	0.09	0.05	1.97	0.71	0.01	0.02	0.38	0.40	0.02	0.11	0.13	—	1,275	1,275	0.03	0.20	1.23	—
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	—

3.13. Building Construction (2028) - 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	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.2	13.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.3	13.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.71	6.39	9.26	0.02	0.22	—	0.22	0.20	—	0.20	—	1,717	1,717	0.07	0.01	—	1,723
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	9.49	9.49	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.17	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	284	284	0.01	< 0.005	—	285
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.57	1.57	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.34	5.07	2.61	44.0	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,700	6,700	0.38	0.28	20.3	—
Vendor	0.66	0.41	13.9	5.17	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	10,517	10,517	0.23	1.58	21.3	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.74	4.44	3.37	34.5	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,933	5,933	0.26	0.30	0.53	—
Vendor	0.64	0.38	14.8	5.36	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	10,530	10,530	0.23	1.58	0.55	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.45	3.24	2.05	25.5	0.00	0.00	4.54	4.54	0.00	1.06	1.06	—	4,407	4,407	0.17	0.22	6.29	—
Vendor	0.46	0.29	10.4	3.76	0.06	0.11	2.11	2.22	0.11	0.58	0.69	—	7,537	7,537	0.16	1.13	6.56	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.63	0.59	0.37	4.66	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	730	730	0.03	0.04	1.04	—
Vendor	0.08	0.05	1.89	0.69	0.01	0.02	0.38	0.40	0.02	0.11	0.13	—	1,248	1,248	0.03	0.19	1.09	—
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	—

3.15. Building Construction (2029) - 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	1.15	0.97	8.58	12.9	0.02	0.28	—	0.28	0.25	—	0.25	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.9	12.9	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15	0.97	8.58	12.9	0.02	0.28	—	0.28	0.25	—	0.25	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.1	13.1	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.13	9.22	0.02	0.20	—	0.20	0.18	—	0.18	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.26	9.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.12	1.68	< 0.005	0.04	—	0.04	0.03	—	0.03	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.53	1.53	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.01	4.73	2.39	40.5	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,570	6,570	0.18	0.28	18.2	—
Vendor	0.57	0.32	13.3	5.05	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	10,233	10,233	0.23	1.58	18.5	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.28	4.15	2.92	31.9	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,820	5,820	0.26	0.30	0.47	—

Vendor	0.53	0.29	14.2	5.24	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	10,246	10,246	0.23	1.58	0.48	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.24	3.02	1.87	23.4	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	4,311	4,311	0.15	0.20	5.61	—
Vendor	0.40	0.22	9.90	3.67	0.06	0.11	2.10	2.21	0.11	0.58	0.69	—	7,313	7,313	0.16	1.13	5.68	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.55	0.34	4.28	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	714	714	0.02	0.03	0.93	—
Vendor	0.07	0.04	1.81	0.67	0.01	0.02	0.38	0.40	0.02	0.11	0.13	—	1,211	1,211	0.03	0.19	0.94	—
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	—

3.17. Building Construction (2030) - 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	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.8	12.8	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	5.99	9.20	0.02	0.19	—	0.19	0.17	—	0.17	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.08	9.08	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.09	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.50	1.50	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.52	4.44	2.13	37.5	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,449	6,449	0.18	0.28	16.2	—
Vendor	0.57	0.32	12.8	4.89	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	9,933	9,933	0.23	1.49	16.1	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.02	3.92	2.67	29.4	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,715	5,715	0.23	0.30	0.42	—
Vendor	0.53	0.29	13.7	5.06	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	9,946	9,946	0.23	1.50	0.42	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.91	2.84	1.70	21.8	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	4,233	4,233	0.15	0.20	5.02	—
Vendor	0.39	0.22	9.56	3.55	0.06	0.11	2.10	2.21	0.11	0.58	0.69	—	7,099	7,099	0.16	1.07	4.98	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.52	0.31	3.97	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	701	701	0.02	0.03	0.83	—

Vendor	0.07	0.04	1.74	0.65	0.01	0.02	0.38	0.40	0.02	0.11	0.13	—	1,175	1,175	0.03	0.18	0.82	—
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	—

3.19. Building Construction (2031) - 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	1.10	0.92	8.12	12.8	0.02	0.24	—	0.24	0.22	—	0.22	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.4	12.4	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.10	0.92	8.12	12.8	0.02	0.24	—	0.24	0.22	—	0.22	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.78	0.66	5.80	9.18	0.02	0.17	—	0.17	0.16	—	0.16	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.90	8.90	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.06	1.67	< 0.005	0.03	—	0.03	0.03	—	0.03	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.47	1.47	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.23	3.95	1.88	34.5	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,339	6,339	0.16	0.28	14.4	—
Vendor	0.56	0.31	12.4	4.80	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	9,618	9,618	0.15	1.49	14.0	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.76	3.46	2.41	27.1	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,619	5,619	0.21	0.28	0.37	—
Vendor	0.53	0.29	13.2	4.96	0.08	0.16	2.98	3.13	0.16	0.82	0.98	—	9,631	9,631	0.15	1.50	0.36	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.71	2.51	1.52	19.9	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	4,161	4,161	0.13	0.20	4.45	—
Vendor	0.39	0.22	9.17	3.47	0.06	0.11	2.10	2.21	0.11	0.58	0.69	—	6,874	6,874	0.11	1.06	4.33	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.46	0.28	3.64	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	689	689	0.02	0.03	0.74	—
Vendor	0.07	0.04	1.67	0.63	0.01	0.02	0.38	0.40	0.02	0.11	0.13	—	1,138	1,138	0.02	0.18	0.72	—
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	—

3.21. Building Construction (2032) - 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	1.07	0.90	7.87	12.8	0.02	0.22	—	0.22	0.21	—	0.21	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.2	12.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	0.90	7.87	12.8	0.02	0.22	—	0.22	0.21	—	0.21	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.3	12.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	5.64	9.16	0.02	0.16	—	0.16	0.15	—	0.15	—	1,717	1,717	0.07	0.01	—	1,723
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	8.76	8.76	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.03	1.67	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.45	1.45	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.92	3.64	1.65	32.0	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,233	6,233	0.16	0.28	12.7	—
Vendor	0.56	0.31	11.9	4.71	0.08	0.16	2.98	3.13	0.08	0.82	0.90	—	9,310	9,310	0.15	1.41	12.1	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.50	3.22	2.16	25.1	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,526	5,526	0.21	0.28	0.33	—

Vendor	0.53	0.29	12.7	4.87	0.08	0.16	2.98	3.13	0.08	0.82	0.90	—	9,323	9,323	0.15	1.41	0.31	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.55	2.35	1.35	18.5	0.00	0.00	4.54	4.54	0.00	1.06	1.06	—	4,103	4,103	0.13	0.20	3.92	—
Vendor	0.39	0.22	8.91	3.42	0.06	0.11	2.11	2.22	0.06	0.58	0.64	—	6,672	6,672	0.11	1.01	3.73	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.46	0.43	0.25	3.38	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	679	679	0.02	0.03	0.65	—
Vendor	0.07	0.04	1.63	0.62	0.01	0.02	0.38	0.40	0.01	0.11	0.12	—	1,105	1,105	0.02	0.17	0.62	—
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	—

3.23. Building Construction (2033) - 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	1.05	0.88	7.67	12.8	0.02	0.20	—	0.20	0.19	—	0.19	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.0	12.0	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05	0.88	7.67	12.8	0.02	0.20	—	0.20	0.19	—	0.19	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.1	12.1	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.63	5.48	9.13	0.02	0.15	—	0.15	0.13	—	0.13	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.59	8.59	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	1.00	1.67	< 0.005	0.03	—	0.03	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.42	1.42	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.68	3.43	1.60	29.7	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,139	6,139	0.13	0.08	11.1	—
Vendor	0.48	0.32	11.5	4.63	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	9,018	9,018	0.15	1.33	10.3	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.14	3.07	1.91	23.3	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,444	5,444	0.18	0.28	0.29	—
Vendor	0.44	0.27	12.3	4.77	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	9,031	9,031	0.15	1.33	0.27	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.43	2.23	1.18	17.2	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	4,031	4,031	0.11	0.20	3.42	—
Vendor	0.33	0.22	8.56	3.35	0.06	0.06	2.10	2.16	0.06	0.58	0.64	—	6,445	6,445	0.11	0.95	3.16	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.41	0.22	3.14	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	667	667	0.02	0.03	0.57	—

Vendor	0.06	0.04	1.56	0.61	0.01	0.01	0.38	0.39	0.01	0.11	0.12	—	1,067	1,067	0.02	0.16	0.52	—
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	—

3.25. Building Construction (2034) - 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	1.03	0.86	7.52	12.8	0.02	0.19	—	0.19	0.18	—	0.18	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.8	11.8	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	0.86	7.52	12.8	0.02	0.19	—	0.19	0.18	—	0.18	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.9	11.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.37	9.12	0.02	0.14	—	0.14	0.13	—	0.13	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.47	8.47	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.98	1.66	< 0.005	0.03	—	0.03	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.40	1.40	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.22	3.17	1.38	27.6	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	6,053	6,053	0.13	0.08	9.67	—
Vendor	0.48	0.32	11.2	4.62	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	8,740	8,740	0.15	1.33	8.65	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.94	2.86	1.68	21.6	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,368	5,368	0.18	0.28	0.25	—
Vendor	0.44	0.27	12.0	4.69	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	8,754	8,754	0.15	1.33	0.22	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.12	2.06	1.16	15.9	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	3,975	3,975	0.11	0.06	2.99	—
Vendor	0.33	0.21	8.35	3.28	0.06	0.06	2.10	2.16	0.06	0.58	0.64	—	6,247	6,247	0.11	0.95	2.67	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.21	2.91	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	658	658	0.02	0.01	0.50	—
Vendor	0.06	0.04	1.52	0.60	0.01	0.01	0.38	0.39	0.01	0.11	0.12	—	1,034	1,034	0.02	0.16	0.44	—
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	—

3.27. Building Construction (2035) - 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	1.01	0.85	7.34	12.7	0.02	0.18	—	0.18	0.17	—	0.17	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.6	11.6	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.34	12.7	0.02	0.18	—	0.18	0.17	—	0.17	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.8	11.8	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.61	5.24	9.06	0.02	0.13	—	0.13	0.12	—	0.12	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.35	8.35	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.96	1.65	< 0.005	0.02	—	0.02	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.38	1.38	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.09	3.04	1.35	25.8	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,977	5,977	0.13	0.08	8.38	—
Vendor	0.48	0.32	10.9	4.54	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	8,480	8,480	0.15	1.25	7.19	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.83	2.78	1.65	20.3	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,302	5,302	0.16	0.08	0.22	—

Vendor	0.43	0.27	11.6	4.68	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	8,493	8,493	0.15	1.25	0.19	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.04	1.99	1.00	14.9	0.00	0.00	4.52	4.52	0.00	1.06	1.06	—	3,926	3,926	0.09	0.06	2.58	—
Vendor	0.33	0.21	8.08	3.28	0.06	0.06	2.10	2.16	0.06	0.58	0.64	—	6,061	6,061	0.11	0.90	2.22	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.36	0.18	2.72	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	650	650	0.02	0.01	0.43	—
Vendor	0.06	0.04	1.47	0.60	0.01	0.01	0.38	0.39	0.01	0.11	0.12	—	1,003	1,003	0.02	0.15	0.37	—
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	—

3.29. Building Construction (2036) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99	0.83	7.12	12.6	0.02	0.17	—	0.17	0.16	—	0.16	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.5	11.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99	0.83	7.12	12.6	0.02	0.17	—	0.17	0.16	—	0.16	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.7	11.7	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	0.60	5.10	9.03	0.02	0.12	—	0.12	0.11	—	0.11	—	1,717	1,717	0.07	0.01	—	1,723
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	8.28	8.28	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.93	1.65	< 0.005	0.02	—	0.02	0.02	—	0.02	—	284	284	0.01	< 0.005	—	285
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.37	1.37	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.94	2.88	1.15	24.2	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,908	5,908	0.10	0.08	7.20	—
Vendor	0.47	0.31	10.6	4.46	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	8,244	8,244	0.15	1.25	5.92	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.73	2.65	1.43	18.9	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,241	5,241	0.16	0.08	0.19	—
Vendor	0.43	0.27	11.4	4.60	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	8,258	8,258	0.15	1.25	0.15	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.97	1.94	0.99	14.1	0.00	0.00	4.54	4.54	0.00	1.06	1.06	—	3,891	3,891	0.09	0.06	2.22	—
Vendor	0.33	0.21	7.89	3.24	0.06	0.06	2.11	2.16	0.06	0.58	0.64	—	5,909	5,909	0.11	0.90	1.83	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.35	0.18	2.56	0.00	0.00	0.83	0.83	0.00	0.19	0.19	—	644	644	0.02	0.01	0.37	—

Vendor	0.06	0.04	1.44	0.59	0.01	0.01	0.38	0.39	0.01	0.11	0.12	—	978	978	0.02	0.15	0.30	—
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	—

3.31. Building Construction (2037) - 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	0.98	0.82	6.99	12.5	0.02	0.16	—	0.16	0.14	—	0.14	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.6	11.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.51	0.91	< 0.005	0.01	—	0.01	0.01	—	0.01	—	174	174	0.01	< 0.005	—	174
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.7	28.7	< 0.005	< 0.005	—	28.8
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.57	2.49	1.40	17.9	0.00	0.00	6.43	6.43	0.00	1.51	1.51	—	5,188	5,188	0.16	0.08	0.16	—
Vendor	0.43	0.27	11.1	4.60	0.08	0.08	2.98	3.06	0.08	0.82	0.90	—	8,048	8,048	0.15	1.25	0.12	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.08	1.35	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	389	389	0.01	0.01	0.19	—
Vendor	0.03	0.02	0.78	0.33	0.01	0.01	0.21	0.22	0.01	0.06	0.06	—	582	582	0.01	0.09	0.15	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.25	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	64.5	64.5	< 0.005	< 0.005	0.03	—
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	96.4	96.4	< 0.005	0.02	0.02	—
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	—

3.33. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—

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	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.16	5.57	0.01	0.19	—	0.19	0.18	—	0.18	—	843	843	0.03	0.01	—	846
Paving	—	0.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	0.86	0.86	< 0.005	0.09	0.09	—	7.85	7.85	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.76	1.02	< 0.005	0.04	—	0.04	0.03	—	0.03	—	140	140	0.01	< 0.005	—	140
Paving	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	1.30	1.30	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.71	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	90.5	90.5	0.01	< 0.005	0.35	—
Vendor	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	85.9	85.9	< 0.005	0.01	0.23	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.56	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.1	80.1	0.01	< 0.005	0.01	—

Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	86.0	86.0	< 0.005	0.01	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.32	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	46.3	46.3	< 0.005	< 0.005	0.08	—
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	0.06	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.67	7.67	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.94	7.94	< 0.005	< 0.005	0.01	—
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	—

3.35. Paving (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.03	0.32	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	68.0	68.0	< 0.005	< 0.005	—	68.2
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	0.62	0.62	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.52	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	78.4	78.4	0.01	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	84.5	84.5	< 0.005	0.01	0.01	—
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	—
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	—	3.66	3.66	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.80	3.80	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	—
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	—

3.37. Architectural Coating (2036) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.75	1.10	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	74.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.5	11.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.75	1.10	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	74.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.7	11.7	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.5	63.5	< 0.005	< 0.005	—	63.7
Architectural Coatings	—	35.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.73	0.73	< 0.005	0.07	0.07	—	5.50	5.50	< 0.005	< 0.005	< 0.005	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.5	10.5	< 0.005	< 0.005	—	10.5
Architectural Coatings	—	6.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.13	0.13	< 0.005	0.01	0.01	—	0.91	0.91	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.58	0.23	4.85	0.00	0.00	1.29	1.29	0.00	0.30	0.30	—	1,182	1,182	0.02	0.02	1.44	—
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	63.2	63.2	< 0.005	0.01	0.05	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.55	0.53	0.29	3.79	0.00	0.00	1.29	1.29	0.00	0.30	0.30	—	1,048	1,048	0.03	0.02	0.04	—
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	63.3	63.3	< 0.005	0.01	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.26	0.13	1.87	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	517	517	0.01	0.01	0.29	—
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.1	30.1	< 0.005	< 0.005	0.01	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.02	0.34	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	85.5	85.5	< 0.005	< 0.005	0.05	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.98	4.98	< 0.005	< 0.005	< 0.005	—
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	—

3.39. Architectural Coating (2037) - 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	0.11	0.09	0.75	1.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	74.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.6	11.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.0	17.0	< 0.005	< 0.005	—	17.0
Architectural Coatings	—	9.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.46	1.46	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.81	2.81	< 0.005	< 0.005	—	2.82
Architectural Coatings	—	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.50	0.28	3.58	0.00	0.00	1.29	1.29	0.00	0.30	0.30	—	1,038	1,038	0.03	0.02	0.03	—
Vendor	< 0.005	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	61.7	61.7	< 0.005	0.01	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.03	0.47	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	137	137	< 0.005	< 0.005	0.07	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.84	7.84	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	22.7	22.7	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.30	1.30	< 0.005	< 0.005	< 0.005	—
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	—

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	40.8	38.1	35.7	293	0.60	0.56	48.8	49.3	0.53	12.4	12.9	—	61,599	61,599	2.66	3.04	242	62,814
Industrial Park	27.1	25.3	23.7	195	0.40	0.37	32.4	32.8	0.35	8.24	8.59	—	40,935	40,935	1.76	2.02	161	41,742
Regional Shopping Center	82.5	78.7	50.0	398	0.71	0.69	55.9	56.6	0.65	14.2	14.9	—	72,507	72,507	4.50	4.22	278	74,154
Supermarket	147	137	129	1,057	2.18	2.02	176	178	1.91	44.7	46.6	—	222,173	222,173	9.58	11.0	873	226,556
Strip Mall	36.2	33.8	31.7	261	0.54	0.50	43.3	43.8	0.47	11.0	11.5	—	54,758	54,758	2.36	2.70	215	55,838
Other Non-Asphalt Surfaces	14.2	11.3	134	77.5	0.97	2.71	39.9	42.6	2.59	10.7	13.3	—	101,698	101,698	1.54	12.0	502	105,812
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	348	325	404	2,281	5.40	6.85	396	403	6.50	101	108	—	553,671	553,671	22.4	34.9	2,272	566,917
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	36.3	33.4	41.0	246	0.55	0.56	48.8	49.3	0.53	12.4	12.9	—	56,384	56,384	3.05	3.28	6.28	57,445
Industrial Park	24.1	22.2	27.2	163	0.37	0.37	32.4	32.8	0.35	8.24	8.59	—	37,468	37,468	2.03	2.18	4.17	38,174
Regional Shopping Center	72.4	68.2	57.3	370	0.65	0.69	55.9	56.6	0.65	14.2	14.9	—	66,581	66,581	5.44	4.56	7.20	68,084

Supermarket	131	121	148	886	1.99	2.02	176	178	1.91	44.7	46.6	—	203,361	203,361	11.0	11.8	22.6	207,189
Strip Mall	32.3	29.7	36.4	218	0.49	0.50	43.3	43.8	0.47	11.0	11.5	—	50,122	50,122	2.71	2.92	5.58	51,065
Other Non-Asphalt Surfaces	13.9	11.1	144	75.3	0.97	2.71	39.9	42.6	2.59	10.7	13.3	—	101,702	101,702	1.52	12.1	13.0	105,346
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	310	285	454	1,959	5.02	6.86	396	403	6.50	101	108	—	515,618	515,618	25.8	36.9	58.9	527,302
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	5.06	4.68	5.30	34.2	0.08	0.08	6.60	6.68	0.07	1.68	1.75	—	7,212	7,212	0.35	0.39	13.0	7,351
Industrial Park	3.90	3.61	4.09	26.4	0.06	0.06	5.10	5.15	0.06	1.30	1.35	—	5,569	5,569	0.27	0.30	10.1	5,676
Regional Shopping Center	10.2	9.69	7.16	47.9	0.09	0.09	7.13	7.21	0.08	1.81	1.90	—	8,044	8,044	0.61	0.53	14.1	8,231
Supermarket	18.0	17.0	14.0	92.6	0.18	0.18	15.0	15.1	0.17	3.80	3.98	—	16,704	16,704	1.12	1.03	29.5	17,069
Strip Mall	5.97	5.53	6.26	40.4	0.09	0.09	7.79	7.88	0.09	1.98	2.07	—	8,518	8,518	0.42	0.47	15.4	8,682
Other Non-Asphalt Surfaces	2.55	2.04	25.8	13.9	0.18	0.49	7.20	7.69	0.47	1.94	2.41	—	16,838	16,838	0.25	1.99	35.9	17,473
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	45.7	42.5	62.6	255	0.67	1.00	48.8	49.8	0.95	12.5	13.5	—	62,884	62,884	3.03	4.72	118	64,483

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21,425	21,425	1.33	0.16	—	21,507
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	45,801	45,801	2.84	0.34	—	45,975
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	6,053	6,053	0.38	0.05	—	6,076
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	12,696	12,696	0.79	0.10	—	12,744
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,024	2,024	0.13	0.02	—	2,031
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5,128	5,128	0.32	0.04	—	5,147
Total	—	—	—	—	—	—	—	—	—	—	—	—	93,127	93,127	5.78	0.70	—	93,480
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21,425	21,425	1.33	0.16	—	21,507
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	45,801	45,801	2.84	0.34	—	45,975
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	6,053	6,053	0.38	0.05	—	6,076
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	12,696	12,696	0.79	0.10	—	12,744
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,024	2,024	0.13	0.02	—	2,031
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5,128	5,128	0.32	0.04	—	5,147
Total	—	—	—	—	—	—	—	—	—	—	—	—	93,127	93,127	5.78	0.70	—	93,480
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	3,547	3,547	0.22	0.03	—	3,561
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	7,583	7,583	0.47	0.06	—	7,612
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,002	1,002	0.06	0.01	—	1,006
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	2,102	2,102	0.13	0.02	—	2,110
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	335	335	0.02	< 0.005	—	336
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	849	849	0.05	0.01	—	852
Total	—	—	—	—	—	—	—	—	—	—	—	—	15,418	15,418	0.96	0.12	—	15,477

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.83	0.41	7.52	6.32	0.05	0.57	—	0.57	0.57	—	0.57	—	8,971	8,971	0.79	0.02	—	8,996
Industrial Park	1.77	0.88	16.1	13.5	0.10	1.22	—	1.22	1.22	—	1.22	—	19,178	19,178	1.70	0.04	—	19,231
Regional Shopping Center	0.07	0.04	0.65	0.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	781	781	0.07	< 0.005	—	783
Supermarket	0.14	0.07	1.28	1.08	0.01	0.10	—	0.10	0.10	—	0.10	—	1,531	1,531	0.14	< 0.005	—	1,535
Strip Mall	0.02	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	261	261	0.02	< 0.005	—	262
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	30,722	30,722	2.72	0.06	—	30,807

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.83	0.41	7.52	6.32	0.05	0.57	—	0.57	0.57	—	0.57	—	8,971	8,971	0.79	0.02	—	8,996
Industrial Park	1.77	0.88	16.1	13.5	0.10	1.22	—	1.22	1.22	—	1.22	—	19,178	19,178	1.70	0.04	—	19,231
Regional Shopping Center	0.07	0.04	0.65	0.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	781	781	0.07	< 0.005	—	783
Supermarket	0.14	0.07	1.28	1.08	0.01	0.10	—	0.10	0.10	—	0.10	—	1,531	1,531	0.14	< 0.005	—	1,535
Strip Mall	0.02	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	261	261	0.02	< 0.005	—	262
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	30,722	30,722	2.72	0.06	—	30,807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.15	0.08	1.37	1.15	0.01	0.10	—	0.10	0.10	—	0.10	—	1,485	1,485	0.13	< 0.005	—	1,489
Industrial Park	0.32	0.16	2.93	2.46	0.02	0.22	—	0.22	0.22	—	0.22	—	3,175	3,175	0.28	0.01	—	3,184
Regional Shopping Center	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	129	129	0.01	< 0.005	—	130
Supermarket	0.03	0.01	0.23	0.20	< 0.005	0.02	—	0.02	0.02	—	0.02	—	253	253	0.02	< 0.005	—	254
Strip Mall	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.2	43.2	< 0.005	< 0.005	—	43.3

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.52	0.26	4.70	3.95	0.03	0.36	—	0.36	0.36	—	0.36	—	5,086	5,086	0.45	0.01	—	5,100

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	—	68.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	24.6	22.7	1.17	138	0.01	0.25	—	0.25	0.19	—	0.19	—	570	570	0.02	< 0.005	—	572
Total	24.6	95.8	1.17	138	0.01	0.25	—	0.25	0.19	—	0.19	—	570	570	0.02	< 0.005	—	572
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	—	68.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	73.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	12.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.22	2.05	0.10	12.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.5	46.5	< 0.005	< 0.005	—	46.7
Total	2.22	15.4	0.10	12.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.5	46.5	< 0.005	< 0.005	—	46.7

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	259	783	1,042	26.6	0.64	—	1,899
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	722	2,174	2,896	74.1	1.77	—	5,278

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	57.2	175	232	5.88	0.14	—	421
Supermarket	—	—	—	—	—	—	—	—	—	—	—	60.6	183	244	6.22	0.15	—	444
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	19.1	58.4	77.5	1.97	0.05	—	141
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	2.84	2.84	< 0.005	< 0.005	—	2.85
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.25
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	30.7	30.7	< 0.005	< 0.005	—	30.8
Total	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	259	783	1,042	26.6	0.64	—	1,899
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	722	2,174	2,896	74.1	1.77	—	5,278
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	57.2	175	232	5.88	0.14	—	421
Supermarket	—	—	—	—	—	—	—	—	—	—	—	60.6	183	244	6.22	0.15	—	444
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	19.1	58.4	77.5	1.97	0.05	—	141
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	2.84	2.84	< 0.005	< 0.005	—	2.85
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.25

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	30.7	30.7	< 0.005	< 0.005	—	30.8
Total	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	42.9	130	173	4.41	0.11	—	314
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	119	360	479	12.3	0.29	—	874
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	9.48	28.9	38.4	0.97	0.02	—	69.7
Supermarket	—	—	—	—	—	—	—	—	—	—	—	10.0	30.4	40.4	1.03	0.02	—	73.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	3.17	9.66	12.8	0.33	0.01	—	23.3
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.47	0.47	< 0.005	< 0.005	—	0.47
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	1.36	1.36	< 0.005	< 0.005	—	1.37
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	5.08	5.08	< 0.005	< 0.005	—	5.10
Total	—	—	—	—	—	—	—	—	—	—	—	185	565	751	19.0	0.46	—	1,361

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,336
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	1,088	0.00	1,088	109	0.00	—	3,807
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	228	0.00	228	22.8	0.00	—	798
Supermarket	—	—	—	—	—	—	—	—	—	—	—	779	0.00	779	77.9	0.00	—	2,727
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	76.3	0.00	76.3	7.62	0.00	—	267
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,336
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	1,088	0.00	1,088	109	0.00	—	3,807
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	228	0.00	228	22.8	0.00	—	798

Supermarket	—	—	—	—	—	—	—	—	—	—	—	779	0.00	779	77.9	0.00	—	2,727
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	76.3	0.00	76.3	7.62	0.00	—	267
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.32	0.00	—	221
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	180	0.00	180	18.0	0.00	—	630
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	37.8	0.00	37.8	3.78	0.00	—	132
Supermarket	—	—	—	—	—	—	—	—	—	—	—	129	0.00	129	12.9	0.00	—	451
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	12.6	0.00	12.6	1.26	0.00	—	44.2
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	423	0.00	423	42.3	0.00	—	1,479

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.85	1.85
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	424	424
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.94	1.94
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,157	53,157
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.85	1.85
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	424	424
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.94	1.94
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,157	53,157

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70.2	70.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.32	0.32
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,801	8,801
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,872	8,872

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	1/1/2024	10/4/2024	5.00	200	—
Grading	Grading	10/05/2024	3/21/2025	5.00	120	—
Building Construction	Building Construction	3/22/2025	2/6/2037	5.00	3,100	—
Paving	Paving	3/22/2025	1/23/2026	5.00	220	—
Architectural Coating	Architectural Coating	5/3/2036	3/6/2037	5.00	220	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	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	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	6.80	HHDT,MHDT

Site Preparation	Hauling	62.5	20.0	HHDT
Site Preparation	Onsite truck	4.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	4.00	6.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	4.00	0.50	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,182	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	522	6.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	4.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	4.00	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	4.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	236	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	4.00	0.50	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction

Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	4,776,600	1,592,200	327,814

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	50,000	50,000	300	0.00	—
Grading	—	—	360	0.00	—
Paving	0.00	0.00	0.00	0.00	125

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%
Industrial Park	0.00	0%
Regional Shopping Center	0.00	0%
Supermarket	0.00	0%
Strip Mall	0.00	0%

Other Non-Asphalt Surfaces	8.53	0%
Other Asphalt Surfaces	24.7	100%
Parking Lot	92.2	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005
2029	0.00	532	0.03	< 0.005
2030	0.00	532	0.03	< 0.005
2031	0.00	532	0.03	< 0.005
2032	0.00	532	0.03	< 0.005
2033	0.00	532	0.03	< 0.005
2034	0.00	532	0.03	< 0.005
2035	0.00	532	0.03	< 0.005
2036	0.00	532	0.03	< 0.005
2037	0.00	532	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 Office Building	8,257	1,683	533	2,268,295	68,542	13,974	4,426	18,829,343
Industrial Park	5,487	4,136	2,019	1,751,477	45,548	34,332	16,761	14,539,188
Regional Shopping Center	14,922	18,789	7,649	5,268,922	55,859	78,625	32,007	20,331,804
Supermarket	24,227	29,781	21,761	9,003,847	78,184	247,214	180,637	42,692,955
Strip Mall	7,340	7,340	7,340	2,679,100	60,930	60,930	60,930	22,239,477
Other Non-Asphalt Surfaces	928	928	928	338,768	46,407	46,407	46,407	16,938,391
Other Asphalt Surfaces	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	4,776,600	1,592,200	327,814

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 Office Building	14,700,146	532	0.0330	0.0040	27,992,282
Industrial Park	31,424,771	532	0.0330	0.0040	59,839,612
Regional Shopping Center	4,152,886	532	0.0330	0.0040	2,436,261
Supermarket	8,710,912	532	0.0330	0.0040	4,777,098
Strip Mall	1,388,415	532	0.0330	0.0040	814,504
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Parking Lot	3,518,181	532	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 Office Building	135,379,796	1,648,928
Industrial Park	376,544,375	3,524,944
Regional Shopping Center	29,866,041	872,847
Supermarket	31,605,970	555,055
Strip Mall	9,984,976	291,815
Other Non-Asphalt Surfaces	0.00	804,238
Other Asphalt Surfaces	0.00	2,329,048
Parking Lot	0.00	8,694,245

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	708	—
Industrial Park	2,019	—
Regional Shopping Center	423	—
Supermarket	1,446	—
Strip Mall	142	—
Other Non-Asphalt Surfaces	0.00	—
Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

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)

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Default phase durations. The SoTu Master Plan is intended to be a guiding document for future development. There are no individual projects proposed at this time.
Operations: Vehicle Data	Trip generation rates adjusted to match rates from the Institute of Transportation Engineers (ITE) Manual, 11th Edition - consistent with the project-specific traffic study.
Operations: Fleet Mix	Truck fleet mix applied to the non-asphalt land use to account for truck trips from the industrial use. Fleet mix based on the CalEEMod default proportions.

Residential and Public Uses - Localized Analysis Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Residential and Public Uses - Localized Analysis
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.10
Precipitation (days)	23.0
Location	36.053553, -119.055397
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2736
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.17

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

Single Family Housing	539	Dwelling Unit	73.2	1,051,050	6,313,230	—	1,822	—
Apartments Low Rise	1,486	Dwelling Unit	56.9	1,575,160	372,046	—	5,023	—
City Park	66.5	Acre	66.5	0.00	2,895,869	2,895,869	—	—
Elementary School	750	Student	15.8	62,703	103,303	103,303	—	—
Other Asphalt Surfaces	14.6	Acre	14.6	0.00	95,527	—	—	—
Parking Lot	21.7	Acre	21.7	0.00	141,722	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	16.4	15.3	76.8	95.9	0.14	3.23	9.33	12.3	2.97	4.11	5.58	—	15,847	15,847	0.94	0.35	3.23	15,979
2025	15.2	14.3	69.8	92.5	0.14	2.80	9.10	11.9	2.58	2.06	4.63	—	15,819	15,819	0.91	0.35	3.04	15,949
2026	12.4	11.3	51.0	70.2	0.11	1.88	7.45	9.33	1.73	1.89	3.62	—	12,735	12,735	0.78	0.32	2.70	12,852
2027	8.18	7.62	22.6	41.2	0.05	0.68	2.20	2.88	0.62	0.30	0.92	—	6,074	6,074	0.48	0.26	2.38	6,166
2028	7.75	7.22	21.5	40.1	0.05	0.61	2.20	2.81	0.56	0.30	0.86	—	6,048	6,048	0.44	0.23	2.13	6,129
2029	7.31	6.79	20.7	39.2	0.05	0.56	2.20	2.76	0.51	0.30	0.81	—	6,020	6,020	0.43	0.23	1.89	6,101
2030	6.93	6.43	20.2	38.3	0.05	0.53	2.20	2.73	0.48	0.30	0.78	—	5,994	5,994	0.43	0.22	1.68	6,073
2031	6.56	6.05	19.6	37.3	0.05	0.49	2.20	2.69	0.45	0.30	0.75	—	5,969	5,969	0.40	0.22	1.48	6,047
2032	6.16	5.67	19.0	36.5	0.05	0.45	2.20	2.65	0.41	0.30	0.71	—	5,946	5,946	0.40	0.22	1.30	6,022

2033	6.70	58.2	19.5	38.7	0.05	0.42	3.94	4.36	0.38	0.48	0.87	—	6,202	6,202	0.41	0.22	1.30	6,280
2034	0.78	52.8	1.00	2.78	< 0.005	0.01	1.74	1.75	0.01	0.19	0.19	—	276	276	0.04	0.02	0.15	283
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	15.4	14.2	77.2	101	0.14	3.23	9.33	12.3	2.97	4.11	5.58	—	15,803	15,803	1.05	0.35	0.08	15,934
2025	14.3	13.3	70.2	97.5	0.14	2.80	9.10	11.9	2.58	2.06	4.63	—	15,776	15,776	1.02	0.35	0.08	15,905
2026	11.6	10.4	51.4	74.7	0.11	1.88	7.45	9.33	1.73	1.89	3.62	—	12,692	12,692	0.86	0.32	0.07	12,809
2027	7.47	6.86	22.9	45.3	0.05	0.68	2.20	2.88	0.62	0.30	0.92	—	6,033	6,033	0.54	0.26	0.06	6,124
2028	7.09	6.52	21.9	44.0	0.05	0.61	2.20	2.81	0.56	0.30	0.86	—	6,008	6,008	0.51	0.26	0.06	6,097
2029	6.72	6.15	21.0	42.7	0.05	0.56	2.20	2.76	0.51	0.30	0.81	—	5,981	5,981	0.51	0.26	0.05	6,070
2030	6.37	5.84	20.5	41.6	0.05	0.53	2.20	2.73	0.48	0.30	0.78	—	5,955	5,955	0.49	0.25	0.04	6,043
2031	6.03	5.50	19.9	40.4	0.05	0.49	2.20	2.69	0.45	0.30	0.75	—	5,931	5,931	0.46	0.23	0.04	6,009
2032	5.70	5.20	19.3	39.3	0.05	0.45	2.20	2.65	0.41	0.30	0.71	—	5,908	5,908	0.46	0.22	0.03	5,984
2033	6.22	57.7	19.8	41.8	0.05	0.42	3.94	4.36	0.38	0.48	0.87	—	6,156	6,156	0.47	0.24	0.03	6,239
2034	0.72	52.7	1.03	3.24	< 0.005	0.01	1.74	1.75	0.01	0.19	0.19	—	268	268	0.05	0.02	< 0.005	276
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	5.71	5.12	35.3	38.6	0.06	1.52	6.54	8.07	1.40	2.48	3.88	—	6,218	6,218	0.34	0.10	0.33	6,257
2025	9.34	8.50	42.6	57.4	0.09	1.66	5.51	7.17	1.53	1.37	2.90	—	9,779	9,779	0.63	0.23	0.92	9,865
2026	6.94	6.32	26.1	40.6	0.06	0.92	3.20	4.12	0.84	0.73	1.57	—	6,540	6,540	0.47	0.20	0.82	6,614
2027	5.40	4.97	16.2	30.4	0.04	0.48	1.49	1.98	0.45	0.20	0.65	—	4,315	4,315	0.36	0.19	0.73	4,380
2028	5.14	4.74	15.5	29.7	0.04	0.43	1.50	1.93	0.40	0.20	0.60	—	4,308	4,308	0.35	0.18	0.66	4,372
2029	4.85	4.46	14.9	28.8	0.04	0.40	1.49	1.89	0.37	0.20	0.57	—	4,277	4,277	0.33	0.16	0.58	4,335
2030	4.60	4.22	14.5	28.2	0.04	0.38	1.49	1.87	0.35	0.20	0.55	—	4,259	4,259	0.33	0.16	0.52	4,316
2031	4.33	3.98	14.1	27.4	0.04	0.35	1.49	1.84	0.32	0.20	0.53	—	4,242	4,242	0.31	0.16	0.46	4,297
2032	4.12	3.77	13.7	26.8	0.04	0.32	1.50	1.82	0.30	0.20	0.50	—	4,237	4,237	0.31	0.16	0.40	4,291
2033	2.91	39.8	8.62	17.8	0.02	0.18	2.06	2.23	0.16	0.25	0.41	—	2,697	2,697	0.20	0.11	0.26	2,735
2034	0.14	10.0	0.19	0.56	< 0.005	< 0.005	0.31	0.31	< 0.005	0.03	0.03	—	51.2	51.2	0.01	< 0.005	0.01	52.6

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	0.93	6.44	7.04	0.01	0.28	1.19	1.47	0.26	0.45	0.71	—	1,029	1,029	0.06	0.02	0.05	1,036
2025	1.70	1.55	7.78	10.5	0.02	0.30	1.01	1.31	0.28	0.25	0.53	—	1,619	1,619	0.10	0.04	0.15	1,633
2026	1.27	1.15	4.76	7.41	0.01	0.17	0.58	0.75	0.15	0.13	0.29	—	1,083	1,083	0.08	0.03	0.14	1,095
2027	0.99	0.91	2.96	5.55	0.01	0.09	0.27	0.36	0.08	0.04	0.12	—	714	714	0.06	0.03	0.12	725
2028	0.94	0.87	2.83	5.42	0.01	0.08	0.27	0.35	0.07	0.04	0.11	—	713	713	0.06	0.03	0.11	724
2029	0.89	0.81	2.71	5.26	0.01	0.07	0.27	0.34	0.07	0.04	0.10	—	708	708	0.05	0.03	0.10	718
2030	0.84	0.77	2.65	5.14	0.01	0.07	0.27	0.34	0.06	0.04	0.10	—	705	705	0.05	0.03	0.09	715
2031	0.79	0.73	2.57	5.00	0.01	0.06	0.27	0.34	0.06	0.04	0.10	—	702	702	0.05	0.03	0.08	711
2032	0.75	0.69	2.49	4.89	0.01	0.06	0.27	0.33	0.05	0.04	0.09	—	701	701	0.05	0.03	0.07	710
2033	0.53	7.27	1.57	3.24	< 0.005	0.03	0.38	0.41	0.03	0.05	0.08	—	447	447	0.03	0.02	0.04	453
2034	0.03	1.83	0.04	0.10	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	8.47	8.47	< 0.005	< 0.005	< 0.005	8.71

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	65.1	63.5	20.0	156	0.10	0.13	5.99	6.12	0.12	1.52	1.64	—	10,354	10,354	2.97	1.64	26.6	10,944
Area	13.3	75.8	17.9	125	0.11	1.42	—	1.42	1.41	—	1.41	0.00	21,637	21,637	0.41	0.04	—	21,661
Energy	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	34,193	34,193	2.53	0.17	—	34,307
Water	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Waste	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Total	79.8	140	50.1	286	0.29	2.54	5.99	8.52	2.51	1.52	4.03	1,131	67,457	68,588	119	2.27	45.7	72,298
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	56.1	54.0	22.7	202	0.10	0.13	5.99	6.12	0.12	1.52	1.64	—	9,774	9,774	3.94	1.79	0.69	10,407
Area	1.97	65.0	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341
Energy	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	34,193	34,193	2.53	0.17	—	34,307
Water	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Waste	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Total	59.5	120	51.7	214	0.28	2.47	5.99	8.46	2.46	1.52	3.98	1,131	66,559	67,689	120	2.42	19.7	71,441
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	53.1	51.4	19.5	159	0.09	0.12	5.47	5.59	0.11	1.39	1.50	—	9,185	9,185	3.19	1.57	10.7	9,743
Area	6.05	69.5	4.34	59.5	0.03	0.34	—	0.34	0.33	—	0.33	0.00	4,947	4,947	0.10	0.01	—	4,952
Energy	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	34,193	34,193	2.53	0.17	—	34,307
Water	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Waste	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Total	60.6	122	36.1	224	0.19	1.44	5.47	6.91	1.43	1.39	2.81	1,131	49,598	50,728	119	2.17	29.7	54,388
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.69	9.38	3.57	29.1	0.02	0.02	1.00	1.02	0.02	0.25	0.27	—	1,521	1,521	0.53	0.26	1.77	1,613
Area	1.10	12.7	0.79	10.9	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	819	819	0.02	< 0.005	—	820
Energy	0.26	0.13	2.22	0.98	0.01	0.18	—	0.18	0.18	—	0.18	—	5,661	5,661	0.42	0.03	—	5,680
Water	—	—	—	—	—	—	—	—	—	—	—	27.9	211	239	2.88	0.07	—	331
Waste	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	557
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	11.1	22.2	6.58	40.9	0.04	0.26	1.00	1.26	0.26	0.25	0.51	187	8,211	8,399	19.8	0.36	4.92	9,005

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.68	7.68	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.68	7.68	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.14	1.80	17.7	16.2	0.02	0.79	—	0.79	0.73	—	0.73	—	2,612	2,612	0.11	0.02	—	2,621
Dust From Material Movement	—	—	—	—	—	—	3.79	3.79	—	1.94	1.94	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.76	0.76	< 0.005	0.08	0.08	—	7.07	7.07	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.33	3.24	2.96	< 0.005	0.14	—	0.14	0.13	—	0.13	—	432	432	0.02	< 0.005	—	434
Dust From Material Movement	—	—	—	—	—	—	0.69	0.69	—	0.35	0.35	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	1.17	1.17	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.02	0.23	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.03	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.30	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.42	9.42	0.01	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.27	5.27	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	—

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	—

3.3. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.78	6.85	0.01	0.33	—	0.33	0.30	—	0.30	—	1,498	1,498	0.06	0.01	—	1,503

Dust From Material Movement	—	—	—	—	—	—	0.81	0.81	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	3.26	3.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	1.42	1.25	< 0.005	0.06	—	0.06	0.06	—	0.06	—	248	248	0.01	< 0.005	—	249
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.54	0.54	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.02	0.26	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.03	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.03	0.34	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.8	10.8	0.01	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.48	2.48	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	—
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	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	—
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	—

3.5. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
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	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.72	2.28	21.2	20.2	0.04	0.88	—	0.88	0.81	—	0.81	—	4,713	4,713	0.19	0.04	—	4,730
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	10.1	10.1	< 0.005	< 0.005	0.01	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.87	3.69	0.01	0.16	—	0.16	0.15	—	0.15	—	780	780	0.03	0.01	—	783
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.66	1.66	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	0.02	0.25	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.03	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.02	0.32	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	0.01	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	7.63	7.63	< 0.005	< 0.005	0.01	—

Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.50	7.50	< 0.005	< 0.005	0.01	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.24	1.24	< 0.005	< 0.005	< 0.005	—
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	—

3.7. Grading (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.7	13.7	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.21	1.01	9.06	9.17	0.02	0.37	—	0.37	0.34	—	0.34	—	2,195	2,195	0.09	0.02	—	2,203
Dust From Material Movement	—	—	—	—	—	—	1.19	1.19	—	0.47	0.47	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	4.59	4.59	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.65	1.67	< 0.005	0.07	—	0.07	0.06	—	0.06	—	363	363	0.01	< 0.005	—	365
Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.02	0.23	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.03	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.30	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	0.01	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	< 0.005	—

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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.47	3.47	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.43	3.43	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	—
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	—

3.9. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.87	2.41	22.4	26.2	0.05	1.00	—	1.00	0.92	—	0.92	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.87	2.41	22.4	26.2	0.05	1.00	—	1.00	0.92	—	0.92	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.65	0.55	5.09	5.95	0.01	0.23	—	0.23	0.21	—	0.21	—	1,089	1,089	0.04	0.01	—	1,092
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	3.26	3.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.93	1.09	< 0.005	0.04	—	0.04	0.04	—	0.04	—	180	180	0.01	< 0.005	—	181
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.54	0.54	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.93	6.76	1.37	17.1	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	743	743	0.30	0.13	2.12	—
Vendor	0.18	0.13	2.76	1.70	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	604	604	0.04	0.09	0.97	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.96	5.73	1.62	22.2	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	695	695	0.41	0.13	0.05	—
Vendor	0.16	0.11	2.91	1.80	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	608	608	0.04	0.09	0.03	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.39	1.35	0.33	4.28	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	160	160	0.08	0.03	0.21	—
Vendor	0.04	0.03	0.64	0.40	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	137	137	0.01	0.02	0.09	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.25	0.06	0.78	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	26.5	26.5	0.01	< 0.005	0.03	—
Vendor	0.01	0.01	0.12	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.8	22.8	< 0.005	< 0.005	0.02	—
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	—

3.11. 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	2.69	2.25	20.9	26.1	0.05	0.86	—	0.86	0.79	—	0.79	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.69	2.25	20.9	26.1	0.05	0.86	—	0.86	0.79	—	0.79	—	4,795	4,795	0.19	0.04	—	4,812
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.92	1.61	14.9	18.6	0.03	0.62	—	0.62	0.57	—	0.57	—	3,425	3,425	0.14	0.03	—	3,437
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	10.1	10.1	< 0.005	< 0.005	0.01	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.72	3.40	0.01	0.11	—	0.11	0.10	—	0.10	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.66	1.66	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.46	6.33	1.27	15.8	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	726	726	0.27	0.13	1.93	—
Vendor	0.17	0.12	2.72	1.68	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	593	593	0.04	0.09	0.97	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.58	5.39	1.51	20.6	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	679	679	0.38	0.13	0.05	—
Vendor	0.16	0.11	2.86	1.77	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	598	598	0.04	0.09	0.03	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.06	3.95	0.99	12.5	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	492	492	0.23	0.09	0.60	—
Vendor	0.12	0.08	1.99	1.23	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	425	425	0.03	0.06	0.30	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74	0.72	0.18	2.28	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	81.5	81.5	0.04	0.02	0.10	—
Vendor	0.02	0.01	0.36	0.22	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	70.4	70.4	< 0.005	0.01	0.05	—
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	—

3.13. Building Construction (2026) - Unmitigated

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

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

Off-Road Equipment	2.56	2.14	19.7	25.9	0.05	0.76	—	0.76	0.70	—	0.70	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.7	13.7	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.56	2.14	19.7	25.9	0.05	0.76	—	0.76	0.70	—	0.70	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.83	1.53	14.1	18.5	0.03	0.54	—	0.54	0.50	—	0.50	—	3,425	3,425	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.86	9.86	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.28	2.57	3.38	0.01	0.10	—	0.10	0.09	—	0.09	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.63	1.63	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.97	5.85	1.18	14.7	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	710	710	0.27	0.13	1.76	—
Vendor	0.17	0.12	2.68	1.65	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	583	583	0.04	0.09	0.86	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.21	5.03	1.41	19.1	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	663	663	0.36	0.13	0.05	—

Vendor	0.15	0.11	2.82	1.74	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	588	588	0.03	0.09	0.02	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.76	3.67	0.90	11.6	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	481	481	0.21	0.09	0.54	—
Vendor	0.11	0.08	1.96	1.21	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	418	418	0.03	0.06	0.27	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.67	0.17	2.11	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	79.7	79.7	0.04	0.02	0.09	—
Vendor	0.02	0.01	0.36	0.22	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	69.2	69.2	< 0.005	0.01	0.04	—
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	—

3.15. Building Construction (2027) - 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	2.46	2.06	18.8	25.9	0.05	0.67	—	0.67	0.62	—	0.62	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.5	13.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.06	18.8	25.9	0.05	0.67	—	0.67	0.62	—	0.62	—	4,794	4,794	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.6	13.6	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.76	1.47	13.4	18.5	0.03	0.48	—	0.48	0.44	—	0.44	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.66	9.66	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.45	3.37	0.01	0.09	—	0.09	0.08	—	0.08	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.60	1.60	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.55	5.43	1.11	13.6	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	695	695	0.24	0.13	1.60	—
Vendor	0.17	0.12	2.63	1.63	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	572	572	0.04	0.09	0.77	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.85	4.69	1.29	17.7	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	648	648	0.31	0.13	0.04	—
Vendor	0.15	0.10	2.78	1.72	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	577	577	0.03	0.09	0.02	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.53	3.41	0.85	10.7	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	471	471	0.19	0.09	0.49	—
Vendor	0.11	0.08	1.93	1.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	410	410	0.02	0.06	0.24	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64	0.62	0.16	1.95	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	77.9	77.9	0.03	0.02	0.08	—

Vendor	0.02	0.01	0.35	0.22	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	67.9	67.9	< 0.005	0.01	0.04	—
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	—

3.17. Building Construction (2028) - 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	2.37	1.98	17.8	25.9	0.05	0.60	—	0.60	0.55	—	0.55	—	4,795	4,795	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.2	13.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.37	1.98	17.8	25.9	0.05	0.60	—	0.60	0.55	—	0.55	—	4,795	4,795	0.19	0.04	—	4,811
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.3	13.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.42	12.8	18.5	0.03	0.43	—	0.43	0.40	—	0.40	—	3,434	3,434	0.14	0.03	—	3,446
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	9.49	9.49	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.33	3.38	0.01	0.08	—	0.08	0.07	—	0.07	—	569	569	0.02	< 0.005	—	571
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.57	1.57	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.22	5.12	1.01	12.6	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	680	680	0.21	0.10	1.44	—
Vendor	0.16	0.11	2.58	1.61	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	560	560	0.03	0.09	0.68	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.57	4.44	1.22	16.4	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	634	634	0.28	0.13	0.04	—
Vendor	0.15	0.10	2.72	1.70	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	565	565	0.03	0.09	0.02	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.33	3.24	0.77	9.96	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	462	462	0.18	0.09	0.45	—
Vendor	0.11	0.08	1.89	1.18	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	403	403	0.03	0.06	0.21	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.59	0.14	1.82	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	76.5	76.5	0.03	0.02	0.07	—
Vendor	0.02	0.01	0.35	0.22	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.6	66.6	< 0.005	0.01	0.03	—
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	—

3.19. Building Construction (2029) - 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	2.31	1.93	17.2	25.8	0.05	0.55	—	0.55	0.51	—	0.51	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.9	12.9	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.2	25.8	0.05	0.55	—	0.55	0.51	—	0.51	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.1	13.1	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	1.38	12.3	18.4	0.03	0.39	—	0.39	0.36	—	0.36	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.26	9.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.25	2.24	3.36	0.01	0.07	—	0.07	0.07	—	0.07	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.53	1.53	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.85	4.75	0.97	11.7	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	666	666	0.20	0.10	1.29	—
Vendor	0.15	0.11	2.52	1.60	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	547	547	0.03	0.09	0.59	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.27	4.12	1.14	15.2	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	621	621	0.28	0.13	0.03	—

Vendor	0.14	0.09	2.67	1.68	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	553	553	0.03	0.09	0.02	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.10	3.01	0.72	9.20	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	451	451	0.16	0.07	0.40	—
Vendor	0.11	0.07	1.85	1.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	393	393	0.02	0.06	0.18	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.55	0.13	1.68	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	74.7	74.7	0.03	0.01	0.07	—
Vendor	0.02	0.01	0.34	0.21	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	65.0	65.0	< 0.005	0.01	0.03	—
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	—

3.21. Building Construction (2030) - 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	2.25	1.88	16.8	25.8	0.05	0.52	—	0.52	0.48	—	0.48	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.25	1.88	16.8	25.8	0.05	0.52	—	0.52	0.48	—	0.48	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.8	12.8	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.61	1.34	12.0	18.4	0.03	0.37	—	0.37	0.34	—	0.34	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.08	9.08	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.25	2.19	3.36	0.01	0.07	—	0.07	0.06	—	0.06	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.50	1.50	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.52	4.44	0.90	10.9	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	653	653	0.20	0.10	1.15	—
Vendor	0.15	0.11	2.47	1.59	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	535	535	0.03	0.08	0.51	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.98	3.87	1.07	14.1	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	609	609	0.26	0.13	0.03	—
Vendor	0.14	0.09	2.62	1.66	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	540	540	0.03	0.08	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.89	2.80	0.69	8.55	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	442	442	0.16	0.07	0.36	—
Vendor	0.10	0.07	1.81	1.16	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	384	384	0.02	0.06	0.16	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.51	0.13	1.56	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	73.2	73.2	0.03	0.01	0.06	—

Vendor	0.02	0.01	0.33	0.21	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	63.5	63.5	< 0.005	0.01	0.03	—
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	—

3.23. Building Construction (2031) - 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	2.20	1.84	16.2	25.7	0.05	0.49	—	0.49	0.45	—	0.45	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.4	12.4	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.20	1.84	16.2	25.7	0.05	0.49	—	0.49	0.45	—	0.45	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.57	1.31	11.6	18.4	0.03	0.35	—	0.35	0.32	—	0.32	—	3,424	3,424	0.14	0.03	—	3,436
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.90	8.90	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.12	3.35	0.01	0.06	—	0.06	0.06	—	0.06	—	567	567	0.02	< 0.005	—	569
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.47	1.47	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.21	4.11	0.82	10.0	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	641	641	0.17	0.10	1.02	—
Vendor	0.15	0.10	2.42	1.58	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	522	522	0.03	0.08	0.45	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.70	3.57	1.00	13.0	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	597	597	0.23	0.10	0.03	—
Vendor	0.14	0.09	2.57	1.65	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	528	528	0.03	0.08	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.66	2.59	0.64	7.87	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	434	434	0.14	0.07	0.32	—
Vendor	0.10	0.07	1.78	1.15	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	375	375	0.02	0.06	0.14	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.47	0.12	1.44	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	71.9	71.9	0.02	0.01	0.05	—
Vendor	0.02	0.01	0.32	0.21	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	62.0	62.0	< 0.005	0.01	0.02	—
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	—

3.25. Building Construction (2032) - 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	2.14	1.79	15.7	25.6	0.05	0.45	—	0.45	0.41	—	0.41	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.2	12.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.14	1.79	15.7	25.6	0.05	0.45	—	0.45	0.41	—	0.41	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.3	12.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.53	1.28	11.3	18.3	0.03	0.32	—	0.32	0.30	—	0.30	—	3,433	3,433	0.14	0.03	—	3,445
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	8.76	8.76	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.06	3.34	0.01	0.06	—	0.06	0.05	—	0.05	—	568	568	0.02	< 0.005	—	570
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.45	1.45	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.87	3.77	0.78	9.29	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	630	630	0.17	0.10	0.90	—
Vendor	0.15	0.10	2.38	1.57	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	510	510	0.03	0.08	0.39	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.41	3.31	0.92	12.0	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	586	586	0.23	0.10	0.02	—

Vendor	0.14	0.09	2.52	1.64	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	516	516	0.03	0.08	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.49	2.41	0.59	7.31	0.00	0.00	0.32	0.32	0.00	0.08	0.08	—	428	428	0.14	0.07	0.28	—
Vendor	0.10	0.07	1.75	1.15	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	367	367	0.02	0.06	0.12	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.44	0.11	1.33	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	70.8	70.8	0.02	0.01	0.05	—
Vendor	0.02	0.01	0.32	0.21	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	60.7	60.7	< 0.005	0.01	0.02	—
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	—

3.27. Building Construction (2033) - 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	2.10	1.75	15.3	25.6	0.05	0.41	—	0.41	0.37	—	0.37	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.0	12.0	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.10	1.75	15.3	25.6	0.05	0.41	—	0.41	0.37	—	0.37	—	4,794	4,794	0.19	0.04	—	4,810
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.1	12.1	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	0.74	6.51	10.9	0.02	0.17	—	0.17	0.16	—	0.16	—	2,036	2,036	0.08	0.02	—	2,043
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	5.11	5.11	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.19	1.98	< 0.005	0.03	—	0.03	0.03	—	0.03	—	337	337	0.01	< 0.005	—	338
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	0.85	0.85	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.61	3.54	0.73	8.65	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	620	620	0.14	0.09	0.79	—
Vendor	0.14	0.11	2.34	1.57	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	498	498	0.03	0.07	0.33	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.23	3.14	0.85	11.2	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	576	576	0.20	0.10	0.02	—
Vendor	0.13	0.09	2.48	1.63	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	504	504	0.03	0.07	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.40	1.36	0.33	4.03	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	249	249	0.07	0.04	0.14	—
Vendor	0.06	0.04	1.02	0.68	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	213	213	0.01	0.03	0.06	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.25	0.06	0.74	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	41.3	41.3	0.01	0.01	0.02	—

Vendor	0.01	0.01	0.19	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.2	35.2	< 0.005	0.01	0.01	—
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	—

3.29. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	1.70	15.6	20.1	0.03	0.78	—	0.78	0.72	—	0.72	—	3,023	3,023	0.12	0.02	—	3,034
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	1.70	15.6	20.1	0.03	0.78	—	0.78	0.72	—	0.72	—	3,023	3,023	0.12	0.02	—	3,034
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.55	4.55	0.01	0.18	—	0.18	0.16	—	0.16	—	686	686	0.03	0.01	—	689
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	3.26	3.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.07	0.65	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.54	0.54	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.20	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.64	8.64	< 0.005	< 0.005	0.02	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.02	0.26	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.07	8.07	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	—
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	—

3.31. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.60	14.9	20.0	0.03	0.70	—	0.70	0.64	—	0.64	—	3,023	3,023	0.12	0.02	—	3,033
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.60	14.9	20.0	0.03	0.70	—	0.70	0.64	—	0.64	—	3,023	3,023	0.12	0.02	—	3,033
Paving	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.36	3.36	4.49	0.01	0.16	—	0.16	0.14	—	0.14	—	680	680	0.03	0.01	—	683
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.03	—	3.17	3.17	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.61	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	113	113	< 0.005	< 0.005	—	113
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.52	0.52	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.01	0.18	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.44	8.44	< 0.005	< 0.005	0.02	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.02	0.24	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.89	7.89	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.36	2.36	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	—
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	—

3.33. Architectural Coating (2033) - Unmitigated

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

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

Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.0	12.0	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.1	12.1	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.55	0.79	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	—	37.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.59	8.59	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	—	6.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.42	1.42	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72	0.71	0.15	1.73	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	124	124	0.03	0.02	0.16	—
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.79	8.79	< 0.005	< 0.005	0.01	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.63	0.17	2.23	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	115	115	0.04	0.02	< 0.005	—
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.90	8.90	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.46	0.11	1.36	0.00	0.00	0.06	0.06	0.00	0.02	0.02	—	83.9	83.9	0.02	0.01	0.05	—
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.31	6.31	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.02	0.25	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	—
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	—

3.35. Architectural Coating (2034) - Unmitigated

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

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

Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.8	11.8	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.76	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	52.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.9	11.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.3	25.3	< 0.005	< 0.005	—	25.4
Architectural Coatings	—	9.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.25	2.25	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.20	4.20	< 0.005	< 0.005	—	4.21
Architectural Coatings	—	1.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	0.37	0.37	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.65	0.14	1.60	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	122	122	0.03	0.02	0.14	—
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.60	8.60	< 0.005	< 0.005	< 0.005	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.60	0.58	0.16	2.06	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	113	113	0.04	0.02	< 0.005	—
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.71	8.71	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.03	0.33	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.9	21.9	0.01	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.64	1.64	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.06	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.63	3.63	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	—
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	—

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	19.5	19.1	6.02	47.6	0.03	0.04	1.80	1.84	0.04	0.46	0.49	—	3,101	3,101	0.90	0.49	7.89	3,279
Apartments Low Rise	38.3	37.4	11.8	93.3	0.06	0.08	3.53	3.61	0.07	0.89	0.97	—	6,078	6,078	1.76	0.97	15.5	6,427
City Park	0.57	0.56	0.17	1.21	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	92.5	92.5	0.02	0.01	0.26	97.5
Elementary School	6.65	6.49	2.01	14.2	0.01	0.01	0.61	0.62	0.01	0.15	0.17	—	1,082	1,082	0.28	0.16	3.01	1,141
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	65.1	63.5	20.0	156	0.10	0.13	5.99	6.12	0.12	1.52	1.64	—	10,354	10,354	2.97	1.64	26.6	10,944
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	16.8	16.2	6.84	61.5	0.03	0.04	1.80	1.84	0.04	0.46	0.49	—	2,925	2,925	1.19	0.54	0.20	3,116
Apartments Low Rise	33.0	31.8	13.4	121	0.06	0.08	3.53	3.61	0.07	0.89	0.97	—	5,734	5,734	2.34	1.06	0.40	6,108
City Park	0.49	0.47	0.19	1.55	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	87.8	87.8	0.03	0.02	0.01	93.1
Elementary School	5.74	5.54	2.27	18.1	0.01	0.01	0.61	0.62	0.01	0.15	0.17	—	1,027	1,027	0.37	0.18	0.08	1,090
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	56.1	54.0	22.7	202	0.10	0.13	5.99	6.12	0.12	1.52	1.64	—	9,774	9,774	3.94	1.79	0.69	10,407
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.08	2.98	1.14	9.39	0.01	0.01	0.32	0.32	0.01	0.08	0.09	—	482	482	0.17	0.08	0.55	511
Apartments Low Rise	5.49	5.31	2.03	16.7	0.01	0.01	0.57	0.58	0.01	0.14	0.16	—	859	859	0.30	0.15	0.99	912
City Park	0.05	0.05	0.02	0.13	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	7.74	7.74	< 0.005	< 0.005	0.01	8.19
Elementary School	1.07	1.04	0.39	2.84	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	172	172	0.05	0.03	0.22	182
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	9.69	9.38	3.57	29.1	0.02	0.02	1.00	1.02	0.02	0.25	0.27	—	1,521	1,521	0.53	0.26	1.77	1,613

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	6,981	6,981	0.43	0.05	—	7,008

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	9,984	9,984	0.62	0.08	—	10,022
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Element ary School	—	—	—	—	—	—	—	—	—	—	—	—	603	603	0.04	< 0.005	—	605
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,206	1,206	0.07	0.01	—	1,211
Total	—	—	—	—	—	—	—	—	—	—	—	—	18,774	18,774	1.16	0.14	—	18,846
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	6,981	6,981	0.43	0.05	—	7,008
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	9,984	9,984	0.62	0.08	—	10,022
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Element ary School	—	—	—	—	—	—	—	—	—	—	—	—	603	603	0.04	< 0.005	—	605
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,206	1,206	0.07	0.01	—	1,211
Total	—	—	—	—	—	—	—	—	—	—	—	—	18,774	18,774	1.16	0.14	—	18,846
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,156	1,156	0.07	0.01	—	1,160

Apartment Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,653	1,653	0.10	0.01	—	1,659
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	99.8	99.8	0.01	< 0.005	—	100
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	200	200	0.01	< 0.005	—	200
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,108	3,108	0.19	0.02	—	3,120

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.58	0.29	4.97	2.11	0.03	0.40	—	0.40	0.40	—	0.40	—	6,307	6,307	0.56	0.01	—	6,324
Apartments Low Rise	0.79	0.40	6.75	2.87	0.04	0.55	—	0.55	0.55	—	0.55	—	8,572	8,572	0.76	0.02	—	8,596
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	540	540	0.05	< 0.005	—	541
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	15,419	15,419	1.36	0.03	—	15,462
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.58	0.29	4.97	2.11	0.03	0.40	—	0.40	0.40	—	0.40	—	6,307	6,307	0.56	0.01	—	6,324
Apartments Low Rise	0.79	0.40	6.75	2.87	0.04	0.55	—	0.55	0.55	—	0.55	—	8,572	8,572	0.76	0.02	—	8,596
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	540	540	0.05	< 0.005	—	541
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	1.42	0.71	12.2	5.37	0.08	0.98	—	0.98	0.98	—	0.98	—	15,419	15,419	1.36	0.03	—	15,462
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.05	0.91	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,044	1,044	0.09	< 0.005	—	1,047
Apartments Low Rise	0.14	0.07	1.23	0.52	0.01	0.10	—	0.10	0.10	—	0.10	—	1,419	1,419	0.13	< 0.005	—	1,423
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Elementary School	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	89.3	89.3	0.01	< 0.005	—	89.6

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.26	0.13	2.22	0.98	0.01	0.18	—	0.18	0.18	—	0.18	—	2,553	2,553	0.23	< 0.005	—	2,560

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.97	0.98	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341
Consumer Products	—	59.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	11.4	10.8	1.15	117	0.01	0.06	—	0.06	0.05	—	0.05	—	318	318	0.01	< 0.005	—	320
Total	13.3	75.8	17.9	125	0.11	1.42	—	1.42	1.41	—	1.41	0.00	21,637	21,637	0.41	0.04	—	21,661
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.97	0.98	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341

Consumer Products	—	59.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.97	65.0	16.8	7.15	0.11	1.36	—	1.36	1.36	—	1.36	0.00	21,319	21,319	0.40	0.04	—	21,341
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.69	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	793	793	0.01	< 0.005	—	794
Consumer Products	—	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.02	0.97	0.10	10.6	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Total	1.10	12.7	0.79	10.9	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	819	819	0.02	< 0.005	—	820

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	44.0	524	568	4.54	0.11	—	715

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	386	507	12.5	0.30	—	908
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	328	328	0.02	< 0.005	—	329
Element ary School	—	—	—	—	—	—	—	—	—	—	—	3.48	22.1	25.6	0.36	0.01	—	37.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	4.86	4.86	< 0.005	< 0.005	—	4.88
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	7.21	7.21	< 0.005	< 0.005	—	7.24
Total	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	44.0	524	568	4.54	0.11	—	715
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	386	507	12.5	0.30	—	908
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	328	328	0.02	< 0.005	—	329
Element ary School	—	—	—	—	—	—	—	—	—	—	—	3.48	22.1	25.6	0.36	0.01	—	37.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	4.86	4.86	< 0.005	< 0.005	—	4.88
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	7.21	7.21	< 0.005	< 0.005	—	7.24
Total	—	—	—	—	—	—	—	—	—	—	—	169	1,272	1,441	17.4	0.42	—	2,001
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.28	86.8	94.1	0.75	0.02	—	118

Apartment Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.1	64.0	84.0	2.06	0.05	—	150
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	54.2	54.2	< 0.005	< 0.005	—	54.4
Elementary School	—	—	—	—	—	—	—	—	—	—	—	0.58	3.66	4.24	0.06	< 0.005	—	6.15
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.80	0.80	< 0.005	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	1.19	1.19	< 0.005	< 0.005	—	1.20
Total	—	—	—	—	—	—	—	—	—	—	—	27.9	211	239	2.88	0.07	—	331

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	293	0.00	293	29.3	0.00	—	1,025
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	592	0.00	592	59.2	0.00	—	2,072
City Park	—	—	—	—	—	—	—	—	—	—	—	3.08	0.00	3.08	0.31	0.00	—	10.8
Elementary School	—	—	—	—	—	—	—	—	—	—	—	73.8	0.00	73.8	7.37	0.00	—	258

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	293	0.00	293	29.3	0.00	—	1,025
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	592	0.00	592	59.2	0.00	—	2,072
City Park	—	—	—	—	—	—	—	—	—	—	—	3.08	0.00	3.08	0.31	0.00	—	10.8
Elementary School	—	—	—	—	—	—	—	—	—	—	—	73.8	0.00	73.8	7.37	0.00	—	258
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	962	0.00	962	96.2	0.00	—	3,366
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.5	0.00	48.5	4.85	0.00	—	170
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	98.1	0.00	98.1	9.80	0.00	—	343
City Park	—	—	—	—	—	—	—	—	—	—	—	0.51	0.00	0.51	0.05	0.00	—	1.78

Elementary School	—	—	—	—	—	—	—	—	—	—	—	12.2	0.00	12.2	1.22	0.00	—	42.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	557

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.3	11.3
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.3	11.3
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.1	19.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.87	1.87
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	1/01/2024	9/6/2024	5.00	180	—
Grading	Grading	9/7/2024	6/19/2026	5.00	465	—
Building Construction	Building Construction	9/7/2024	8/5/2033	5.00	2,325	Halved duration to account for concurrent development
Paving	Paving	9/7/2024	4/25/2025	5.00	165	Halved duration to account for concurrent development
Architectural Coating	Architectural Coating	1/1/2033	4/7/2034	5.00	330	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	2.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	6.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	4.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	4.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	4.00	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	0.50	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	0.50	HHDT,MHDT
Site Preparation	Hauling	0.00	0.50	HHDT
Site Preparation	Onsite truck	4.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	0.50	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.50	HHDT,MHDT
Grading	Hauling	0.00	0.50	HHDT
Grading	Onsite truck	4.00	0.50	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,290	0.50	LDA,LDT1,LDT2
Building Construction	Vendor	227	0.50	HHDT,MHDT
Building Construction	Hauling	0.00	0.50	HHDT
Building Construction	Onsite truck	4.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	0.50	LDA,LDT1,LDT2
Paving	Vendor	4.00	0.50	HHDT,MHDT
Paving	Hauling	0.00	0.50	HHDT
Paving	Onsite truck	4.00	0.50	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	258	0.50	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	0.50	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.50	HHDT
Architectural Coating	Onsite truck	4.00	0.50	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	5,318,075	1,772,692	94,055	31,352	94,900

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	50,000	50,000	270	0.00	—
Grading	—	—	1,395	0.00	—
Paving	0.00	0.00	0.00	0.00	179,442

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	5.94	0%
Apartments Low Rise	—	0%
City Park	145,000	0%
Elementary School	34,400	0%
Other Asphalt Surfaces	14.6	100%
Parking Lot	21.7	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005
2029	0.00	532	0.03	< 0.005
2030	0.00	532	0.03	< 0.005
2031	0.00	532	0.03	< 0.005
2032	0.00	532	0.03	< 0.005
2033	0.00	532	0.03	< 0.005
2034	0.00	532	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
Single Family Housing	5,083	5,110	4,571	1,829,977	2,541	2,555	2,285	914,988
Apartments Low Rise	10,016	6,761	5,736	3,262,957	5,008	3,381	2,868	1,631,479
City Park	52.0	130	146	27,943	26.0	65.2	72.8	13,971
Elementary School	1,703	1,703	1,703	621,595	852	852	852	310,798
Other Asphalt Surfaces	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	270
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	270
Conventional Wood Stoves	0
Catalytic Wood Stoves	27

Non-Catalytic Wood Stoves	27
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	743
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	743
Conventional Wood Stoves	0
Catalytic Wood Stoves	74
Non-Catalytic Wood Stoves	74
Pellet Wood Stoves	0

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)
5318075.25	1,772,692	94,055	31,352	94,900

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)
Single Family Housing	4,789,802	532	0.0330	0.0040	19,679,429
Apartments Low Rise	6,850,371	532	0.0330	0.0040	26,748,148
City Park	0.00	532	0.0330	0.0040	0.00
Elementary School	413,525	532	0.0330	0.0040	1,683,691
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Parking Lot	827,659	532	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)
Single Family Housing	22,941,268	111,359,776
Apartments Low Rise	63,248,098	6,562,560
City Park	0.00	92,873,745
Elementary School	1,818,180	3,313,028
Other Asphalt Surfaces	0.00	1,378,647
Parking Lot	0.00	2,045,339

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	544	—
Apartments Low Rise	1,099	—
City Park	5.72	—
Elementary School	137	—

Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Elementary School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

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)

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on project description and traffic report. Run includes Low Density Residential, Medium Density Residential, High Density Residential, Public/Institutional, Parks, and portion of Right-of-Ways.
Construction: Construction Phases	Default phase durations. The SoTu Master Plan is intended to be a guiding document for future development. There are no individual projects proposed at this time.
Construction: Off-Road Equipment	Adjusted equipment to match CalEEMod default total HP hours (increased equipment in paving and building construction phases).
Construction: Paving	Added paved area for park and elementary school land uses (5%).
Operations: Vehicle Data	Trip generation rates adjusted to match rates from the Institute of Transportation Engineers (ITE) Manual, 11th Edition - consistent with the project-specific traffic study. Operational trip lengths updated to 0.5 mile to account for on-site and localized emissions from mobile sources.
Operations: Hearths	SJVAPCD Rule 4901 - Woodburning No woodburning fireplaces or wood stoves
Operations: Fleet Mix	SJVAPCD-approved residential fleet mix for the 2025 operational year applied to residential land uses. The use of an earlier operational year provides a conservative estimate of emissions.
Construction: Trips and VMT	Construction trip lengths updated to 0.5 mile to account for on-site and localized emissions from on-road sources.

Commercial and Industrial Uses - Localized Analysis Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Commercial and Industrial Uses - Localized Analysis
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.10
Precipitation (days)	23.0
Location	36.053553, -119.055397
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2736
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.17

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

General Office Building	762	1000sqft	17.5	761,700	114,255	—	—	—
Industrial Park	1,628	1000sqft	37.4	1,628,300	244,245	—	—	—
Regional Shopping Center	403	1000sqft	9.26	403,200	60,480	—	—	—
Supermarket	256	1000sqft	5.89	256,400	38,460	—	—	—
Strip Mall	135	1000sqft	3.09	134,800	20,220	—	—	—
Other Non-Asphalt Surfaces	8.53	Acre	8.53	0.00	55,726	—	—	—
Other Asphalt Surfaces	24.7	Acre	24.7	0.00	161,381	—	—	—
Parking Lot	92.2	Acre	92.2	0.00	602,428	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.51	3.79	37.2	33.9	0.05	1.60	9.36	11.0	1.47	4.12	5.59	—	5,554	5,554	0.24	0.08	0.33	5,585
2025	8.70	9.49	25.5	41.7	0.04	0.79	3.94	4.73	0.73	0.49	1.22	—	5,987	5,987	0.50	0.36	4.07	6,112
2026	7.15	6.72	17.2	30.2	0.03	0.39	2.29	2.68	0.36	0.32	0.68	—	4,403	4,403	0.44	0.35	3.62	4,520
2027	6.71	6.29	16.5	29.2	0.03	0.35	2.29	2.63	0.32	0.32	0.64	—	4,363	4,363	0.41	0.35	3.25	4,479
2028	6.34	5.95	15.9	28.3	0.03	0.31	2.29	2.60	0.29	0.32	0.61	—	4,322	4,322	0.37	0.31	2.90	4,428
2029	5.95	5.57	15.3	27.3	0.03	0.29	2.29	2.57	0.27	0.32	0.59	—	4,280	4,280	0.36	0.31	2.55	4,385

2030	5.62	5.26	15.0	26.5	0.03	0.27	2.29	2.56	0.25	0.32	0.57	—	4,239	4,239	0.36	0.30	2.25	4,339
2031	5.30	4.92	14.5	25.7	0.03	0.25	2.29	2.54	0.24	0.32	0.56	—	4,198	4,198	0.33	0.30	1.97	4,297
2032	4.96	4.59	14.1	25.0	0.03	0.24	2.29	2.52	0.21	0.32	0.53	—	4,159	4,159	0.33	0.29	1.72	4,256
2033	4.70	4.37	13.8	24.4	0.03	0.21	2.29	2.49	0.19	0.32	0.52	—	4,124	4,124	0.30	0.27	1.49	4,214
2034	4.40	4.10	13.5	23.8	0.03	0.20	2.29	2.48	0.18	0.32	0.51	—	4,090	4,090	0.30	0.27	1.27	4,180
2035	4.26	3.95	13.2	23.2	0.03	0.19	2.29	2.47	0.17	0.32	0.49	—	4,059	4,059	0.30	0.27	1.08	4,148
2036	4.73	78.4	13.9	25.1	0.03	0.18	4.02	4.20	0.17	0.51	0.67	—	4,294	4,294	0.30	0.29	1.01	4,388
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.49	3.77	37.2	34.0	0.06	1.60	9.36	11.0	1.47	4.12	5.59	—	6,634	6,634	0.28	0.08	0.01	6,659
2025	7.84	8.58	29.8	46.3	0.06	1.24	5.25	6.48	1.14	1.59	2.73	—	6,634	6,634	0.61	0.36	0.11	6,659
2026	7.38	8.15	25.0	44.7	0.04	0.71	3.94	4.65	0.65	0.49	1.14	—	5,914	5,914	0.57	0.36	0.10	6,037
2027	6.02	5.57	17.0	33.1	0.03	0.35	2.29	2.63	0.32	0.32	0.64	—	4,333	4,333	0.47	0.35	0.08	4,447
2028	5.72	5.29	16.4	31.9	0.03	0.31	2.29	2.60	0.29	0.32	0.61	—	4,293	4,293	0.44	0.34	0.08	4,405
2029	5.38	4.96	15.8	30.7	0.03	0.29	2.29	2.57	0.27	0.32	0.59	—	4,251	4,251	0.44	0.34	0.07	4,364
2030	5.09	4.70	15.5	29.7	0.03	0.27	2.29	2.56	0.25	0.32	0.57	—	4,211	4,211	0.41	0.33	0.06	4,321
2031	4.81	4.40	15.0	28.6	0.03	0.25	2.29	2.54	0.24	0.32	0.56	—	4,171	4,171	0.38	0.31	0.05	4,272
2032	4.52	4.15	14.6	27.6	0.03	0.24	2.29	2.52	0.21	0.32	0.53	—	4,133	4,133	0.38	0.29	0.04	4,229
2033	4.31	3.96	14.2	26.8	0.03	0.21	2.29	2.49	0.19	0.32	0.52	—	4,097	4,097	0.36	0.29	0.04	4,191
2034	4.08	3.74	14.0	26.0	0.03	0.20	2.29	2.48	0.18	0.32	0.51	—	4,064	4,064	0.36	0.29	0.03	4,158
2035	3.95	3.64	13.7	25.3	0.03	0.19	2.29	2.47	0.17	0.32	0.49	—	4,034	4,034	0.33	0.27	0.03	4,122
2036	4.45	78.1	14.4	27.4	0.03	0.18	4.02	4.20	0.17	0.51	0.67	—	4,261	4,261	0.37	0.29	0.03	4,356
2037	4.24	77.9	14.1	26.8	0.03	0.17	4.02	4.19	0.16	0.51	0.66	—	4,236	4,236	0.37	0.29	0.02	4,330
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.20	2.69	26.3	23.9	0.04	1.13	5.96	7.08	1.04	2.52	3.56	—	4,186	4,186	0.18	0.06	0.08	4,207
2025	5.05	5.38	19.1	28.6	0.03	0.64	2.88	3.52	0.58	0.51	1.09	—	4,361	4,361	0.35	0.21	0.98	4,434
2026	4.67	4.42	12.8	23.1	0.02	0.29	1.62	1.91	0.27	0.23	0.50	—	3,194	3,194	0.33	0.25	1.12	3,277

2027	4.37	4.05	12.0	21.8	0.02	0.25	1.55	1.80	0.23	0.22	0.45	—	3,097	3,097	0.30	0.25	1.00	3,179
2028	4.16	3.86	11.5	21.1	0.02	0.22	1.56	1.78	0.21	0.22	0.43	—	3,076	3,076	0.30	0.24	0.90	3,157
2029	3.91	3.61	11.1	20.4	0.02	0.21	1.55	1.76	0.19	0.22	0.41	—	3,038	3,038	0.28	0.22	0.79	3,113
2030	3.68	3.41	10.8	19.7	0.02	0.19	1.55	1.75	0.18	0.22	0.40	—	3,009	3,009	0.28	0.22	0.70	3,083
2031	3.46	3.20	10.5	19.1	0.02	0.18	1.55	1.73	0.17	0.22	0.39	—	2,981	2,981	0.25	0.21	0.61	3,051
2032	3.28	3.02	10.3	18.5	0.02	0.17	1.56	1.72	0.15	0.22	0.37	—	2,962	2,962	0.25	0.21	0.53	3,031
2033	3.14	2.89	9.98	18.0	0.02	0.15	1.55	1.70	0.14	0.22	0.36	—	2,928	2,928	0.24	0.20	0.46	2,995
2034	2.94	2.71	9.81	17.5	0.02	0.14	1.55	1.69	0.13	0.22	0.35	—	2,904	2,904	0.24	0.19	0.39	2,969
2035	2.86	2.62	9.58	17.1	0.02	0.13	1.55	1.68	0.12	0.22	0.34	—	2,883	2,883	0.22	0.19	0.33	2,945
2036	3.07	38.0	9.85	17.9	0.02	0.13	2.33	2.46	0.12	0.31	0.42	—	2,993	2,993	0.23	0.20	0.30	3,059
2037	0.34	9.73	1.05	1.97	< 0.005	0.01	0.36	0.38	0.01	0.04	0.06	—	321	321	0.03	0.02	0.03	328
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.58	0.49	4.80	4.36	0.01	0.21	1.09	1.29	0.19	0.46	0.65	—	693	693	0.03	0.01	0.01	697
2025	0.92	0.98	3.48	5.23	0.01	0.12	0.53	0.64	0.11	0.09	0.20	—	722	722	0.06	0.04	0.16	734
2026	0.85	0.81	2.33	4.22	< 0.005	0.05	0.30	0.35	0.05	0.04	0.09	—	529	529	0.06	0.04	0.19	543
2027	0.80	0.74	2.19	3.98	< 0.005	0.05	0.28	0.33	0.04	0.04	0.08	—	513	513	0.05	0.04	0.17	526
2028	0.76	0.70	2.10	3.86	< 0.005	0.04	0.28	0.32	0.04	0.04	0.08	—	509	509	0.05	0.04	0.15	523
2029	0.71	0.66	2.02	3.72	< 0.005	0.04	0.28	0.32	0.03	0.04	0.08	—	503	503	0.05	0.04	0.13	515
2030	0.67	0.62	1.98	3.60	< 0.005	0.04	0.28	0.32	0.03	0.04	0.07	—	498	498	0.05	0.04	0.12	510
2031	0.63	0.58	1.92	3.48	< 0.005	0.03	0.28	0.32	0.03	0.04	0.07	—	494	494	0.04	0.04	0.10	505
2032	0.60	0.55	1.87	3.38	< 0.005	0.03	0.28	0.31	0.03	0.04	0.07	—	490	490	0.04	0.03	0.09	502
2033	0.57	0.53	1.82	3.28	< 0.005	0.03	0.28	0.31	0.03	0.04	0.07	—	485	485	0.04	0.03	0.08	496
2034	0.54	0.49	1.79	3.20	< 0.005	0.03	0.28	0.31	0.02	0.04	0.06	—	481	481	0.04	0.03	0.07	492
2035	0.52	0.48	1.75	3.12	< 0.005	0.02	0.28	0.31	0.02	0.04	0.06	—	477	477	0.04	0.03	0.06	488
2036	0.56	6.94	1.80	3.28	< 0.005	0.02	0.43	0.45	0.02	0.06	0.08	—	496	496	0.04	0.03	0.05	506
2037	0.06	1.78	0.19	0.36	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	53.1	53.1	< 0.005	< 0.005	< 0.005	54.3

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	275	268	92.8	631	0.56	0.72	34.3	35.1	0.67	8.74	9.41	—	56,985	56,985	11.9	7.32	174	59,638
Area	24.6	95.8	1.17	138	0.01	0.25	—	0.25	0.19	—	0.19	—	570	570	0.02	< 0.005	—	572
Energy	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	123,848	123,848	8.50	0.76	—	124,287
Water	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Waste	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Total	302	365	120	791	0.72	2.92	34.3	37.3	2.82	8.74	11.6	3,672	184,818	188,490	390	10.8	53,759	255,240
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	237	228	105	779	0.53	0.73	34.3	35.1	0.68	8.74	9.42	—	53,751	53,751	15.6	7.96	4.50	56,517
Area	—	73.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	123,848	123,848	8.50	0.76	—	124,287
Water	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Waste	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Total	240	303	131	801	0.68	2.68	34.3	37.0	2.64	8.74	11.4	3,672	181,014	184,686	394	11.5	53,590	251,547
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	200	194	81.8	559	0.44	0.60	28.0	28.6	0.56	7.13	7.69	—	45,300	45,300	11.3	6.27	62.3	47,513
Area	12.1	84.2	0.58	68.3	< 0.005	0.12	—	0.12	0.09	—	0.09	—	281	281	0.01	< 0.005	—	282
Energy	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	123,848	123,848	8.50	0.76	—	124,287
Water	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223

Waste	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Total	215	279	108	649	0.60	2.68	28.0	30.7	2.61	7.13	9.74	3,672	172,844	176,516	390	9.78	53,647	242,825
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	36.5	35.3	14.9	102	0.08	0.11	5.11	5.22	0.10	1.30	1.40	—	7,500	7,500	1.87	1.04	10.3	7,866
Area	2.22	15.4	0.10	12.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.5	46.5	< 0.005	< 0.005	—	46.7
Energy	0.52	0.26	4.70	3.95	0.03	0.36	—	0.36	0.36	—	0.36	—	20,504	20,504	1.41	0.13	—	20,577
Water	—	—	—	—	—	—	—	—	—	—	—	185	565	751	19.0	0.46	—	1,361
Waste	—	—	—	—	—	—	—	—	—	—	—	423	0.00	423	42.3	0.00	—	1,479
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,872	8,872
Total	39.2	51.0	19.7	119	0.11	0.49	5.11	5.60	0.48	1.30	1.78	608	28,616	29,224	64.6	1.62	8,882	40,202

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.3	14.3	< 0.005	< 0.005	0.02	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.38	2.00	19.7	18.0	0.03	0.88	—	0.88	0.81	—	0.81	—	2,902	2,902	0.12	0.02	—	2,912
Dust From Material Movement	—	—	—	—	—	—	4.21	4.21	—	2.16	2.16	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	0.85	0.85	< 0.005	0.08	0.08	—	7.86	7.86	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.36	3.60	3.29	< 0.005	0.16	—	0.16	0.15	—	0.15	—	480	480	0.02	< 0.005	—	482
Dust From Material Movement	—	—	—	—	—	—	0.77	0.77	—	0.39	0.39	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.02	0.02	—	1.30	1.30	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.02	0.23	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.03	—

Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	—
Hauling	0.07	0.05	1.08	0.71	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	223	223	0.02	0.04	0.27	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.30	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.42	9.42	0.01	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	< 0.005	—
Hauling	0.07	0.04	1.15	0.73	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	226	226	0.02	0.04	0.01	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.01	0.14	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.24	5.24	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.85	5.85	< 0.005	< 0.005	< 0.005	—
Hauling	0.04	0.03	0.61	0.39	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	123	123	0.01	0.02	0.06	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	—
Hauling	0.01	< 0.005	0.11	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	20.3	20.3	< 0.005	< 0.005	0.01	—

3.3. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.4	14.4	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.61	5.90	5.20	0.01	0.25	—	0.25	0.23	—	0.23	—	1,136	1,136	0.05	0.01	—	1,140
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.25	0.25	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.27	0.27	< 0.005	0.03	0.03	—	2.47	2.47	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.08	0.95	< 0.005	0.05	—	0.05	0.04	—	0.04	—	188	188	0.01	< 0.005	—	189
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.03	0.34	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.8	10.8	0.01	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	< 0.005	—
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	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	—
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	—

3.5. 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	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	0.50	4.65	4.43	0.01	0.19	—	0.19	0.18	—	0.18	—	1,033	1,033	0.04	0.01	—	1,037

Dust From Material Movement	—	—	—	—	—	—	0.56	0.56	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	2.20	2.20	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.81	< 0.005	0.04	—	0.04	0.03	—	0.03	—	171	171	0.01	< 0.005	—	172
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.02	0.32	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	0.01	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.64	1.64	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	—

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	—

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.63	5.83	7.27	0.01	0.24	—	0.24	0.22	—	0.22	—	1,337	1,337	0.05	0.01	—	1,342
Onsite truck	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	0.86	0.86	< 0.005	0.09	0.09	—	7.85	7.85	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	1.06	1.33	< 0.005	0.04	—	0.04	0.04	—	0.04	—	221	221	0.01	< 0.005	—	222
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	1.30	1.30	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.91	5.80	1.16	14.5	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	665	665	0.25	0.12	1.77	—
Vendor	0.40	0.29	6.26	3.86	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,365	1,365	0.09	0.21	2.23	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.11	4.94	1.38	18.9	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	621	621	0.35	0.12	0.05	—
Vendor	0.36	0.25	6.59	4.07	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,377	1,377	0.09	0.21	0.06	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.91	2.83	0.70	8.92	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	352	352	0.17	0.07	0.43	—
Vendor	0.21	0.15	3.58	2.20	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	764	764	0.05	0.12	0.54	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.52	0.13	1.63	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	58.3	58.3	0.03	0.01	0.07	—
Vendor	0.04	0.03	0.65	0.40	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	127	127	0.01	0.02	0.09	—
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	—

3.9. Building Construction (2026) - Unmitigated

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

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

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.7	13.7	< 0.005	< 0.005	0.02	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.86	9.86	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.63	1.63	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.47	5.35	1.08	13.4	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	650	650	0.25	0.12	1.61	—
Vendor	0.39	0.29	6.17	3.80	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,341	1,341	0.09	0.21	1.99	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.77	4.61	1.29	17.5	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	607	607	0.33	0.12	0.04	—

Vendor	0.36	0.25	6.50	4.02	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,353	1,353	0.08	0.21	0.05	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.44	3.36	0.83	10.6	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	441	441	0.20	0.08	0.50	—
Vendor	0.26	0.19	4.51	2.79	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	962	962	0.07	0.15	0.62	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.63	0.61	0.15	1.93	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	73.0	73.0	0.03	0.01	0.08	—
Vendor	0.05	0.03	0.82	0.51	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	159	159	0.01	0.02	0.10	—
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	—

3.11. Building Construction (2027) - 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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.5	13.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.6	13.6	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.66	9.66	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.60	1.60	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.08	4.98	1.02	12.5	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	636	636	0.22	0.12	1.46	—
Vendor	0.39	0.28	6.05	3.76	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,316	1,316	0.09	0.21	1.77	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.30	1.19	16.2	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	594	594	0.29	0.12	0.04	—
Vendor	0.35	0.24	6.39	3.96	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,328	1,328	0.08	0.21	0.05	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.23	3.13	0.78	9.80	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	431	431	0.18	0.08	0.45	—
Vendor	0.26	0.19	4.43	2.75	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	944	944	0.06	0.15	0.54	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.57	0.14	1.79	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	71.4	71.4	0.03	0.01	0.07	—

Vendor	0.05	0.03	0.81	0.50	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	156	156	0.01	0.02	0.09	—
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	—

3.13. Building Construction (2028) - 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	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.2	13.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.3	13.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.71	6.39	9.26	0.02	0.22	—	0.22	0.20	—	0.20	—	1,717	1,717	0.07	0.01	—	1,723
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	9.49	9.49	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.17	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	284	284	0.01	< 0.005	—	285
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.57	1.57	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.78	4.69	0.92	11.6	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	623	623	0.20	0.09	1.32	—
Vendor	0.37	0.26	5.94	3.72	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,288	1,288	0.08	0.20	1.56	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.18	4.06	1.12	15.0	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	581	581	0.26	0.12	0.03	—
Vendor	0.35	0.23	6.27	3.91	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,301	1,301	0.08	0.20	0.04	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.05	2.97	0.71	9.13	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	423	423	0.17	0.08	0.41	—
Vendor	0.26	0.18	4.36	2.72	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	926	926	0.06	0.14	0.48	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.54	0.13	1.67	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	70.1	70.1	0.03	0.01	0.07	—
Vendor	0.05	0.03	0.80	0.50	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	153	153	0.01	0.02	0.08	—
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	—

3.15. Building Construction (2029) - 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	1.15	0.97	8.58	12.9	0.02	0.28	—	0.28	0.25	—	0.25	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.9	12.9	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15	0.97	8.58	12.9	0.02	0.28	—	0.28	0.25	—	0.25	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.1	13.1	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.13	9.22	0.02	0.20	—	0.20	0.18	—	0.18	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.26	9.26	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.12	1.68	< 0.005	0.04	—	0.04	0.03	—	0.03	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.53	1.53	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.35	0.89	10.7	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	610	610	0.18	0.09	1.18	—
Vendor	0.35	0.25	5.81	3.68	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,260	1,260	0.08	0.20	1.36	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.91	3.78	1.04	13.9	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	569	569	0.26	0.12	0.03	—

Vendor	0.32	0.21	6.14	3.86	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,273	1,273	0.08	0.20	0.04	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.84	2.75	0.66	8.43	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	413	413	0.15	0.07	0.36	—
Vendor	0.24	0.17	4.25	2.68	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	904	904	0.06	0.14	0.42	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.50	0.12	1.54	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	68.4	68.4	0.02	0.01	0.06	—
Vendor	0.04	0.03	0.78	0.49	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	150	150	0.01	0.02	0.07	—
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	—

3.17. Building Construction (2030) - 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	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12	0.94	8.39	12.9	0.02	0.26	—	0.26	0.24	—	0.24	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.8	12.8	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	5.99	9.20	0.02	0.19	—	0.19	0.17	—	0.17	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	9.08	9.08	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.09	1.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.50	1.50	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.14	4.06	0.82	9.94	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	598	598	0.18	0.09	1.05	—
Vendor	0.35	0.25	5.68	3.65	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,231	1,231	0.08	0.18	1.18	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.65	3.54	0.98	12.9	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	557	557	0.23	0.12	0.03	—
Vendor	0.32	0.21	6.03	3.83	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,244	1,244	0.08	0.20	0.03	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.64	2.57	0.63	7.84	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	405	405	0.15	0.07	0.33	—
Vendor	0.23	0.17	4.18	2.67	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	883	883	0.06	0.14	0.37	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.47	0.12	1.43	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	67.1	67.1	0.02	0.01	0.05	—

Vendor	0.04	0.03	0.76	0.49	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	146	146	0.01	0.02	0.06	—
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	—

3.19. Building Construction (2031) - 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	1.10	0.92	8.12	12.8	0.02	0.24	—	0.24	0.22	—	0.22	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.4	12.4	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.10	0.92	8.12	12.8	0.02	0.24	—	0.24	0.22	—	0.22	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.6	12.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.78	0.66	5.80	9.18	0.02	0.17	—	0.17	0.16	—	0.16	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.90	8.90	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.06	1.67	< 0.005	0.03	—	0.03	0.03	—	0.03	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.47	1.47	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.86	3.76	0.76	9.18	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	587	587	0.16	0.09	0.94	—
Vendor	0.34	0.24	5.58	3.64	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,202	1,202	0.07	0.18	1.03	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.39	3.27	0.91	11.9	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	547	547	0.21	0.09	0.02	—
Vendor	0.32	0.21	5.91	3.80	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,215	1,215	0.07	0.20	0.03	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.44	2.37	0.59	7.21	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	398	398	0.13	0.07	0.29	—
Vendor	0.23	0.17	4.09	2.65	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	862	862	0.05	0.13	0.32	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.43	0.11	1.32	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	65.8	65.8	0.02	0.01	0.05	—
Vendor	0.04	0.03	0.75	0.48	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	143	143	0.01	0.02	0.05	—
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	—

3.21. Building Construction (2032) - 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	1.07	0.90	7.87	12.8	0.02	0.22	—	0.22	0.21	—	0.21	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.2	12.2	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	0.90	7.87	12.8	0.02	0.22	—	0.22	0.21	—	0.21	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.3	12.3	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	5.64	9.16	0.02	0.16	—	0.16	0.15	—	0.15	—	1,717	1,717	0.07	0.01	—	1,723
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	8.76	8.76	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.03	1.67	< 0.005	0.03	—	0.03	0.03	—	0.03	—	284	284	0.01	< 0.005	—	285
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.45	1.45	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.54	3.45	0.72	8.51	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	577	577	0.16	0.09	0.83	—
Vendor	0.34	0.24	5.47	3.62	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,173	1,173	0.07	0.18	0.89	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.13	3.04	0.85	11.0	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	537	537	0.21	0.09	0.02	—

Vendor	0.32	0.21	5.80	3.78	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	1,187	1,187	0.07	0.18	0.02	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.28	2.21	0.54	6.70	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	392	392	0.13	0.07	0.25	—
Vendor	0.23	0.17	4.03	2.64	< 0.005	0.01	0.15	0.16	< 0.005	0.04	0.05	—	845	845	0.05	0.13	0.27	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42	0.40	0.10	1.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	64.8	64.8	0.02	0.01	0.04	—
Vendor	0.04	0.03	0.74	0.48	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	140	140	0.01	0.02	0.05	—
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	—

3.23. Building Construction (2033) - 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	1.05	0.88	7.67	12.8	0.02	0.20	—	0.20	0.19	—	0.19	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.0	12.0	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05	0.88	7.67	12.8	0.02	0.20	—	0.20	0.19	—	0.19	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	12.1	12.1	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.63	5.48	9.13	0.02	0.15	—	0.15	0.13	—	0.13	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.59	8.59	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	1.00	1.67	< 0.005	0.03	—	0.03	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.42	1.42	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.31	3.24	0.66	7.92	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	568	568	0.13	0.08	0.72	—
Vendor	0.33	0.25	5.38	3.61	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,147	1,147	0.07	0.17	0.76	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.96	2.88	0.78	10.2	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	528	528	0.18	0.09	0.02	—
Vendor	0.30	0.20	5.71	3.75	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,161	1,161	0.07	0.17	0.02	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.16	2.09	0.51	6.22	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	384	384	0.11	0.07	0.22	—
Vendor	0.23	0.17	3.95	2.62	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.05	—	823	823	0.05	0.12	0.23	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.38	0.09	1.13	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	63.6	63.6	0.02	0.01	0.04	—

Vendor	0.04	0.03	0.72	0.48	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.04	—
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	—

3.25. Building Construction (2034) - 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	1.03	0.86	7.52	12.8	0.02	0.19	—	0.19	0.18	—	0.18	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.8	11.8	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	0.86	7.52	12.8	0.02	0.19	—	0.19	0.18	—	0.18	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.9	11.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.37	9.12	0.02	0.14	—	0.14	0.13	—	0.13	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.47	8.47	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.98	1.66	< 0.005	0.03	—	0.03	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.40	1.40	< 0.005	< 0.005	< 0.005	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.04	2.98	0.63	7.35	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	559	559	0.13	0.08	0.63	—
Vendor	0.33	0.25	5.29	3.60	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,123	1,123	0.07	0.17	0.64	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.75	2.67	0.74	9.44	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	519	519	0.18	0.09	0.02	—
Vendor	0.30	0.20	5.64	3.75	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,136	1,136	0.07	0.17	0.02	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.98	1.93	0.49	5.75	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	378	378	0.11	0.06	0.19	—
Vendor	0.22	0.16	3.90	2.61	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.05	—	806	806	0.05	0.12	0.20	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.35	0.09	1.05	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	62.6	62.6	0.02	0.01	0.03	—
Vendor	0.04	0.03	0.71	0.48	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.03	—
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	—

3.27. Building Construction (2035) - 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	1.01	0.85	7.34	12.7	0.02	0.18	—	0.18	0.17	—	0.17	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.6	11.6	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.34	12.7	0.02	0.18	—	0.18	0.17	—	0.17	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.8	11.8	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.61	5.24	9.06	0.02	0.13	—	0.13	0.12	—	0.12	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.10	1.10	< 0.005	0.11	0.11	—	8.35	8.35	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.96	1.65	< 0.005	0.02	—	0.02	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.38	1.38	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.91	2.85	0.60	6.87	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	551	551	0.13	0.08	0.54	—
Vendor	0.33	0.25	5.21	3.60	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,100	1,100	0.07	0.17	0.53	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.64	2.59	0.72	8.85	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	512	512	0.16	0.08	0.01	—

Vendor	0.29	0.20	5.56	3.73	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,113	1,113	0.07	0.17	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.91	1.85	0.47	5.39	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	373	373	0.09	0.06	0.17	—
Vendor	0.22	0.16	3.83	2.61	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.05	—	790	790	0.05	0.12	0.16	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.34	0.08	0.98	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	61.7	61.7	0.02	0.01	0.03	—
Vendor	0.04	0.03	0.70	0.48	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	131	131	0.01	0.02	0.03	—
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	—

3.29. Building Construction (2036) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99	0.83	7.12	12.6	0.02	0.17	—	0.17	0.16	—	0.16	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.5	11.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99	0.83	7.12	12.6	0.02	0.17	—	0.17	0.16	—	0.16	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.7	11.7	< 0.005	< 0.005	< 0.005	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	0.60	5.10	9.03	0.02	0.12	—	0.12	0.11	—	0.11	—	1,717	1,717	0.07	0.01	—	1,723
Onsite truck	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	8.28	8.28	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.93	1.65	< 0.005	0.02	—	0.02	0.02	—	0.02	—	284	284	0.01	< 0.005	—	285
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.37	1.37	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.75	2.70	0.59	6.42	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	544	544	0.10	0.08	0.47	—
Vendor	0.32	0.24	5.13	3.59	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,079	1,079	0.07	0.17	0.44	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.54	2.46	0.68	8.25	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	505	505	0.16	0.08	0.01	—
Vendor	0.29	0.20	5.49	3.73	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,093	1,093	0.07	0.17	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.84	1.80	0.45	5.05	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	369	369	0.09	0.06	0.14	—
Vendor	0.22	0.16	3.79	2.61	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.05	—	777	777	0.05	0.12	0.13	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.33	0.08	0.92	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	61.1	61.1	0.02	0.01	0.02	—

Vendor	0.04	0.03	0.69	0.48	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	129	129	0.01	0.02	0.02	—
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	—

3.31. Building Construction (2037) - 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	0.98	0.82	6.99	12.5	0.02	0.16	—	0.16	0.14	—	0.14	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.6	11.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.51	0.91	< 0.005	0.01	—	0.01	0.01	—	0.01	—	174	174	0.01	< 0.005	—	174
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.7	28.7	< 0.005	< 0.005	—	28.8
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.38	2.31	0.65	7.76	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	499	499	0.16	0.08	0.01	—
Vendor	0.29	0.20	5.42	3.73	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	1,075	1,075	0.07	0.17	0.01	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.17	0.04	0.48	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	36.9	36.9	0.01	0.01	0.01	—
Vendor	0.02	0.02	0.38	0.26	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	77.3	77.3	0.01	0.01	0.01	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.11	6.11	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	< 0.005	—
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	—

3.33. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.0	14.0	< 0.005	< 0.005	0.02	—

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	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	14.2	14.2	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.16	5.57	0.01	0.19	—	0.19	0.18	—	0.18	—	843	843	0.03	0.01	—	846
Paving	—	0.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	0.86	0.86	< 0.005	0.09	0.09	—	7.85	7.85	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.76	1.02	< 0.005	0.04	—	0.04	0.03	—	0.03	—	140	140	0.01	< 0.005	—	140
Paving	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	1.30	1.30	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.01	0.18	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.44	8.44	< 0.005	< 0.005	0.02	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.02	0.24	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.89	7.89	< 0.005	< 0.005	< 0.005	—

Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.47	4.47	< 0.005	< 0.005	0.01	—
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.86	5.86	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	—
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	—

3.35. Paving (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	13.9	13.9	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.03	0.32	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	68.0	68.0	< 0.005	< 0.005	—	68.2
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	0.62	0.62	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.02	0.22	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.71	7.71	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	< 0.005	—
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	—
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	—	0.35	0.35	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	—
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	—

3.37. Architectural Coating (2036) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.75	1.10	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	74.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.5	11.5	< 0.005	< 0.005	0.01	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.75	1.10	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	74.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.7	11.7	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.5	63.5	< 0.005	< 0.005	—	63.7
Architectural Coatings	—	35.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.73	0.73	< 0.005	0.07	0.07	—	5.50	5.50	< 0.005	< 0.005	< 0.005	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.5	10.5	< 0.005	< 0.005	—	10.5
Architectural Coatings	—	6.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.13	0.13	< 0.005	0.01	0.01	—	0.91	0.91	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.55	0.54	0.12	1.28	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	109	109	0.02	0.02	0.09	—
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.27	8.27	< 0.005	< 0.005	< 0.005	—
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	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.49	0.14	1.65	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	101	101	0.03	0.02	< 0.005	—
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.38	8.38	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.24	0.06	0.67	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	49.0	49.0	0.01	0.01	0.02	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.95	3.95	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.01	0.12	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	—
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	—

3.39. Architectural Coating (2037) - 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	0.11	0.09	0.75	1.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	74.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	1.65	1.65	< 0.005	0.16	0.16	—	11.6	11.6	< 0.005	< 0.005	< 0.005	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.0	17.0	< 0.005	< 0.005	—	17.0
Architectural Coatings	—	9.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	1.46	1.46	< 0.005	< 0.005	< 0.005	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.81	2.81	< 0.005	< 0.005	—	2.82
Architectural Coatings	—	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.46	0.13	1.55	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	99.8	99.8	0.03	0.02	< 0.005	—
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.24	8.24	< 0.005	< 0.005	< 0.005	—
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	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.01	0.17	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	—
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	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.15	2.15	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	—
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	—

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	32.2	31.5	9.73	68.8	0.05	0.07	2.94	3.01	0.07	0.75	0.81	—	5,248	5,248	1.37	0.79	14.6	5,532
Industrial Park	21.4	20.9	6.47	45.7	0.03	0.05	1.95	2.00	0.04	0.50	0.54	—	3,487	3,487	0.91	0.52	9.69	3,676
Regional Shopping Center	74.3	72.4	24.9	181	0.18	0.21	11.6	11.8	0.20	2.95	3.15	—	17,996	17,996	3.25	2.04	57.6	18,742
Supermarket	117	114	37.5	269	0.24	0.30	14.8	15.1	0.28	3.77	4.05	—	24,150	24,150	5.05	3.06	73.7	25,261
Strip Mall	28.7	28.0	8.65	61.2	0.05	0.06	2.61	2.67	0.06	0.66	0.72	—	4,665	4,665	1.22	0.70	13.0	4,917
Other Non-Asphalt Surfaces	0.91	0.80	5.51	5.15	0.01	0.03	0.40	0.43	0.03	0.11	0.14	—	1,439	1,439	0.09	0.22	5.02	1,510
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	275	268	92.8	631	0.56	0.72	34.3	35.1	0.67	8.74	9.41	—	56,985	56,985	11.9	7.32	174	59,638
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	27.8	26.8	11.0	88.0	0.05	0.07	2.94	3.01	0.07	0.75	0.81	—	4,981	4,981	1.81	0.86	0.38	5,283
Industrial Park	18.5	17.8	7.32	58.5	0.03	0.05	1.95	2.00	0.04	0.50	0.54	—	3,310	3,310	1.20	0.57	0.25	3,510
Regional Shopping Center	64.2	61.8	28.3	217	0.16	0.21	11.6	11.8	0.20	2.95	3.15	—	16,857	16,857	4.24	2.22	1.49	17,625

Supermarket	101	97.4	42.5	332	0.22	0.30	14.8	15.1	0.28	3.77	4.05	—	22,729	22,729	6.63	3.33	1.91	23,888
Strip Mall	24.7	23.9	9.80	78.2	0.04	0.06	2.61	2.67	0.06	0.66	0.72	—	4,428	4,428	1.60	0.76	0.34	4,696
Other Non-Asphalt Surfaces	0.81	0.70	5.85	5.54	0.01	0.03	0.40	0.43	0.03	0.11	0.14	—	1,447	1,447	0.10	0.22	0.13	1,515
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	237	228	105	779	0.53	0.73	34.3	35.1	0.68	8.74	9.42	—	53,751	53,751	15.6	7.96	4.50	56,517
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	3.90	3.78	1.41	10.4	0.01	0.01	0.40	0.41	0.01	0.10	0.11	—	629	629	0.20	0.10	0.78	664
Industrial Park	3.01	2.92	1.09	8.01	0.01	0.01	0.31	0.31	0.01	0.08	0.09	—	485	485	0.15	0.08	0.61	513
Regional Shopping Center	9.17	8.87	3.63	26.3	0.02	0.03	1.49	1.52	0.03	0.38	0.41	—	2,062	2,062	0.47	0.26	2.94	2,155
Supermarket	15.6	15.1	6.10	44.2	0.04	0.05	2.38	2.42	0.04	0.60	0.65	—	3,343	3,343	0.80	0.44	4.69	3,499
Strip Mall	4.61	4.47	1.67	12.2	0.01	0.01	0.47	0.48	0.01	0.12	0.13	—	742	742	0.23	0.12	0.93	785
Other Non-Asphalt Surfaces	0.15	0.13	1.04	0.97	< 0.005	0.01	0.07	0.08	0.01	0.02	0.02	—	239	239	0.02	0.04	0.36	250
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	36.5	35.3	14.9	102	0.08	0.11	5.11	5.22	0.10	1.30	1.40	—	7,500	7,500	1.87	1.04	10.3	7,866

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21,425	21,425	1.33	0.16	—	21,507
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	45,801	45,801	2.84	0.34	—	45,975
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	6,053	6,053	0.38	0.05	—	6,076
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	12,696	12,696	0.79	0.10	—	12,744
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,024	2,024	0.13	0.02	—	2,031
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5,128	5,128	0.32	0.04	—	5,147
Total	—	—	—	—	—	—	—	—	—	—	—	—	93,127	93,127	5.78	0.70	—	93,480
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21,425	21,425	1.33	0.16	—	21,507
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	45,801	45,801	2.84	0.34	—	45,975
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	6,053	6,053	0.38	0.05	—	6,076
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	12,696	12,696	0.79	0.10	—	12,744
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,024	2,024	0.13	0.02	—	2,031
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5,128	5,128	0.32	0.04	—	5,147
Total	—	—	—	—	—	—	—	—	—	—	—	—	93,127	93,127	5.78	0.70	—	93,480
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	3,547	3,547	0.22	0.03	—	3,561
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	7,583	7,583	0.47	0.06	—	7,612
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,002	1,002	0.06	0.01	—	1,006
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	2,102	2,102	0.13	0.02	—	2,110
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	335	335	0.02	< 0.005	—	336
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	849	849	0.05	0.01	—	852
Total	—	—	—	—	—	—	—	—	—	—	—	—	15,418	15,418	0.96	0.12	—	15,477

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.83	0.41	7.52	6.32	0.05	0.57	—	0.57	0.57	—	0.57	—	8,971	8,971	0.79	0.02	—	8,996
Industrial Park	1.77	0.88	16.1	13.5	0.10	1.22	—	1.22	1.22	—	1.22	—	19,178	19,178	1.70	0.04	—	19,231
Regional Shopping Center	0.07	0.04	0.65	0.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	781	781	0.07	< 0.005	—	783
Supermarket	0.14	0.07	1.28	1.08	0.01	0.10	—	0.10	0.10	—	0.10	—	1,531	1,531	0.14	< 0.005	—	1,535
Strip Mall	0.02	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	261	261	0.02	< 0.005	—	262
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	30,722	30,722	2.72	0.06	—	30,807

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.83	0.41	7.52	6.32	0.05	0.57	—	0.57	0.57	—	0.57	—	8,971	8,971	0.79	0.02	—	8,996
Industrial Park	1.77	0.88	16.1	13.5	0.10	1.22	—	1.22	1.22	—	1.22	—	19,178	19,178	1.70	0.04	—	19,231
Regional Shopping Center	0.07	0.04	0.65	0.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	781	781	0.07	< 0.005	—	783
Supermarket	0.14	0.07	1.28	1.08	0.01	0.10	—	0.10	0.10	—	0.10	—	1,531	1,531	0.14	< 0.005	—	1,535
Strip Mall	0.02	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	261	261	0.02	< 0.005	—	262
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.83	1.42	25.7	21.6	0.15	1.96	—	1.96	1.96	—	1.96	—	30,722	30,722	2.72	0.06	—	30,807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.15	0.08	1.37	1.15	0.01	0.10	—	0.10	0.10	—	0.10	—	1,485	1,485	0.13	< 0.005	—	1,489
Industrial Park	0.32	0.16	2.93	2.46	0.02	0.22	—	0.22	0.22	—	0.22	—	3,175	3,175	0.28	0.01	—	3,184
Regional Shopping Center	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	129	129	0.01	< 0.005	—	130
Supermarket	0.03	0.01	0.23	0.20	< 0.005	0.02	—	0.02	0.02	—	0.02	—	253	253	0.02	< 0.005	—	254
Strip Mall	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	43.2	43.2	< 0.005	< 0.005	—	43.3

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.52	0.26	4.70	3.95	0.03	0.36	—	0.36	0.36	—	0.36	—	5,086	5,086	0.45	0.01	—	5,100

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	—	68.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	24.6	22.7	1.17	138	0.01	0.25	—	0.25	0.19	—	0.19	—	570	570	0.02	< 0.005	—	572
Total	24.6	95.8	1.17	138	0.01	0.25	—	0.25	0.19	—	0.19	—	570	570	0.02	< 0.005	—	572
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	—	68.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	73.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	12.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.22	2.05	0.10	12.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.5	46.5	< 0.005	< 0.005	—	46.7
Total	2.22	15.4	0.10	12.5	< 0.005	0.02	—	0.02	0.02	—	0.02	—	46.5	46.5	< 0.005	< 0.005	—	46.7

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	259	783	1,042	26.6	0.64	—	1,899
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	722	2,174	2,896	74.1	1.77	—	5,278

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	57.2	175	232	5.88	0.14	—	421
Supermarket	—	—	—	—	—	—	—	—	—	—	—	60.6	183	244	6.22	0.15	—	444
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	19.1	58.4	77.5	1.97	0.05	—	141
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	2.84	2.84	< 0.005	< 0.005	—	2.85
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.25
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	30.7	30.7	< 0.005	< 0.005	—	30.8
Total	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	259	783	1,042	26.6	0.64	—	1,899
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	722	2,174	2,896	74.1	1.77	—	5,278
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	57.2	175	232	5.88	0.14	—	421
Supermarket	—	—	—	—	—	—	—	—	—	—	—	60.6	183	244	6.22	0.15	—	444
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	19.1	58.4	77.5	1.97	0.05	—	141
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	2.84	2.84	< 0.005	< 0.005	—	2.85
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.25

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	30.7	30.7	< 0.005	< 0.005	—	30.8
Total	—	—	—	—	—	—	—	—	—	—	—	1,118	3,415	4,533	115	2.75	—	8,223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	42.9	130	173	4.41	0.11	—	314
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	119	360	479	12.3	0.29	—	874
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	9.48	28.9	38.4	0.97	0.02	—	69.7
Supermarket	—	—	—	—	—	—	—	—	—	—	—	10.0	30.4	40.4	1.03	0.02	—	73.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	3.17	9.66	12.8	0.33	0.01	—	23.3
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.47	0.47	< 0.005	< 0.005	—	0.47
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	1.36	1.36	< 0.005	< 0.005	—	1.37
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	5.08	5.08	< 0.005	< 0.005	—	5.10
Total	—	—	—	—	—	—	—	—	—	—	—	185	565	751	19.0	0.46	—	1,361

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,336
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	1,088	0.00	1,088	109	0.00	—	3,807
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	228	0.00	228	22.8	0.00	—	798
Supermarket	—	—	—	—	—	—	—	—	—	—	—	779	0.00	779	77.9	0.00	—	2,727
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	76.3	0.00	76.3	7.62	0.00	—	267
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	382	0.00	382	38.2	0.00	—	1,336
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	1,088	0.00	1,088	109	0.00	—	3,807
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	228	0.00	228	22.8	0.00	—	798

Supermarket	—	—	—	—	—	—	—	—	—	—	—	779	0.00	779	77.9	0.00	—	2,727
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	76.3	0.00	76.3	7.62	0.00	—	267
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,554	0.00	2,554	255	0.00	—	8,935
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.32	0.00	—	221
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	180	0.00	180	18.0	0.00	—	630
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	37.8	0.00	37.8	3.78	0.00	—	132
Supermarket	—	—	—	—	—	—	—	—	—	—	—	129	0.00	129	12.9	0.00	—	451
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	12.6	0.00	12.6	1.26	0.00	—	44.2
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	423	0.00	423	42.3	0.00	—	1,479

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.85	1.85
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	424	424
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.94	1.94
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,157	53,157
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.85	1.85
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	424	424
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.94	1.94
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,157	53,157

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53,585	53,585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70.2	70.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.32	0.32
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,801	8,801
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,872	8,872

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	1/1/2024	10/4/2024	5.00	200	—
Grading	Grading	10/05/2024	3/21/2025	5.00	120	—
Building Construction	Building Construction	3/22/2025	2/6/2037	5.00	3,100	—
Paving	Paving	3/22/2025	1/23/2026	5.00	220	—
Architectural Coating	Architectural Coating	5/3/2036	3/6/2037	5.00	220	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	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	0.50	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	0.50	HHDT,MHDT

Site Preparation	Hauling	62.5	0.50	HHDT
Site Preparation	Onsite truck	4.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	0.50	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.50	HHDT,MHDT
Grading	Hauling	0.00	0.50	HHDT
Grading	Onsite truck	4.00	0.50	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,182	0.50	LDA,LDT1,LDT2
Building Construction	Vendor	522	0.50	HHDT,MHDT
Building Construction	Hauling	0.00	0.50	HHDT
Building Construction	Onsite truck	4.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	0.50	LDA,LDT1,LDT2
Paving	Vendor	4.00	0.50	HHDT,MHDT
Paving	Hauling	0.00	0.50	HHDT
Paving	Onsite truck	4.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	236	0.50	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	0.50	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.50	HHDT
Architectural Coating	Onsite truck	4.00	0.50	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction

Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	4,776,600	1,592,200	327,814

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	50,000	50,000	300	0.00	—
Grading	—	—	360	0.00	—
Paving	0.00	0.00	0.00	0.00	125

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%
Industrial Park	0.00	0%
Regional Shopping Center	0.00	0%
Supermarket	0.00	0%
Strip Mall	0.00	0%

Other Non-Asphalt Surfaces	8.53	0%
Other Asphalt Surfaces	24.7	100%
Parking Lot	92.2	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005
2029	0.00	532	0.03	< 0.005
2030	0.00	532	0.03	< 0.005
2031	0.00	532	0.03	< 0.005
2032	0.00	532	0.03	< 0.005
2033	0.00	532	0.03	< 0.005
2034	0.00	532	0.03	< 0.005
2035	0.00	532	0.03	< 0.005
2036	0.00	532	0.03	< 0.005
2037	0.00	532	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 Office Building	8,257	1,683	533	2,268,295	4,128	842	267	1,134,147
Industrial Park	5,487	4,136	2,019	1,751,477	2,743	2,068	1,010	875,739
Regional Shopping Center	14,922	18,789	7,649	5,268,922	11,717	16,316	6,642	4,251,784
Supermarket	24,227	29,781	21,761	9,003,847	20,861	14,890	10,880	6,782,433
Strip Mall	7,340	7,340	7,340	2,679,100	3,670	3,670	3,670	1,339,550
Other Non-Asphalt Surfaces	928	928	928	338,768	464	464	464	169,384
Other Asphalt Surfaces	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	4,776,600	1,592,200	327,814

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 Office Building	14,700,146	532	0.0330	0.0040	27,992,282
Industrial Park	31,424,771	532	0.0330	0.0040	59,839,612
Regional Shopping Center	4,152,886	532	0.0330	0.0040	2,436,261
Supermarket	8,710,912	532	0.0330	0.0040	4,777,098
Strip Mall	1,388,415	532	0.0330	0.0040	814,504
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Parking Lot	3,518,181	532	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 Office Building	135,379,796	1,648,928
Industrial Park	376,544,375	3,524,944
Regional Shopping Center	29,866,041	872,847
Supermarket	31,605,970	555,055
Strip Mall	9,984,976	291,815
Other Non-Asphalt Surfaces	0.00	804,238
Other Asphalt Surfaces	0.00	2,329,048
Parking Lot	0.00	8,694,245

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	708	—
Industrial Park	2,019	—
Regional Shopping Center	423	—
Supermarket	1,446	—
Strip Mall	142	—
Other Non-Asphalt Surfaces	0.00	—
Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

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)

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Default phase durations. The SoTu Master Plan is intended to be a guiding document for future development. There are no individual projects proposed at this time.
Operations: Vehicle Data	Trip generation rates adjusted to match rates from the Institute of Transportation Engineers (ITE) Manual, 11th Edition - consistent with the project-specific traffic study.
Operations: Fleet Mix	Truck fleet mix applied to the non-asphalt land use to account for truck trips from the industrial use. Fleet mix based on the CalEEMod default proportions.
Construction: Trips and VMT	Construction trip lengths updated to 0.5 mile to account for on-site and localized emissions from on-road sources.

Appendix B: Energy Calculations

Construction Vehicle Fuel Calculations (Page 1 of 2)

California Air Resource Board (CARB). 2022. EMFAC2021 Web Database. Website: https://arb.ca.gov/emfac/emissions-inventory. Accessed June 2023.

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Tulare
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled
FE = Fuel Economy

Given									*Calculations*	
Region	Calendar Year	Vehicle Class	Model Year	Speed	Fuel	Population	VMT (mi/day)	Consumption (1000 gallons/day)	FE (mi/gallon)	VMT*FE
Tulare	2023	HHDT	Aggregate	Aggregate	Gasoline	1.54970655	46.293347	0.014304312	3.23632114	149.8201
Tulare	2023	HHDT	Aggregate	Aggregate	Diesel	5221.84185	738312.92	125.5857963	5.8789524	4340507
Tulare	2023	LDA	Aggregate	Aggregate	Gasoline	158118.586	6491689.4	219.6650576	29.5526718	1.92E+08
Tulare	2023	LDA	Aggregate	Aggregate	Diesel	384.149892	12142.554	0.280343597	43.3131127	525931.8
Tulare	2023	LDT1	Aggregate	Aggregate	Gasoline	15857.3496	513272.46	21.34216622	24.0496889	12344043
Tulare	2023	LDT1	Aggregate	Aggregate	Diesel	10.6516961	178.98541	0.007008468	25.5384492	4571.01
Tulare	2023	LDT2	Aggregate	Aggregate	Gasoline	67885.9374	2693221.2	113.8810344	23.6494272	63693140
Tulare	2023	LDT2	Aggregate	Aggregate	Diesel	166.198415	7236.2356	0.219675726	32.9405336	238365.5
Tulare	2023	LHDT1	Aggregate	Aggregate	Gasoline	7343.52005	256425.3	28.05468024	9.14019686	2343778
Tulare	2023	LHDT1	Aggregate	Aggregate	Diesel	8303.00088	296659.93	18.79451052	15.7843924	4682597
Tulare	2023	LHDT2	Aggregate	Aggregate	Gasoline	1118.53274	38674.934	4.763202236	8.11952387	314022.1
Tulare	2023	LHDT2	Aggregate	Aggregate	Diesel	2789.63445	102156.22	7.87710403	12.9687539	1324839
Tulare	2023	MDV	Aggregate	Aggregate	Gasoline	78873.2804	2872062.8	151.1282564	19.0041417	54581088
Tulare	2023	MDV	Aggregate	Aggregate	Diesel	1210.67366	48889.896	2.023324036	24.1631567	1181334
Tulare	2023	MHDT	Aggregate	Aggregate	Gasoline	405.111362	18171.796	3.924545838	4.6302926	84140.73
Tulare	2023	MHDT	Aggregate	Aggregate	Diesel	3939.62675	186485.68	21.5511825	8.65315289	1613689

Worker
Weighted Average Fuel Economy 25.66842

Vendor
Weighted Average Fuel Economy 8.982482

Haul
Weighted Average Fuel Economy 5.878787

Construction Vehicle Fuel Calculations (Page 2 of 2)

Construction Schedule

Source: CalEEMod Output

CalEEMod Run	Phase Name	Start Date	End Date	Num Days Week	Num Days
01 - SoTu Residential + Public Land Uses	Site Preparation	1/01/2024	9/6/2024	5	180
01 - SoTu Residential + Public Land Uses	Grading	9/7/2024	6/19/2026	5	465
01 - SoTu Residential + Public Land Uses	Building Construction	9/7/2024	8/5/2033	5	2,325
01 - SoTu Residential + Public Land Uses	Paving	9/7/2024	4/25/2025	5	165
01 - SoTu Residential + Public Land Uses	Architectural Coating	1/1/2033	4/7/2034	5	330
02 - SoTu Commercial + Industrial Land Uses	Site Preparation	1/1/2024	10/4/2024	5	200
02 - SoTu Commercial + Industrial Land Uses	Grading	10/05/2024	3/21/2025	5	120
02 - SoTu Commercial + Industrial Land Uses	Building Construction	3/22/2025	2/6/2037	5	3,100
02 - SoTu Commercial + Industrial Land Uses	Paving	3/22/2025	1/23/2026	5	220
02 - SoTu Commercial + Industrial Land Uses	Architectural Coating	5/3/2036	3/6/2037	5	220

Construction Trips and VMT

		Trips per Day		Total Trips	Construction Trip Length in Miles				Trips per Phase			VMT per Phase			Fuel Consumption (gallons)		
CalEEMod Run	Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Number of Days per Phase	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips
01 - SoTu Residential + Public Land Uses	Site Preparation	17.5	4	0	7.7	6.8	20	180	3,150	720	0	24,255	4,896	0	944.94	545.06	0.00
01 - SoTu Residential + Public Land Uses	Grading	20	4	0	7.7	6.8	20	465	9,300	1,860	0	71,610	12,648	0	2,789.81	1,408.07	0.00
01 - SoTu Residential + Public Land Uses	Building Construction	1290.29526	226.7495217	0	7.7	6.8	20	2,325	2,999,936	527,193	0	23,099,511	3,584,910	0	899,919.62	399,100.16	0.00
01 - SoTu Residential + Public Land Uses	Paving	15	4	0	7.7	6.8	20	165	2,475	660	0	19,058	4,488	0	742.45	499.64	0.00
01 - SoTu Residential + Public Land Uses	Architectural Coating	258.059052	4	0	7.7	6.8	20	330	85,159	1,320	0	655,728	8,976	0	25,546.11	999.28	0.00
02 - SoTu Commercial + Industrial Land Uses	Site Preparation	18	4	63	7.7	6.8	20	200	3,500	800	12,500	26,950	5,440	250,000	1,049.93	605.62	42,525.78
02 - SoTu Commercial + Industrial Land Uses	Grading	20	4	0	7.7	6.8	20	120	2,400	480	0	18,480	3,264	0	719.95	363.37	0.00
02 - SoTu Commercial + Industrial Land Uses	Building Construction	1,182	522	0	7.7	6.8	20	3,100	3,663,698	1,617,962	0	28,210,473	11,002,140	0	1,099,034.45	1,224,844.14	0.00
02 - SoTu Commercial + Industrial Land Uses	Paving	15	4	0	7.7	6.8	20	220	3,300	880	0	25,410	5,984	0	989.93	666.19	0.00
02 - SoTu Commercial + Industrial Land Uses	Architectural Coating	236	4	0	7.7	6.8	20	220	52,001	880	0	400,407	5,984	0	15,599.20	666.19	0.00

Total Phase 1 Project Construction VMT (miles)

67,440,611

Total Phase 1 Project Fuel Consumption (gallons)

3,719,560

Construction Equipment Fuel Calculation

Source: CalEEMod Output

Construction Schedule

Construction Area	Phase Type	Start Date	End Date	Num Days Week	Num Days
01 - SoTu Residential + Public Land Uses	Site Preparation	1/01/2024	9/6/2024	5	180
01 - SoTu Residential + Public Land Uses	Grading	9/7/2024	6/19/2026	5	465
01 - SoTu Residential + Public Land Uses	Building Construction	9/7/2024	8/5/2033	5	2,325
01 - SoTu Residential + Public Land Uses	Paving	9/7/2024	4/25/2025	5	165
01 - SoTu Residential + Public Land Uses	Architectural Coating	1/1/2033	4/7/2034	5	330
02 - SoTu Commercial + Industrial Land Uses	Site Preparation	1/1/2024	10/4/2024	5	200
02 - SoTu Commercial + Industrial Land Uses	Grading	10/05/2024	3/21/2025	5	120
02 - SoTu Commercial + Industrial Land Uses	Building Construction	3/22/2025	2/6/2037	5	3,100
02 - SoTu Commercial + Industrial Land Uses	Paving	3/22/2025	1/23/2026	5	220
02 - SoTu Commercial + Industrial Land Uses	Architectural Coating	5/3/2036	3/6/2037	5	220

Construction Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of Days	HP Hours	Fuel (gallons/HP-hour)	Diesel Fuel Usage
01 - SoTu Residential + Public Land Uses									
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	180	634,176.00	0.021	13,009.03
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	180	179,020.80	0.019	3,406.15
Grading	Excavators	2	8	36	0.38	465	101,779.20	0.020	2,010.88
Grading	Graders	1	8	148	0.41	465	225,729.60	0.021	4,788.80
Grading	Rubber Tired Dozers	1	8	367	0.40	465	546,096.00	0.021	11,202.22
Grading	Scrapers	2	8	423	0.48	465	1,510,617.60	0.025	37,594.36
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	465	231,235.20	0.019	4,399.62
Building Construction	Cranes	2	7	367	0.29	2,325	3,464,296.50	0.015	51,565.56
Building Construction	Forklifts	6	8	82	0.20	2,325	1,830,240.00	0.021	38,077.63
Building Construction	Generator Sets	2	8	14	0.74	2,325	385,392.00	0.042	16,324.28
Building Construction	Tractors/Loaders/Backhoes	6	7	84	0.37	2,325	3,034,962.00	0.019	57,744.97
Building Construction	Welders	2	8	46	0.45	2,325	770,040.00	0.026	19,902.35
Paving	Pavers	4	8	81	0.42	165	179,625.60	0.022	3,866.84
Paving	Paving Equipment	4	8	89	0.36	165	169,171.20	0.018	3,101.34
Paving	Rollers	4	8	36	0.38	165	72,230.40	0.019	1,401.57
Architectural Coating	Air Compressors	1	6	37	0.48	330	35,164.80	0.028	968.94
02 - SoTu Commercial + Industrial Land Uses									
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	200	704,640.00	0.021	14,454.48
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	200	198,912.00	0.019	3,784.62
Grading	Excavators	2	8	36	0.38	120	26,265.60	0.020	518.94
Grading	Graders	1	8	148	0.41	120	58,252.80	0.021	1,235.82
Grading	Rubber Tired Dozers	1	8	367	0.40	120	140,928.00	0.021	2,890.90
Grading	Scrapers	2	8	423	0.48	120	389,836.80	0.025	9,701.77
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	120	59,673.60	0.019	1,135.38
Building Construction	Cranes	1	7	367	0.29	3,100	2,309,531.00	0.015	34,377.04
Building Construction	Forklifts	3	8	82	0.20	3,100	1,220,160.00	0.021	25,385.09
Building Construction	Generator Sets	1	8	14	0.74	3,100	256,928.00	0.042	10,882.85
Building Construction	Tractors/Loaders/Backhoes	3	7	84	0.37	3,100	2,023,308.00	0.019	38,496.64
Building Construction	Welders	1	8	46	0.45	3,100	513,360.00	0.026	13,268.23
Paving	Pavers	2	8	81	0.42	220	119,750.40	0.022	2,577.89
Paving	Paving Equipment	2	8	89	0.36	220	112,780.80	0.018	2,067.56
Paving	Rollers	2	8	36	0.38	220	48,153.60	0.019	934.38
Architectural Coating	Air Compressors	1	6	37	0.48	220	23,443.20	0.028	645.96
							Total Master Plan Construction Equipment Fuel Consumption (gallons)		**431,722.08**

Notes:
Equipment assumptions are provided in the CalEEMod output files.
Source of usage estimates: California Air Resource Board (ARB). 2021. OFFROAD2017 (v1.0.1) Emissions Inventory for Tulare County
Website: https://www.arb.ca.gov/orion/.

Construction Equipment Fuel Calculation

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: County
Region: Tulare
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	Vehicle Class	Model Year	HP_Bin	Fuel	Fuel (gallons/year)	Horsepower Hours (HP-hours/year)	Fuel (gallons/HP-hour)
Tulare	Construction and Mining - Cranes	Aggregated	300	Diesel	52657.01958	3537623.546	0.014884857
Tulare	Construction and Mining - Excavators	Aggregated	175	Diesel	156561.5672	7924249.896	0.019757273
Tulare	Construction and Mining - Graders	Aggregated	175	Diesel	95622.48553	4507357.533	0.021214755
Tulare	Construction and Mining - Misc - Cement And Mortar Mixers	Aggregated	25	Diesel	518.3	16275.35	0.031845705
Tulare	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregated	50	Diesel	266.45	6383.85	0.041738136
Tulare	Construction and Mining - Pavers	Aggregated	175	Diesel	20697.09983	961439.2328	0.021527205
Tulare	Construction and Mining - Paving Equipment	Aggregated	175	Diesel	8797.729977	479896.0688	0.018332574
Tulare	Construction and Mining - Rollers	Aggregated	100	Diesel	49945.71939	2573962.798	0.019404212
Tulare	Construction and Mining - Rough Terrain Forklifts	Aggregated	100	Diesel	128035.0445	6154134.122	0.020804721
Tulare	Construction and Mining - Rubber Tired Dozers	Aggregated	300	Diesel	6934.526078	338050.6038	0.020513278
Tulare	Construction and Mining - Scrapers	Aggregated	300	Diesel	57538.0011	2311993.759	0.024886746
Tulare	Construction and Mining - Tractors/Loaders/Backhoes	Aggregated	300	Diesel	84418.89908	4436891.503	0.019026586
Tulare	Light Commercial - Misc - Air Compressors	Aggregated	50	Diesel	8584.8	311560.35	0.027554212
Tulare	Light Commercial - Misc - Generator Sets	Aggregated	50	Diesel	23662.95	558647.1	0.042357599
Tulare	Light Commercial - Misc - Welders	Aggregated	50	Diesel	39441.9	1526043.1	0.025845862

Operational Fuel Calculation—SoTu Master Plan (Page 1 of 3)

California Air Resource Board (CARB). EMFAC2021. Website: https://arb.ca.gov/emfac/emissions-inventory/. Accessed June 2023.

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Tulare
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled
FE = Fuel Economy

			Given						*Calculations*	
Region	Calendar Year	Vehicle Class	Model Year	Speed	Fuel	Population	VMT	Fuel Consumption	FE	VMT*FE
TULARE	2025	LDA	Aggregated	Aggregated	GAS	222536.1496	8512710.095	230.5383502	36.92535359	314334830.2
TULARE	2025	LDA	Aggregated	Aggregated	DSL	2295.945912	93041.05039	1.518572624	61.26875258	5700509.096
								Weighted Average Fuel Economy		**37.18854217**
TULARE	2025	LDT1	Aggregated	Aggregated	GAS	22012.4842	767399.5265	24.52414241	31.29159477	24013155.01
TULARE	2025	LDT1	Aggregated	Aggregated	DSL	6.704360376	152.8578107	0.005142286	29.72565449	4543.798467
TULARE	2025	LDT2	Aggregated	Aggregated	GAS	70891.29355	2510680.417	83.3882196	30.10833459	75592406.03
TULARE	2025	LDT2	Aggregated	Aggregated	DSL	533.0785838	21101.42774	0.460836335	45.78941839	966222.1037
TULARE	2025	MDV	Aggregated	Aggregated	GAS	62764.35932	2014585.21	86.99223733	23.15821816	46654203.79
TULARE	2025	MDV	Aggregated	Aggregated	DSL	1725.129862	62029.85827	1.928525265	32.16440012	1995153.181
								Weighted Average Fuel Economy		**27.7580155**
TULARE	2025	LHDT1	Aggregated	Aggregated	GAS	4985.276035	162387.983	18.03399088	9.00455058	1462230.807
TULARE	2025	LHDT1	Aggregated	Aggregated	DSL	6485.731697	199698.4277	10.55506194	18.91968317	3778230.983
TULARE	2025	LHDT2	Aggregated	Aggregated	GAS	817.2007649	25761.31277	3.310487626	7.781727552	200467.5173
TULARE	2025	LHDT2	Aggregated	Aggregated	DSL	2215.698325	69776.78433	4.106999097	16.98972478	1185488.362
TULARE	2025	MHDT	Aggregated	Aggregated	GAS	443.5446338	23385.76792	4.371925712	5.349077149	125092.2768
TULARE	2025	MHDT	Aggregated	Aggregated	DSL	4854.605014	262147.3245	25.48753433	10.28531521	2696267.864
TULARE	2025	HHDT	Aggregated	Aggregated	GAS	1.151547416	178.4372094	0.035652049	5.004963687	893.0717536
TULARE	2025	HHDT	Aggregated	Aggregated	DSL	6865.87503	904737.6549	115.8518106	7.80943906	7065493.581
								Weighted Average Fuel Economy		**10.02028279**
TULARE	2025	MCY	Aggregated	Aggregated	GAS	9632.162233	62531.06947	1.645102286	38.0104447	2376833.758
								Weighted Average Fuel Economy		**38.0104447**
TULARE	2025	MH	Aggregated	Aggregated	GAS	801.9109609	7291.458097	1.391960961	5.238263357	38194.57777
TULARE	2025	MH	Aggregated	Aggregated	DSL	509.9160188	3978.694297	0.388309084	10.24620454	40766.51556
TULARE	2025	OBUS	Aggregated	Aggregated	GAS	134.1242322	5615.136961	1.07538596	5.221508529	29319.48553
TULARE	2025	OBUS	Aggregated	Aggregated	DSL	136.3628056	9465.786392	1.081486004	8.752574102	82849.99682
TULARE	2025	SBUS	Aggregated	Aggregated	GAS	93.12572978	4355.457417	0.458880543	9.491484178	41339.75516
TULARE	2025	SBUS	Aggregated	Aggregated	DSL	484.9933028	15013.33067	1.77410944	8.462460281	127049.7144
TULARE	2025	UBUS	Aggregated	Aggregated	GAS	80.41065879	7250.013897	1.483175359	4.888170405	35439.30336
TULARE	2025	UBUS	Aggregated	Aggregated	DSL	24.20862518	2327.398767	0.238533101	9.757131204	22708.73513
								Weighted Average Fuel Economy		**7.553140232**

Operational Fuel Calculation—SoTu Master Plan (Page 2 of 3)
Operational Fuel Calculation—SoTu Residential + Public Land Uses Operational Trips
Total Operational VMT (SoTu Residential + Public Land Uses)

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
Single Family Housing	5,083	5,110	4,571	1,829,977	47,510	47,760	42,722	17,104,420
Apartments Low Rise	10,016	6,761	5,736	3,262,957	93,618	63,197	53,613	30,498,199
City Park	52.0	130	146	27,943	432	1,082	1,209	231,957
Elementary School	1,703	1,703	1,703	621,595	14,137	14,137	14,137	5,159,922
Other Asphalt Surfaces	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

	Annual VMT (miles)
Total VMT from Residential Land Uses	**47,602,619**
Total VMT from Non-residential Land Uses	**5,391,879**
Total VMT (Residential + Public Land Uses)	**52,994,498**

By Vehicle Type

	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Residential Land Uses (2025)	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200
Non-residential Land Uses (2025)	0.456464	0.039415	0.192207	0.206184	0.039404	0.010023	0.012285	0.015324	0.000631	0.000454	0.021881	0.001925	0.003802912

SoTu Residential + Public Land Uses Residential Land Uses

	Fraction of 1	Percent of Vehicle Trips	Annual VMT	Average Fuel Economy (miles/gallon)	Average Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	0.5244	52.4	24,962,813	37.19	1839.0	671,250
Light Trucks and Medium Vehicles (LDT1, LDT2, and MDV)	0.4360	43.6	20,754,742	27.76	2048.5	747,703
Light-Heavy to Heavy-Heavy Diesel Trucks	0.0305	3.1	1,451,880	10.02	397.0	144,894
Motorcycles	0.0025	0.3	119,007	38.01	8.6	3,131
Other	0.0066	0.7	314,177	7.55	114.0	41,596
Total	**—**	**100**	**47,602,619**	**—**	**—**	**1,608,573**

SoTu Residential + Public Land Uses Non-residential Land Uses

	Fraction of 1	Percent of Vehicle Trips	Annual VMT	Average Fuel Economy (miles/gallon)	Average Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	0.4565	45.6	2,461,200	37.19	181.3	66,182
Light Trucks and Medium Vehicles (LDT1, LDT2, and MDV)	0.4378	43.8	2,360,594	27.76	233.0	85,042
Light-Heavy to Heavy-Heavy Diesel Trucks	0.0770	7.7	415,371	10.02	113.6	41,453
Motorcycles	0.0219	2.2	117,980	38.01	8.5	3,104
Other	0.0068	0.7	36,735	7.55	13.3	4,863
Total	**—**	**100**	**5,391,879**	**—**	**—**	**200,644**

SoTu Residential + Public Land Uses Summary	Annual VMT	Total Annual Fuel Consumption (gallons)
Residential Land Uses	47,602,619	1,608,573
Non-residential Land Uses	5,391,879	200,644
Subtotal	**52,994,498**	**1,809,217**

Operational Fuel Calculation—SoTu Master Plan (Page 3 of 3)
Operational Fuel Calculation—SoTu Commercial + Industrial Land Uses Operational Trips
Total Operational VMT (Phase 2)

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	8,257	1,683	533	2,268,295	68,542	13,974	4,426	18,829,343
Industrial Park	5,487	4,136	2,019	1,751,477	45,548	34,332	16,761	14,539,188
Regional Shopping Center	14,922	18,789	7,649	5,268,922	55,859	78,625	32,007	20,331,804
Supermarket	24,227	29,781	21,761	9,003,847	78,184	247,214	180,637	42,692,955
Strip Mall	7,340	7,340	7,340	2,679,100	60,930	60,930	60,930	22,239,477
Other Non-Asphalt Surfaces	928	928	928	338,768	46,407	46,407	46,407	16,938,391
Other Asphalt Surfaces	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

	Annual VMT (miles)
Total VMT from Commercial + Industrial Land Uses Trips	**118,632,766**
Total VMT from Industrial Park Truck Only Trips	**16,938,391**
Total VMT (Phase 2)	**135,571,157**

By Vehicle Type

	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Residential Land Uses (2025)	0.456464	0.039415	0.192207	0.206184	0.039404	0.010023	0.012285	0.015324	0.000631	0.000454	0.021881	0.001925	0.003802912
Truck Only Fleet Mix (2025)	0.000000	0.000000	0.000000	0.000000	0.511501	0.130113	0.159465	0.198921	0.000000	0.000000	0.000000	0.000000	0.000000

Commercial + Industrial Land Uses Trips

	Fraction of 1	Percent of Vehicle Trips	Annual VMT	Average Fuel Economy (miles/gallon)	Average Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	0.4565	45.6	54,151,618	37.19	3989.4	1,456,137
Light Trucks and Medium Vehicles (LDT1, LDT2, and MDV)	0.4378	43.8	51,938,064	27.76	5126.3	1,871,101
Light-Heavy to Heavy-Heavy Diesel Trucks	0.0770	7.7	9,139,040	10.02	2498.8	912,054
Motorcycles	0.0219	2.2	2,595,808	38.01	187.1	68,292
Other	0.0068	0.7	808,237	7.55	293.2	107,007
Total	**—**	**100.0000004**	**118,632,766**	**—**	**—**	**4,414,591**

Industrial Park Truck Only Trips

	Fraction of 1	Percent of Vehicle Trips	Annual VMT	Average Fuel Economy (miles/gallon)	Average Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	0.0000	0.0	0	37.19	0.0	0
Light Trucks and Medium Vehicles (LDT1, LDT2, and MDV)	0.0000	0.0	0	27.76	0.0	0
Light-Heavy to Heavy-Heavy Diesel Trucks	1.0000	100.0	16,938,391	10.02	4631.3	1,690,410
Motorcycles	0.0000	0.0	0	38.01	0.0	0
Other	0.0000	0.0	0	7.55	0.0	0
Total	**—**	**100**	**16,938,391**	**—**	**—**	**1,690,410**

SoTu Commercial + Industrial Land Uses Summary

	Annual VMT	Total Annual Fuel Consumption
Commercial + Industrial Land Uses Trips	118,632,767	4,414,591
Industrial Park Truck Only Trips	16,938,391	1,690,410
SoTu Commercial + Industrial Land Uses	**135,571,158**	**6,105,002**

Project Operations Natural Gas Use

Source: CalEEMod Output

kBTU/yr = kilo-British Thermal Units/year

SoTu Residential + Public Land Uses	Natural Gas Use (kBTU/yr)
Single Family Housing	19,679,429
Apartments Low Rise	26,748,148
City Park	0
Elementary School	1,683,691
Other Asphalt Surfaces	0
Parking Lot	0
Subtotal	**48,111,267 kBTU/yr**

SoTu Commercial + Industrial Land Uses	Natural Gas Use (kBTU/yr)
General Office Building	27,992,282
Industrial Park	59,839,612
Regional Shopping Center	2,436,261
Supermarket	4,777,098
Strip Mall	814,504
Other Non-Asphalt Surfaces	0
Other Asphalt Surfaces	0
Parking Lot	0
Subtotal	**95,859,757 kBTU/yr**

Summary	Natural Gas Use (kBTU/yr)
SoTu Residential + Public Land Uses	48,111,267
SoTu Commercial + Industrial Land Uses	95,859,757
Total Master Plan	**143,971,024**

Project Operations Electricity Use

Source: CalEEMod Output

kWh/yr = kilowatt hours per year

SoTu Residential + Public Land Uses	Electricity Use (kWh/yr)	
Single Family Housing	19,679,429	
Apartments Low Rise	26,748,148	
City Park	0	
Elementary School	1,683,691	
Other Asphalt Surfaces	0	
Parking Lot	0	
Subtotal	**48,111,267**	**kWh/yr**

SoTu Commercial + Industrial Land Uses	Electricity Use (kWh/yr)	
General Office Building	14,700,146	
Industrial Park	31,424,771	
Regional Shopping Center	4,152,886	
Supermarket	8,710,912	
Strip Mall	1,388,415	
Other Non-Asphalt Surfaces	0	
Other Asphalt Surfaces	0	
Parking Lot	3,518,181	
Subtotal	**63,895,311**	**kWh/yr**

Summary	Electricity Use (kWh/yr)
SoTu Residential + Public Land Uses	48,111,267
SoTu Commercial + Industrial Land Uses	63,895,311
Total Master Plan	**112,006,579**

7.2 Appendix B: Biological Assessment Report

Prepared by Argonaut Ecological Consulting, Inc., dated April 27, 2023.

BIOLOGICAL ASSESSMENT REPORT

SoTu Master Plan Area; 421.89 Acres, City of Porterville, CA

APN: 259-150-001; 259-030-031 and -011; 259-270-004; 259-040-041, -044, -028,027,026,025, -043,-042; -045,046, 010, -039, 259-320-001, 259-370-058, -002

Prepared for:

PRECISION CIVIL ENGINEERING, INC.

ARGONAUT ECOLOGICAL CONSULTING, INC.

April 27, 2023

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1.0 EXECUTIVE SUMMARY AND INTRODUCTION

EXECUTIVE SUMMARY

Argonaut Ecological, Inc. conducted a biological reconnaissance evaluation of the SoTu Master Plan Area proposed by the City of Porterville. The Master Plan Area encompasses approximately 421.89 acres to facilitate future growth. Although no physical development is proposed with the SoTu Master Plan, the goal is to provide the necessary framework to guide development in this area.

The SoTu Master Plan is intended to be a guiding document for future development. No individual projects are proposed; no additional conditional use permits, site plan reviews, or annexations are proposed. It is anticipated that projects will be reviewed individually.

The biological assessment included assessing the types of habitats present and sensitive species associated with those habitats. The biological evaluation focused on mapping existing habitat types based on a site reconnaissance and reviewing public and commercial databases, aerial photographs (current and historical), and other published information and available data.

The majority of the Master Plan Area has been in agricultural production for several decades but also has riparian and ruderal/non-native grassland habitats. The conclusions of the biological reconnaissance study include the following:

- An emergent wetland and a forested shrub wetland mapped by the National Inventory Wetland Inventory are located near the center of the Master Plan area within an agricultural field. Future development would require additional investigation of this area to determine if the wetland feature is intact (based on soils, hydrology, and vegetation).

- There are suitable nesting trees for raptors and migratory birds within the Master Plan area.

- Agricultural lands generally do not support special status species breeding or nesting habitats. However, the Study Area could provide some foraging habitat for Swainson's hawk, other raptors, and other species, such as the San Joaquin kit fox or the other special status species.

1.1 INTRODUCTION

The SoTu Master Plan encompasses 421.89 acres adjacent to City limits to facilitate future growth. Although the Plan Area is not within City Limits, it is the typical practice of the City to "pre-zone" properties (See Figure 1 – Conceptual Zoning Map)**.** As such, the parcels within the Plan Area have been pre-zoned to the following zone districts:

- RS-1 – Very Low-Density Residential

Low Density Residential
Low Medium Density Residential
Medium Density Residential
Neighborhood Commercial
Parks and Recreation
Professional Office
Public Institutional
Resort Residential
Retail Centers
Rural Residential
Very Low Density Residential

Zoning District

AC (Agricultural/Conservation)
CG (General and Service Commercial)

Figure 1 – Conceptual Zoning Map

1.2 STUDY OBJECTIVES

This report provides an overall assessment of the biological resources within and adjacent to the Study Area, describes the area's biological characteristics, and evaluates the Study Area's likelihood to support sensitive biological resources (such as wetlands, creeks/drainages, and special status species). This evaluation used available literature, aerial photography, historic topographic and aerial maps, and a site visit. For this study, wetland habitat includes those areas possibly considered "waters of the U.S." as defined by the U.S. Army Corps of Engineers (Army Corps) or Waters of the State of California. Section 1.2.1 describes wetlands as a subset of "Waters of the U.S." under the Federal Clean Water Act (CWA).

This report assesses the Project's potential effects on biological resources and evaluates whether any associated regulatory approvals or permits are required. This report also evaluates potential impacts site development may have on protected habitat, species protected by the Federal Endangered Species Act (ESA), or those protected under the California Environmental Quality Act (CEQA) or California Endangered Species Act (CESA).

1.3 REGULATORY JURISDICTION AND BACKGROUND

Several agencies share regulatory jurisdiction over biological resources. The following briefly describes the primary agencies and their respective jurisdiction.

Wetland Protection

U.S. Army Corps of Engineers

Wetlands are a type of Waters of the U.S. The U.S. Army Corps of Engineers (Army Corps) and the U.S. Environmental Protection Agency regulate the placement of fill into the Waters of the U.S. under Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbor Act. For this purpose, the term "Waters of the U.S." is legally defined under Section 404 of the Federal Clean Water Act and includes interstate streams, creeks, and adjacent wetlands. The Army Corps defines wetlands as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions*" (Environmental Laboratory 1987). In California, seasonally inundated areas that meet the criteria of all three wetland parameters (soils, hydrology, and vegetation), as defined in the recently issued Wetland Delineation Manual for the Arid West (USACE 2006), are also considered jurisdictional wetlands.

Since 2001, several U.S. Supreme Court rulings regarding the regulation of isolated, intrastate waters by the Army Corps have limited the scope of federal jurisdiction under the Federal Clean Water Act and excluded many California wetlands from federal regulation.

In December 2019, the U.S. Environmental Protection Agency and the U.S. Army published the final rule to repeal the 2015 Clean Water Rule. The "Clean Water Rule" clarified what constitutes waters of the U.S., and presumably, more precisely define and make permitting more predictable, thus less costly, and more straightforward.

After several challenges to the "Clean Water Rule," a revised rule became effective on June 22, 2020; but in 2021the Clean Water Rule was rescinded, and the regulations in effect before 2015 were restored. On November 18, 2021, the U.S. Environmental Protection Agency and the Department of the Army proposed the pre-2015 (pre-Obama-era rules) definition of "waters of the United States," updated to reflect consideration of Supreme Court decisions.

On December 30, 2022, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of the Army (the agencies) announced a final rule establishing a durable definition of "waters of the United States" (WOTUS) to reduce uncertainty from changing regulatory definitions, protect people's health, and support economic opportunity. The final rule restores essential water protections in place before 2015 under the CWA for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The rule will be effective 60 days after it is published in the *Federal Register*. However, several industries filed a challenge on January 19, 2023. The industry complaint alleges that the rule "effectively reads the term 'navigable waters' out of the CWA," that it "asserts improperly vague and malleable jurisdiction," violates principles of federalism, "exceeds the Agencies' delegated authority under the Commerce Clause," and violates other constitutional principles.

WOTUS does not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency for the CWA, the final authority regarding CWA jurisdiction remains with EPA.

California State Water Resources Control Board

Since 1993, California has had a Wetlands Conservation Policy (a.k.a. Executive Order W-51 59-93) commonly called the *No Net Loss policy* for wetlands. This order establishes a state mandate for developing and adopting a policy framework and strategy to protect wetland ecosystems. The policy was to be implemented voluntarily and was expressly not to be implemented on a "project-by-project" basis (See EO W-59-93, Section III).

In 2020 California adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. The State definition of wetland differs from the Federal definition in that the state definition includes areas with no vegetation, assuming the other criteria are met. Wetlands of the State include 1) natural wetlands, 2) wetlands created by modification of water of the state (at any point in history), and 3) artificial wetlands that meet specific criteria. The State definition only exempts a few types of waters. Examples of water features excluded from the state's definition include industrial or municipal wastewater, certain stormwater treatment facilities, agricultural crop irrigation, industrial processing or cooling, and fields flooded for rice growing.

Listed Protected Species and Habitat Protection

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) implements the Migratory Bird Treaty Act (16 USC Section 703-711), Bald and Golden Eagle Protection Act (16 United States Code [USC] Section 668), and Federal Endangered Species Act (FESA; 16 USC § 153 *et seq.)*.

The **Migratory Bird Treaty Act (MBTA**) was first enacted in 1918 to protect migratory birds between the United States and Great Britain (acting on behalf of Canada). The MBTA makes it illegal for anyone to take, possess, import, transport, purchase, barter, offer for sale, or purchase any migratory birds, nests, or eggs unless a federal agency has issued a permit. The USFWS has statutory authority and responsibility for enforcing the MBTA. The MBTA was reformed in 2004 to include all species native to the U.S. or its territories due to natural biological or ecological processes (70 FR 12710, March 15, 2005). The Act does not include non-native species whose occurrences in the U.S. result solely from intentional or unintentional human introduction. The USFWS maintains a list of bird species not protected under the MBTA.

In January 2021, the USFWS published a new rule in the Federal Register. Under the rule change, the unintentional killing of migratory birds does not violate the MBTA. Only the intentional "pursuing, hunting, taking, capturing, killing, or attempting to do the same ... directed at migratory birds, their nests, or their eggs" would be illegal under the changes.

The **Federal Endangered Species Act** prohibits "take" "of any federally listed wildlife species (the destruction of federally listed plants on private property is not prohibited and does not require a permit)**.** "Take" under the federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. "Incidental take" is harm or death that may occur during the implementation of an otherwise lawful activity. "Candidate species" do not have the full Protection of FESA. However, the USFWS advises project applicants that it is prudent to address these species since they could be elevated to "listed status" before the completion of projects with long planning or development schedules.

Projects that would result in "take" "of any federally-listed threatened or endangered species can obtain authorization from the USFWS through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA. The authorization process determines if a project would jeopardize a listed species' continued existence and what mitigation measures would be required to avoid jeopardizing the species.

An Incidental Take Permit or Take Permit is required when an activity would either kill, harm, harass or interrupt a listed species' breeding or nesting. The ESA definition of "harm" is somewhat less definitive since it includes ubiquitous activities. In 1999 the USFWS clarified the term "harm" as it applies to the ESA in the Federal Register. As stated, the final rule defined the term "harm" "to include any act which causes actual harm (kills or injures fish or wildlife) and emphasizes that such actions may have significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is a Trustee Agency responsible under CEQA to review and evaluate projects impacts on plant and wildlife resources. Under the Fish and

Game Code Section 1802, the CDFW has jurisdiction over the conservation, Protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations. The California Fish and Game Code also provides authority for the CDFW to regulate projects that could result in the "take" of any species listed by the state as threatened or endangered (Section 2081). CDFW also has authority over all state streams, as described below.

Perennial and intermittent streams also fall under the jurisdiction of CDFW according to Sections 1601-1603 of the Fish and Game Code (Streambed Alteration Agreements). CDFW's jurisdictional extent includes work within the stream zone, including the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream, or lake. Before issuing a 1601 or 1603 Streambed Alteration Agreement, the CDFW must demonstrate compliance with CEQA. In most cases, CDFW relies on the CEQA review performed by the local lead agency. However, in cases where no CEQA review was required for the project, CDFW would act as the lead agency under CEQA.

The CDFW also has authority for the Protection of state-listed species issues under Section 2081 Incidental Take Permit if a project has the potential to negatively affect state-protected plant or animal species or their habitats, either directly or indirectly. Protected species include those "listed" by the state as endangered or threatened. Besides listed species, other species protection categories include "fully protected" and California Species of Special Concern (CSC). Adverse impacts to species that are "fully protected" are prohibited.

Under the California Fish & Game Code (FGC Section 3503), "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird…." Birds of prey (falcons, hawks, owls, and eagles) get extra Protection under the law (FGC Section 3503.5).

As with USFWS, CDFW does not have the authority to require a landowner to apply for an Incidental Take Permit (ITP) authorizing take. Instead, the landowner is legally obligated to avoid taking state-listed species if it does not seek an ITP. CDFW (and USFWS) can initiate an enforcement action if they believe that an illegal take has occurred or will occur.

California Endangered Species Act

The California Endangered Species Act (CESA) protects candidate plants and animal species and those listed under CESA as rare, threatened, or endangered. This Act prohibits the take of any such species unless authorized. Section 2081 authorizes the state to issue incidental take permits. The state definition of taking applies only to acts that result in death or adverse impacts on protected species. The CESA mirrors the federal regulation as it relates to "take"; however, there is no state equivalent definition of "harm" or "harass." Incidental take is also not defined by the CESA statute or regulation. Unlike the federal ESA, CESA does qualify that incidental take" "is not prohibited "if it is the result of an act that occurs on a farm or ranch in the course of an otherwise lawful routine and ongoing agricultural activity." Where disagreement occurs (and in some cases, this has been the subject of court cases) is in the common understanding of “routine and ongoing agricultural activity."

California Environmental Quality Act

The CEQA Guidelines require a review of projects to determine their environmental effects and identify mitigation measures to reduce impacts to a less than significant level. The Guidelines state that an effect may be significant if it affects rare and endangered species. Section 15380 of the Guidelines defines *rare* to include listed species and allows agencies to consider rare species other than those designated as State or Federal threatened or endangered but that meet the standards for rare under the Federal or State endangered species acts. On this basis, plants designated as rare by non-regulatory organizations (e.g., California Native Plant Society), species of special concern as defined by CDFW, candidate species as defined by USFWS, and other designations need to be considered in CEQA analyses.

Land Use Entitlements

City of Porterville

The City of Porterville is responsible for all local land-use decisions within its jurisdiction and compliance with the California Environmental Quality Act (CEQA). As the lead agency under CEQA, the City will consider other responsible agencies' recommendations during the CEQA review.

2.0 RESOURCES CONSULTED AND METHODS

The following section describes the methods used to assess the Study Area and includes data review and evaluation, field studies, and aerial photograph interpretations.

2.1 DATA AND LITERATURE REVIEW

Documents and sources of information used to prepare this evaluation include the following:

- Aerial photography (Google Earth®, Bing®, and historic aerials).
- California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB/RareFind - Recent version with updates)
- Conservation Biology Institute. Data Basin. Tulare County Data Sets. 2023
- EcoAtles 2023.
- U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey of Fresno County (Soils mapper).
- U.S. Fish and Wildlife Service, National Wetland Inventory Map.
- U.S. Fish and Wildlife Service, Information for Planning and Consultation (IPaC) query, March 3, 2023.
- U.S. Geological Survey, Historical Topographic Map, Porterville Quadrangle, 1923, University of Texas, Austin, Perry-Castañeda Map Collection

The California Natural Diversity Database/ RareFind (CNDDB) and the USFWS IPaC were consulted to determine the species potentially present within the Study Area based on location. The review assessed the likelihood of special status species being present based on the site's distance from documented species occurrences and the presence or absence of habitat types used by such species. The CNDDB includes records of reported observations for special status plant and animal species and is queried based on a search radius of USGS quadrangle maps. Before conducting the fieldwork, high-resolution aerial photographs were also reviewed to determine if any areas on the site supported the presence of WOTUS.

2.2 AERIAL PHOTOGRAPHY AND WETLAND MAPPING

Historical aerial photographs dating back to the 1980s of the Study Area were reviewed to identify site features and determine land-use changes over time. Also reviewed were wetland mapping and aerial photographs to determine if the Study Area recently supported wetlands.

2.3 FIELD INVESTIGATION

A site review was completed on April 1, 2023. The entire Study Area was reviewed on a reconnaissance level. Detailed field mapping was not conducted. Photographs are included in Attachment A.

3.0 PHYSICAL RESOURCES, RESULTS, AND CONCLUSIONS

Section 3.1, below, describes the physical features (i.e., land use, soils, vegetation, hydrology, etc.) and the study area's biological features. The physical components and land use strongly influence the types of plants and animals present. This section also describes the habitats present and the specific biological resources observed during the site review.

Section 3.2 presents our conclusions, and Section 3.3 contains recommended avoidance and minimization measures to avoid potential impacts.

The following is not an exhaustive inventory of plants and animals present. Instead, the discussion provides sufficient information to characterize the habitat and habitat components present on site. This field survey identified the biological resources present. The biological evaluation discusses the habitat present and the potential for that habitat to support any species considered unique, sensitive, or protected by current law. The conclusion section (3.2) summarizes the results of the data review, fieldwork, and evaluation of biological resources and potential impacts. The conclusion sections also include recommendations for measures to minimize any potential impacts.

3.1 PHYSICAL RESOURCES

Climate

The Study Area climate is typical of the central San Joaquin Valley, with long, hot, and dry summers and mild winters, and rainfall averages approximately 9.99 inches per year, falling mainly between November and April (Western Regional Climate Center, 2004).

Topography, Drainage, and Soils

Topography and Drainage*:*

The Study Area lies within the San Joaquin Valley and is nearly level. In 1923 the topography of the site was at roughly an elevation of 130 mean sea level. The topography has remained relatively unchanged, but the site has been leveled for agricultural use. Historically, an agricultural ditch (Poplar Ditch) crossed through the southwest corner of the Study Area. The Tule River forms the northern boundary of the Study Area.

Figure 2
1923 Topographic Map
SoTu Master Plan Study Area

Soils*:*

The site comprises eight soil types, as shown in Table 1. The soils are primarily sandy loam, loam, and silt sand, and these soils are generally well-drained. The riverwash soils within the Tule River are hydric, and two other soil types are partially hydric, which means there is a higher potential for wetland formation within these soils. The pits appear to be excavated features that have been filled in. The predominant soil type, Nord fine sandy loam, is located on the west end of the Study Area, along S. Westwood Street.

Table 1
Soil Types Within the Study Area

Soil Type	Classified as Hydric?	% of Study Area
Nord fine sandy loam, 0 to 2 percent slopes	No	125.2
Tujunga sand	No	73.4
San Emigdio loam	No	50.3
Yettem sandy loam, 0 to 2 percent slopes	No	41.5
Pits	No	25.9
Tagus loam, 0 to 2 percent slopes	Partially	25.4
Tujunga loamy sand, 0 to 2 percent slopes	Partially	23.2
Riverwash	Yes	39.3

Land Use

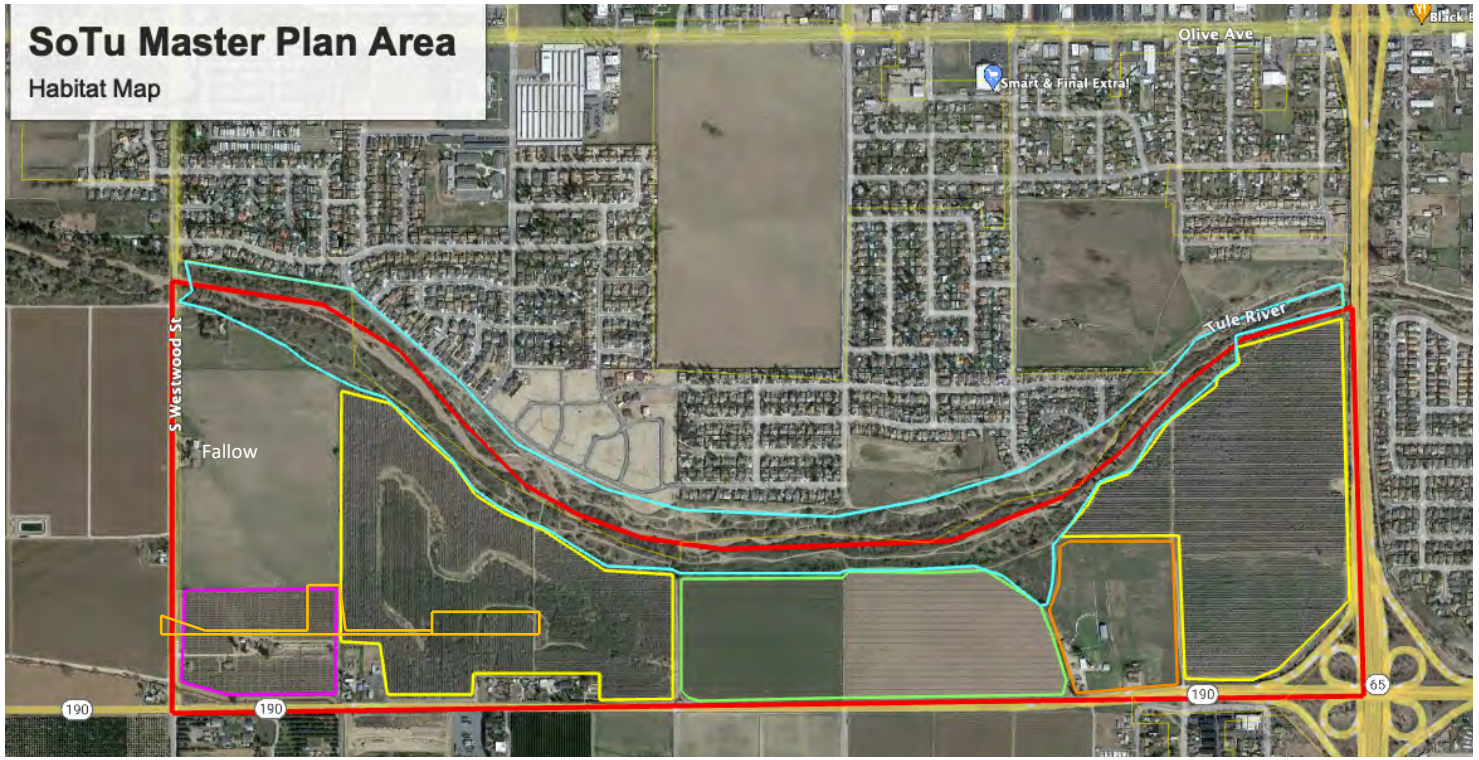
The Study Area is in a historically rural, agricultural area of Tulare County. The Study Area is located immediately west of the urbanized area of Porterville.

The Study Area is composed of crops and a few rural residences. The cropping pattern has been relatively unchanged since the 1990s, and no lands have been taken out of production since then. The area north of the Study Area has become more densely populated, but the lands south of the Study Area have remained relatively unchanged.

Habitat

There are several California habitat classification systems. Most classification systems describe natural communities without established developed or agricultural habitat classifications. CalVeg is a USDA Forest Service product providing a comprehensive spatial dataset of existing vegetation cover over California. The data were created using a combination of automated systematic procedures, remote sensing classification, photo editing, and field-based observations. Analyses are based "on a crosswalk of the CalVeg classifications to the California Wildlife Habitat Relationships (CWHR)."

Figure 3 shows the areas included within the survey boundary and depicts the habitat types in the Study Area. The Study Area has been in agricultural production (orchards and row crops) for at



Legend

- Master Plan Area
- Ruderal
- Orchards
- Riparian
- Vineyards
- Row Crops

Figure 3 Habitat Map

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least 50 years, if not longer. CalVeg includes a dataset that shows fallow agricultural land in the San Joaquin Valley by year. From 2011 to 2016, some fallow agricultural land was within the Study Area. The fallow agricultural land was on the west side and in the area shown as "ruderal" in Figure 3. CalVeg also shows portions of the Study Area as Prime Farmland. The agricultural habitat provides some wildlife habitat but is subject to frequent habitat disturbance. There are nest trees throughout the agricultural lands.

Other habitats within the Master Plan Area include the riparian habitat along the Tulare River (Figure 3). This habitat supports mature trees (including sycamore), shrubs, and ground cover. The riparian habitat provides important nesting and breeding habitat for wildlife and a vital movement corridor through the region.

There is also an area of ruderal habitat on the eastern side of the Master Plan Area that is composed of non-native grasses surrounding a farm/ranch home and buildings. Additional ruderal habitat surrounds other residential homes and along the surrounding roadways. Ruderal habitat provides some wildlife habitat but is subject to more frequent human disturbance.

Waters/Wetland

According to the National Wetland Inventory Map (Figure 4), an emergent wetland and a forested shrub wetland are located near the center of the Master Plan area within an agricultural field. The emergent wetland and forested shrub wetland have been put into agricultural production since approximately 2007. Prior to that, the wetlands were within an area that appears to be used for pastureland. Agricultural production does not always remove a wetland feature, depending on the remaining crops, plowing technique, and topography. The features appear to be a topographic depression that may have historically been part of a former tributary to the Tule River. The NWI mapping cannot be used to verify that a wetland is still present but only indicates that a wetland was historically present. A formal wetland delineation would need to be performed to confirm whether a wetland is still present. A formal wetland delineation involves evaluating the plant community, subsurface soils, and hydrology.

The NWI maps also show that the area along the Tule River is mapped as riverine wetland habitat, which supports the river, adjacent wetlands, and riparian habitat.

Special Status Species

The California Natural Diversity Database (CNDDB) and the USFWS IPaC databases were queried to determine which special status species could be present within the Study Area. The database query is summarized in Table 2. No critical habitat exists for any species within or near the Study Area. The U.S. Fish and Wildlife Service IPaC list includes numerous migratory birds for the region, including Beldings savannah sparrow, California gull, common yellowthroat, and Nuttal's woodpecker. These strictly migratory species are not included in Table 2 but should be considered during future biological evaluations. The CNDDB Bios mapping is shown in Figure 5. The BIOs maps show the location of known records of special status species near the Study Area.

As described in Table 2, several species could occur within the Master Plan Area based on habitat conditions. The species potentially present include the following:

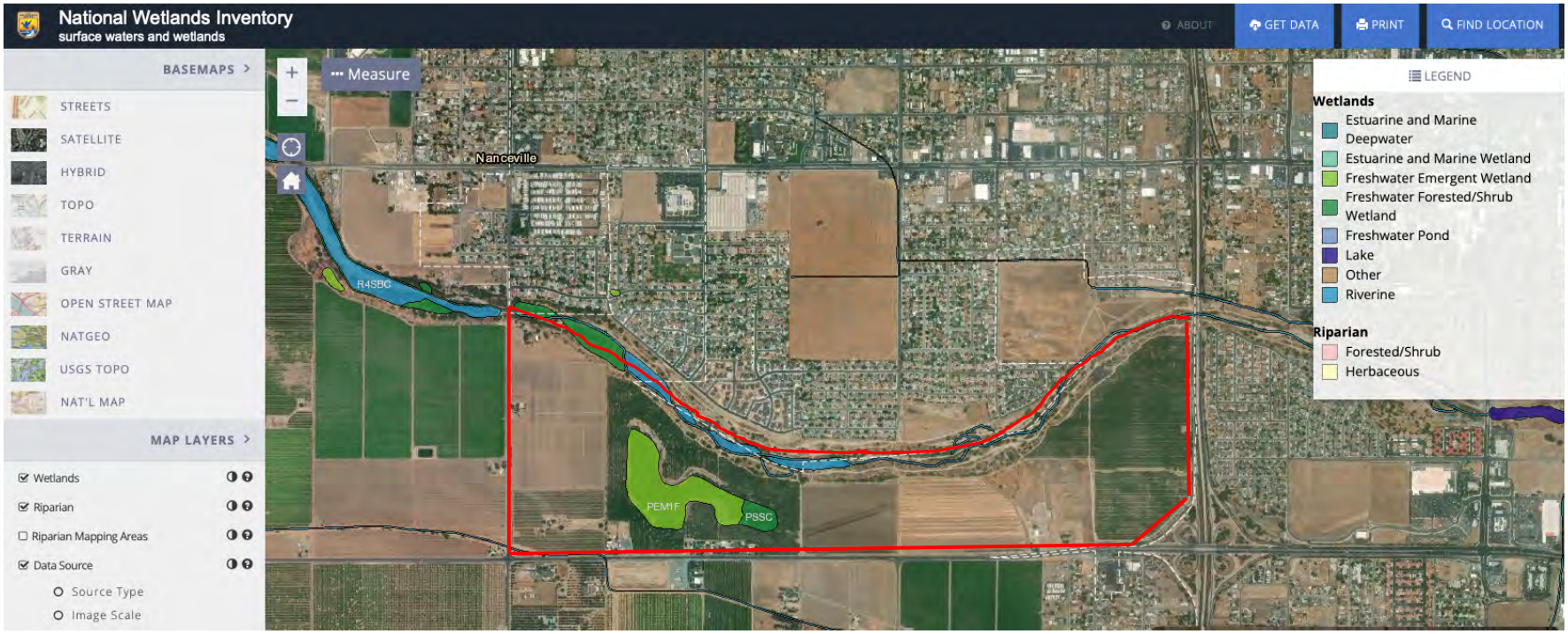

Figure 4 National Wetland Inventory Map

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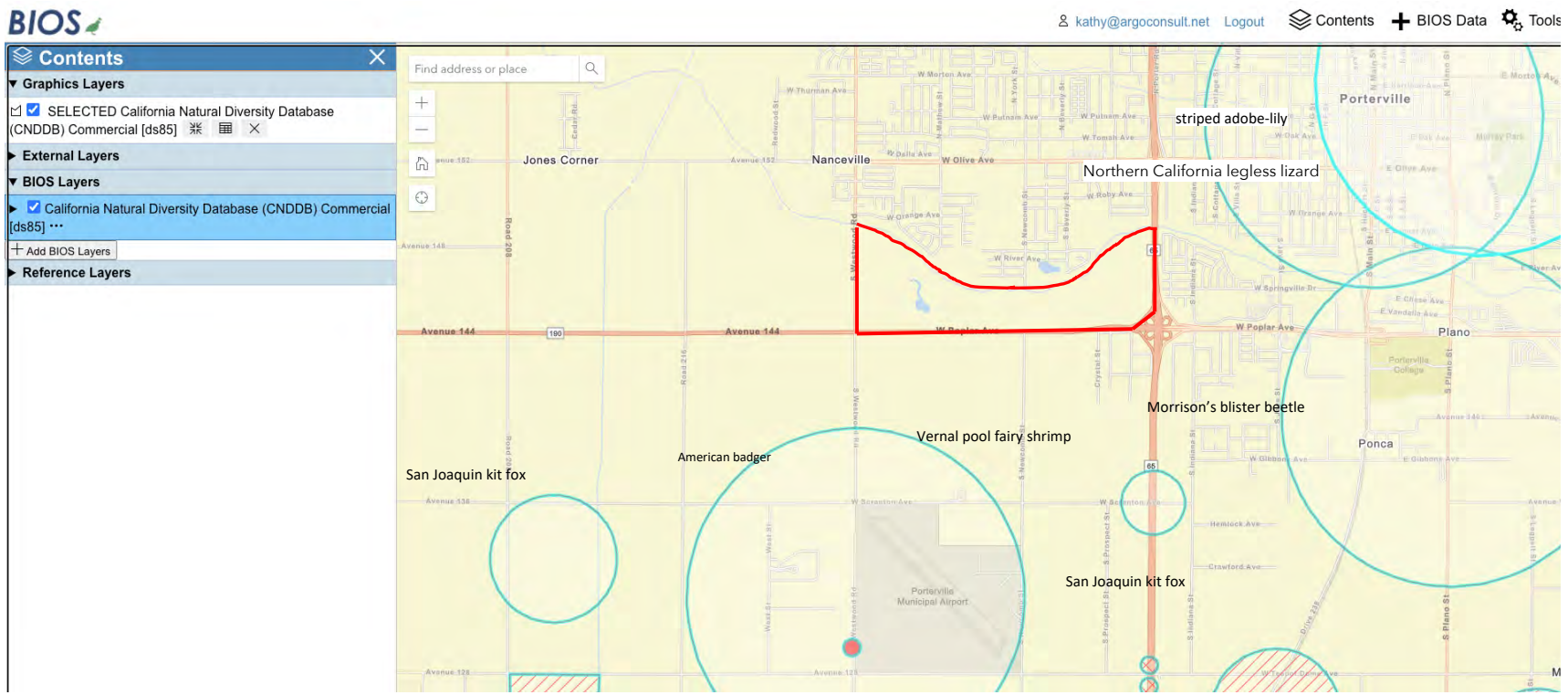

Figure 5 CNDDB BIOS Map of Special Status Species Records

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- Swainson's hawk (*Buteo swainsoni)*- nests in mature trees near suitable prey bases. It may occur within mature trees within the Master Plan area.
- San Joaquin kit fox (*Vulpes macrotis mutica)*- highly mobile species. Dens and forages in a wide range of habitats.
- American badger (*Taxidea taxus)- occurs in various habitats (cropland, grassland, etc.)*
- Northern California legless lizard (*Anniella pulchra)* – occurs in moist sandy soils and may occur within the riparian area or any seasonal wetland.
- Vernal pool fairy shrimp (*Branchinecta lynchi)*- occurs in seasonal wetland habitats.
- San Joaquin adobe sunburst (*Psuedobahia peirsonii)*- plant species found in grasslands and other habitats (including ruderal or non-native grasslands).

The Master Plan area supports riparian, potential wetlands, ruderal/non-native grassland, and cropland. These habitats could support these species if other habitat conditions are intact. For example, the San Joaquin kit fox could forage on the site if there is a suitable prey base and denning habitat, as could the American badger. Future projects within the Master Plan area would need to evaluate each parcel to determine whether species are present based on individual parcel habitat conditions.

Table 2
Summary of Special Status Species, Potential Occurrence, and Impact within the SoTu Master Plan Area

Common Name	Scientific Name	Status[1]	Effects[2]	Occurrence in the Study Area[3]
Birds				
Swainson's hawk	*Buteo swainsoni*	--/CT	ME	**Potentially Present.** Nests in mature trees. Suitable nest trees within the Study Area, especially along the riparian corridor. May occasionally forage within the
Mammals				
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	FE/--	NE	**Absent.** Grassland and alkali desert scrub habitat. Suitable habitat is not present.
San Joaquin kit fox	*Vulpes macrotis mutica*	FE/CT	ME	**Potentially Present.** Could occasionally forage on the site if the species is in the area. Nomadic species that require underground denning habitat. The CNDDB habitat prediction model shows potentially suitable habitats within the Porterville area and the Study Area. Four records for species occurrence are identified in the CNDDB from the 1970s–1980s and include denning habitat.
Buena Vista Lake ornate shrew	*Sorex ornatus relictus*	FE/--	NE	**Absent.** Requires moist soils and dense vegetative cover below an elevation of 350 msl near the Tulare Basin. Study Area at an elevation above 400 and not near the Tulare Basin.
American badger	*Taxidea taxus*	--/--	ME	**Potentially Present.** Species occur in a variety of habitats and dig underground burrows.
Amphibians, Reptiles, and Invertebrates				
Northern California legless lizard	*Anniella pulchra*	--/--	ME	**Potentially Present.** A small, slender lizard with no legs, eyelids, a shovel-shaped snout, smooth, shiny scales, and a blunt tail. Lives mostly underground, burrowing in loose, moist sandy soil in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Available records in Porterville are from 1939 and 1940. The CNDDB habitat prediction model shows some potential habitat within the Study Area (in the emergent/forested wetland in the center of the site). Other predicted habitat occurs along Deer Creek to the southeast and immediately north of the Tule River below Lake Success.
Blunt-nosed leopard lizard	*Gambelia silus*	FE/CE	NE	**Absent.** Occurs in non-cultivated land in sparsely vegetated alkali and desert scrub habitats. Suitable habitat is not present.

Morrison's blister beetle	*Lytta orrisoni*	--/--	NE	**Likely Absent.** Occurs in Valley and Foothill grasslands. One occurrence within Tulare County, near Plano, was in 1939.
Crotch bumble bee	*Bombus cortchii*	--/CE	NE	**Absent.** One record within the region from 1959-1963, and the exact location is unknown.
Monarch butterfly	*Danaus plexippus*	FC/--	NE	**Likely Absent.** Species cover a widespread region and wherever suitable feeding, breeding, and overwintering habitat exists. Monarchs feed exclusively on milkweed leaves and wildflowers in the genus *Asclepia.* It is unknown if this species occurs within the Study Area, but given the amount of planted land within the Study Area, it is unlikely the species is present.
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT/--	ME	**Potentially Present.** Occurs in vernal pools and seasonal wetlands. The species could be present if there is emergent wetland habitat within the Study Area.
Plants				
Springville clarkia	*Clarkia springvillensis*	- T/-- 1B.2	NE	**Absent.** Found in Chaparral, Cismontane woodland Valley & foothill grassland. One record northeast of Porterville near the Lewis Hill preserve. Suitable habitats are likely, not present within the Master Plan area because of the extensive agricultural areas.
Striped adobe-lily	*Frittillaria strriata*	--/CT	NE	**Absent.** Occurs only within heavy adobe clay soils. Only one occurrence record from 1927. The Study Area does not support adobe clay soils.
San Joaquin adobe sunburst	*Psuedobahia peirsonii*	FT/CE	ME	**Likely Absent**. Occurs within cismontane and foothill grasslands. Master Plan has large tracks of cultivated land and some ruderal habitat. The likelihood of presence is low but cannot be ruled out without additional surveys.

1 **Status= Listing of special status species, unless otherwise indicated**

CE: California listed as Endangered

CT: California listed as Threatened

SSC: California Species of Special Concern

FE: Federally listed as Endangered

FT: Federally listed as Threatened

1B.1, 1B.2, 2B.2, 2B.3: California Native Plant Society Ranking

Source: CNDDB = California Natural Diversity Database provided by CDFG and U.S. Fish and Wildlife Service, Information for Planning and Consultation. (IPaC). Accessed online April 23, 2023.

2 **Effects = Effect determination**

NE: No Effect

ME: May Effect, not likely to adversely effect

3 **Definition of Occurrence Indicators**: **Present/Potentially**: Species recorded in the area and some habitat elements in the Study Area similar to known occurrences. **Absent/Likely Absent**: Species not recorded in Study Area and/or suitable habitat or critical habitat components not present.

3.2 CONCLUSIONS/RECOMMENDATIONS

CONCLUSIONS

- The majority of the Master Plan Area has historically been used for agricultural crops (orchards and row crops) continuously for at least the last 50 years. The remainder of the Study Area supports ruderal/non-native and riparian habitats.

- An emergent wetland and a forested shrub wetland mapped by the National Inventory Wetland Inventory are located near the center of the Master Plan area within an agricultural field. Future development would require additional investigation of this area to determine if the wetland feature is intact (based on soils, hydrology, and vegetation).

- There are suitable nesting trees for raptors and migratory birds within the Master Plan area.

- The agricultural lands generally do not support special status species breeding or nesting habitats. However, the Study Area could provide some foraging habitat for Swainson's hawk, other raptors, and other species.

RECOMMENDATIONS:

The following measures are recommended before approval of any development within the Master Plan Area.

- Conduct parcel species biological evaluation(s) to determine the project-specific impacts. The evaluation(s) may require foot surveys and detailed habitat mapping, wetland delineation, special status plant survey(s), and protocol-level surveys for species of concern.

- Incorporate avoidance and minimization measures to protect species of concern and common wildlife as part of the Master Plan design. These design features may include the creation of a buffer zone to protect the riparian habitat from urban development, tree preservation, clustered development, and establishing wildlife movement corridors through the Master Plan area.

- Incorporate avoidance and minimization measures in conditions of approval for construction. Such measures may include but are not limited to, pre-construction surveys, construction crew environmental awareness training, biological monitoring during construction (if needed), the inclusion of avoidance and minimization measures for San Joaquin kit fox following the USFWS Standard Recommendations for the Protection of the San Joaquin kit fox prior to or during ground disturbance (USFWS 2011).

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Attachment A: Photographs

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Photographic Documentation

Photographs: April 2023

Project: SoTu Master Plan area

Photograph 1

View of Master Plan Area, looking north at planted cover crop

Photograph 2

View of orchards (east side) and ruderal habitat near home site, looking north.

Photograph 3

View of ranch site, looking north.

Photograph 4

View of northeast portion of Master Plan Area, looking east.

Photograph 5

View of Tule River, looking east along northern boundary of Master Plan Area.

Photograph 6

View of riparian habitat at north end of Master Plan Area. Shows typical riparian. River under flood stage.

7.3 Appendix C: Cultural Resource Overview Report

Prepared by Peak & Associates, Inc., dated July 26, 2023.

CULTURAL RESOURCE OVERVIEW

FOR THE SOUTH OF TULE RIVER PROJECT,

CITY OF PORTERVILLE, CALIFORNIA

Prepared by

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July 26, 2023
(Job #22-083)

INTRODUCTION

The project site is directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California (Figure 1). The site is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street, consisting of 19 parcels that total approximately 447.30 gross acres. Figure 2 shows the aerial image of the site. The site is identified by the Tulare County Assessor as Assessor's Parcel Number (APN) 259-150001, 259-030-031,259-270-004, 259-030-011, 259-040-041, 259-040-044, 259-040-028, 259-040-027, 259-040-026, 259-040-025, 259-040-043, 259-040-042, 259-040-045, 259-040-046, 259-040-010, 259040-039, 259-320-001, 259-370-058, and 259-370-002 (see Figure 3).

The conditional use permit facilitates the adoption of the SoTu Master Plan. The general plan amendment requests amendment of the existing land use designations to the mix of 10 different land uses proposed in the SoTu Master Plan. Also requested is a prezone from the existing zoning districts to zoning districts that are consistent with the proposed land use designation. No physical development is proposed.

Density Residential, Parks, Public Institutional, and Retail Center (see Figure 4). The City of Porterville proposes a General Plan Amendment to change the land use designation to various land uses.

This Project is funded by LEAP funding for the purpose of providing the necessary framework to guide development in this area as it transitions from agricultural land to a vibrant, distinct, and multi-modal district of mixed densities and uses that is attractive to residential and visitors to live, work, explore, and shop. Currently, the site is primarily occupied by agricultural operations with a few single-family residential dwellings.

Although no physical development is proposed by the Project, the Initial Study analyzes the potential buildout of the Project site at a programmatic level, using reasonable assumptions so that future development of the site can tier from this Initial Study pursuant to CEQA Guidelines *Section 15168(c)(1)* and *15168(d)* for evaluations of environmental issues associated with later activities/subsequent projects. However, depending on the final design of future physical development, additional project specific CEQA review may be required as determined by the City through the entitlement review and approval process.

The Project site is in portions of Sections 33 and 34, Township 21 south, Range 27 east, mapped on the Porterville United States Geological Survey 7.5-minute topographic quadrangle (Figure 5).

Melinda A. Peak, senior historian/archeologist with Peak & Associates, Inc. served as principal investigator for the study (resume, Appendix 1).

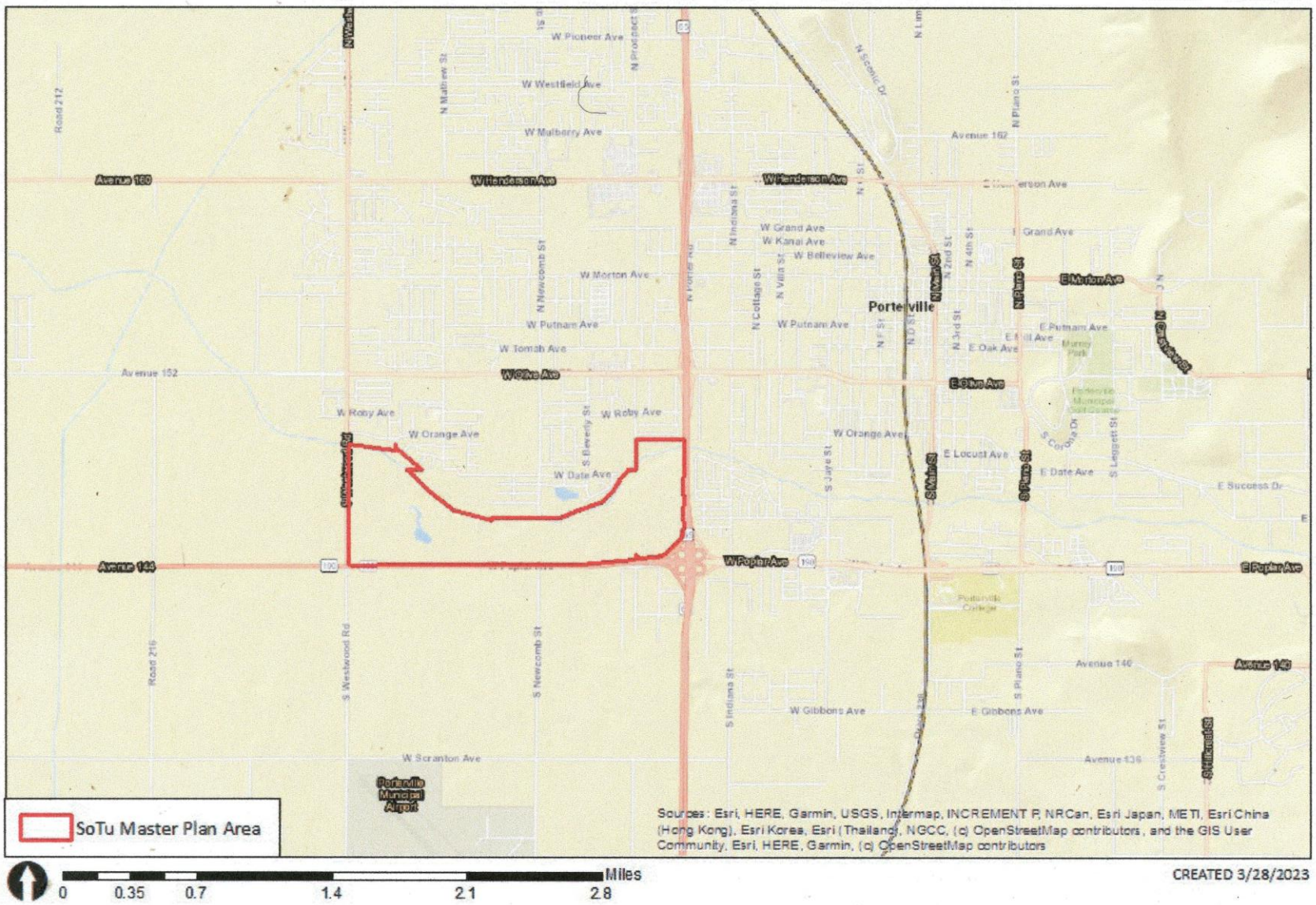


FIGURE 1 REGIONAL LOCATION

FIGURE 2 PROJECT SITE AERIAL IMAGE

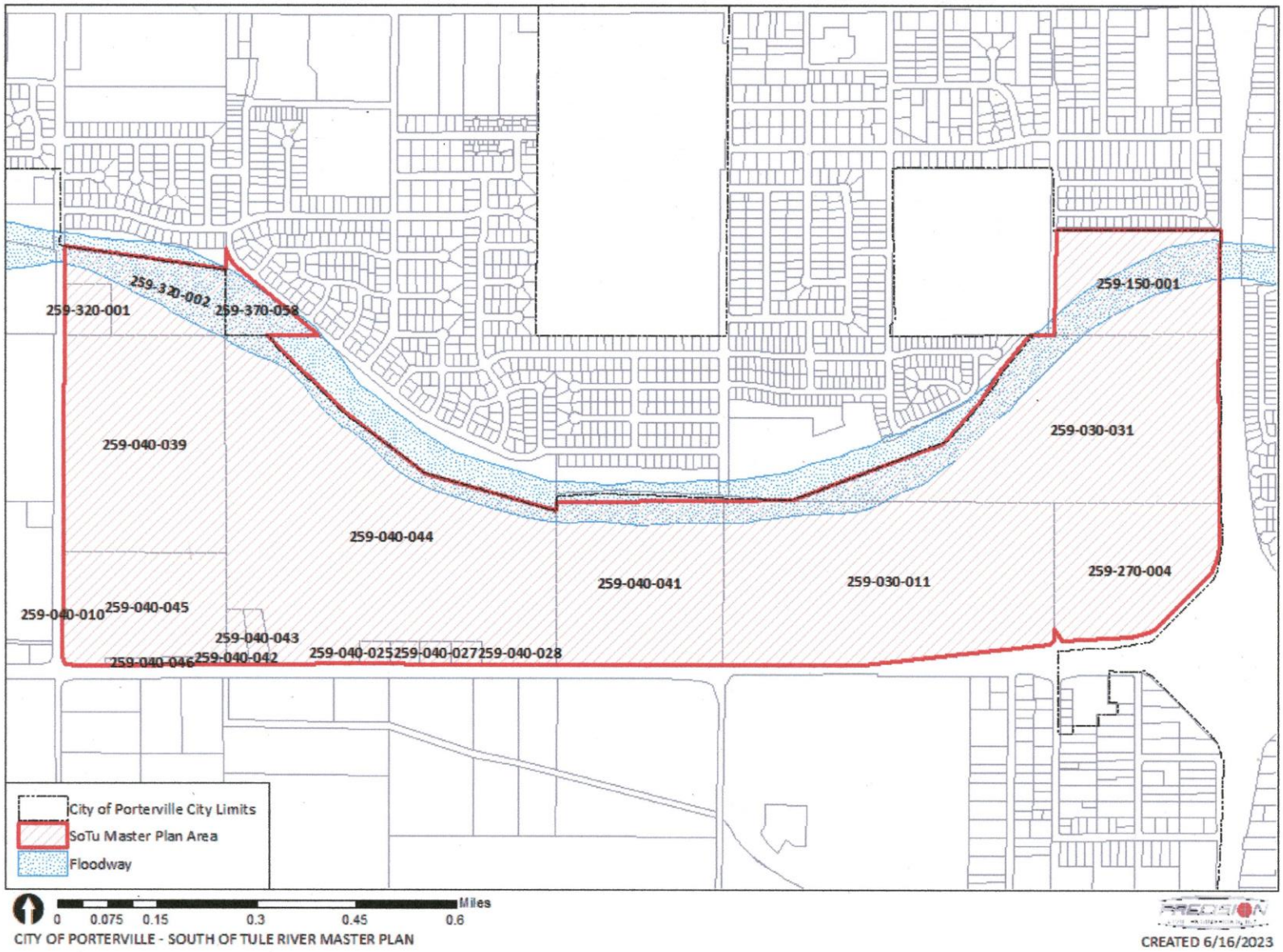


Figure 3 APN Map

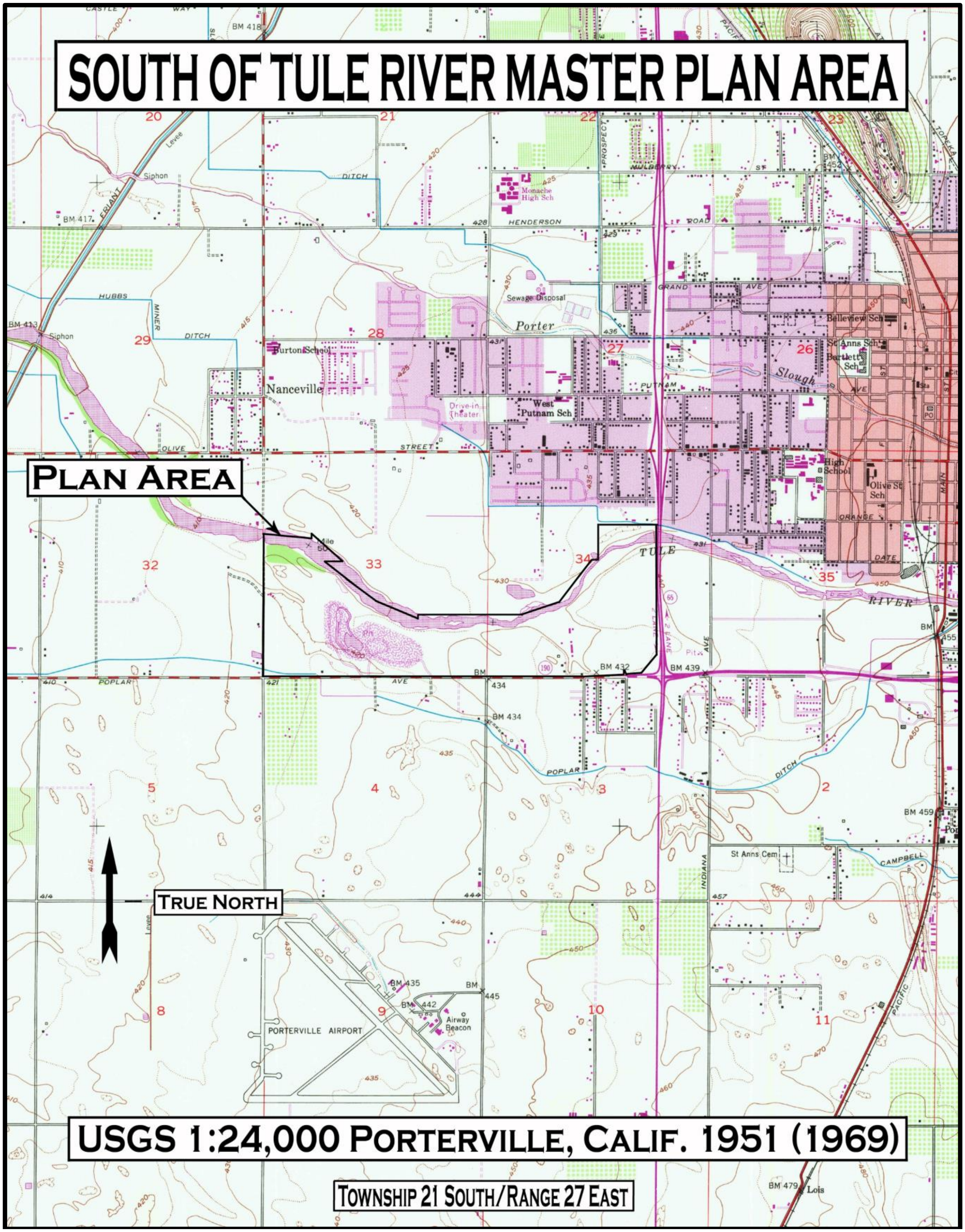

SOUTH OF TULE RIVER MASTER PLAN AREA
PLAN AREA
TRUE NORTH
USGS 1:24,000 PORTERVILLE, CALIF. 1951 (1969)
TOWNSHIP 21 SOUTH/RANGE 27 EAST

Figure 4

FEDERAL REGULATORY CONTEXT

At this time, in future projects proposed for the Project site include bridges over the Tule River, which will be subject to federal review. The Section 106 review process is implemented using a five step procedure: 1) identification and evaluation of historic properties; 2) assessment of the effects of the undertaking on properties that are eligible for the National Register; 3) consultation with the State Historic Preservation Office (SHPO) and other agencies for the development of a memorandum of agreement (MOA) that addresses the treatment of historic properties; 4) receipt of Advisory Council on Historic Preservation comments on the MOA or results of consultation; and 5) the project implementation according to the conditions of the MOA.

The Section 106 compliance process may not consist of all the steps above, depending on the situation. For example, if identification and evaluation result in the documented conclusion that no properties included in or eligible for inclusion are present, the process ends with the identification and evaluation step.

REGULATORY CONTEXT

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code sections 21083.2 and 21084.1 and sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA Section 15064.5 requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. Public Resources Code Section 21098.1 further cites: A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

An "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant (Public Resources Code section 5020.1).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR), *CEQA and Archaeological Resources,* 1994. The technical advice series produced by OPR recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code Section 7050.5, California Public Resources Codes Sections 5097.94 et al).

The California Register of Historical Resources (Public Resources Code Section 5020 et seq.)

The State Historic Preservation Office (SHPO) maintains the California Register of Historical Resources (CRHR). Properties listed, or formally designated as eligible for listing, on the National Register of Historic Places are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

For the purposes of CEQA, an historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources. When a project will impact a site, it needs to be determined whether the site is an historical resource. The criteria are set forth in Section 15064.5(a) (3) of the CEQA Guidelines, and are defined as any resource that does any of the following:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B. Is associated with the lives of persons important in our past;

C. 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; or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the CEQA Guidelines, Section 15064.5(a) (4) states:

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code section 5020.1(j) or 5024.1.

California Health and Safety Code Sections 7050.5, 7051, And 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

California Public Resources Code Section 15064.5(e)

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction. The section establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project and establishes the Native American Heritage Commission as the entity responsible to resolve disputes regarding the disposition of such remains.

Assembly Bill 52

Assembly Bill (AB) 52 establishes a formal consultation process for California tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts. AB 52 defines a "California Native American Tribe" as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission. AB 52 requires formal consultation with California Native American Tribes prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of proposed projects. AB 52 also requires that consultation address project mitigation measures for significant effects, if requested by the California Native American Tribe, and that consultation be concluded when either the parties agree to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached. Under AB 52, such measures shall be recommended for inclusion in the environmental document and adopted mitigation monitoring program if determined to avoid or lessen a significant impact on a tribal cultural resource.

CULTURAL SETTING

Archeology

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data, but the emphasis has been in the northern portion of the valley. In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929).

By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data from the stratified Windmiller site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons.

The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California

coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

In the southern San Joaquin Valley, he foci of early investigations have been the old shorelines of the interior lakes; Tulare, Kern, and Buena Vista, except for Hewes's excavation at CA-Fre-48 (the Tranquility Site). In 1899, Dr. P. M. Jones directed fieldwork in the Buena Vista-Tulare Lake area of Kern County. Jones investigated 150 mounds and conducted trenching of several sites including CA-Ker-53. In 1909, N. C. Nelson investigated prehistoric Site CA-KER-49, which is located to the west of Buena Vista Lake. Later, four surveys and excavations were conducted in the same locale under the auspices of the University of California. A compilation of these investigation results was published in 1926 by Gifford and Schenck.

As a result of this early work, an elaborate culture complex was defined for the late prehistoric period. This complex can be ascribed probably to the Yokuts and their direct ancestors. The material culture of this late temporal period complex included steatite vessels and beads, finely-made projectile points, pottery, shaped stone mortars, *Tivela* disc beads, use of asphaltum, and the presence of metates and manos. Flexed burials were the predominant interment mode. Earlier complexes underlying the late cultural expressions were represented by chipped stone crescents, large projectile points, atlatl spurs, and weights. Mortuary practices, generally thought to be related, include extended rather than flexed burial position, a situation analogous to that of the northern valley (Gifford and Schenck 1926; Lillard, Heizer, and Fenenga 1939; Moratto 1972).

Presence of "Early Man," although not found in direct association with extinct animals, is demonstrated by the frequency of chipped stone crescents and fluted points like those of the Clovis-Folsom Complex in the American Southwest. Although fluted points have been found near the shores of Tulare Lake, an area that has also produced surface finds of extinct mammal bone of Pleistocene age, the association is not substantiated by controlled excavations and remains speculative (Riddell and Olsen 1969). Most of the point collection had been acquired by D. Witt over a period of 30 years.

Under the direction of Wedel (1941), the Civil Works Administration, in conjunction with the Smithsonian Institution, initiated the first major excavations using stratigraphic controls. Investigations of CA-Ker-39 and CA-Ker-60 as well as several smaller sites near Buena Vista Lake produced evidence of two distinct cultural entities or occupation periods. Wedel lacked methods for dating these two entities by cross-comparison of the assemblages, he tentatively stated that the early occupation at Buena Vista Lake appeared to be temporally older and less developed than the Early Horizon (Windmiller Pattern) of the Delta region. He compared this early component to the Oak Grove or Milling Stone culture of the Santa Barbara area (Rogers 1939). He divided the later cultural entity into two distinct phases, both clearly distinguished from the earlier cultural phase by artifact types. Wedel (1941:144-145) estimated that neither of these cultural periods exceeded 1500 B.P. (years Before the Present). Later, other investigators proposed far earlier ages for these early occupations, with dates ranging from 2000 to 7000 B.P. (Baumhoff and Olmstead 1963, 1964; Heizer 1964; Meighan 1959).

Later investigations in 1963 and 1964 at CA-Ker-116 near Buena Vista Lake produced cultural materials like those of Wedel's early occupation. These materials occurred in the lower levels of the "upper deposit," while an even deeper cultural deposit yielded materials that appear similar to those of the San Dieguito Complex. Artifacts included a chipped stone crescent, crude point fragments, and an atlatl spur. Radiocarbon age determinations on shell from the lowest cultural levels returned a date of circa 8200 B.P. (Fredrickson and Grossman 1966, 1977; Fredrickson 1967).

Despite the previously mentioned investigations, the prehistory of the southern San Joaquin remains poorly understood, without a tightly defined chronological sequence of cultural development.

Ethnology

Ethnographic literature is often uncertain in definition of cultural boundaries for Indian groups. Early displacement by white intrusion resulted in population shifts to avoid conflict with the Spanish, and later with the miners and settlers. The ravages of disease and warfare decimated the native people, further weakening cultural identity. Informants were often uncertain of original territories of the various tribal groupings.

The Foothill Yokuts were members of the Penutian language family group which held all the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

The Foothill Yokuts were a group of about 15 named tribes who occupied the western Sierra Nevada foothills from the Fresno River to the Kern River. A further subdivision separated the groups into northern, central, and southern groups. The area controlled by individual groups varied over time. There is no information to indicate that there was a village in the project vicinity, but this does not preclude the possibility.

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs which formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways, with their village sites normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925). Housepit depressions ranged in diameter from between 3 to 18 meters.

Latta (1949:99) reported that a village of 200 to 300 Yokuts might have four or five large houses that were used for ten or twelve years or until a family member died, at which time the Indians burned the house in which the death had occurred. If a sick or aged person died outside the dwelling, the family did not burn the house. When a Northern Yokuts died, his body was cremated or buried in a flexed position. Southern tribes normally buried their dead, although they did cremate shamans, persons who died away from their village and, among the Tachi, persons of great importance.

The Yokuts experienced severe depopulation after contact with the Spanish and subsequent explores. The most devastating impacts of the Spanish colonization effort were not the result of military conflicts, but came from Old World diseases newly introduced to the native people.

The City of Porterville is located on or near the reported site of a Yokuts village, spelled alternatively *Chokowishu* or *Chokoweshu* (Wallace 1978: 448).

Historical Background

The Project site lies within the City of Porterville. Settlement in the region began with the establishment of the Butterfield Overland Stage stop at Tule River Station in the 1850s. Peter Goodhue erected the first building here, a shake house with a fireplace at each end and a porch on the south side. The site of the stage station is at the foot of Scenic Hill on the north side of Porterville. The station is commemorated at a State Historic Landmark.

In 1859, a man named Porter Putnam arrived at the Lawless Ranch, a stage stop located to the north of Tule River Station. He worked there caring for horses. Soon afterward, he relocated to the Tule River Station and bought out Goodhue and developed the Station into a popular stopping place and hotel that came to be known as Porter's Station. The town that grew up around the Station came to be known as Portersville and later Porterville.

Cattle grazing served as the primary industry in the early years, followed by grain crops. Oranges were introduced in the region in 1879 (Menifee and Dodge 1913).

After the railroad came through the area in the late 1880s, the population of the town increased in prosperity. The town lies in the heart of what is know as the "thermal belt" where high-grade oranges are grown (Hoover, Rensch and Rensch 1970: 562-563).

During World War II, what is now the Porterville Municipal Airport, was established as the Porterville Army Airfield. The airport opened in September 1942 and used by the Army Air Forces Fourth Air Force as a training base, a sub-base to Lemoore, being used as a pilot training facility. At the end of the war, the airfield was determined to be excess property and turned over to the local government for civil use.

SOILS RESEARCH

The Project site contains a mosaic of approximately a dozen soil series that are all derived from alluvial and deposited relatively recently (www.usda.gov). The period of deposition overlaps with prehistoric period occupation in the region so that the potential for encountering buried prehistoric period deposits is thought to be generally "very high" for the overall Project site (Rosenthal and Meyer 2004).

RECORD SEARCH RESEARCH

A record search was conducted for the project area at the Southern San Joaquin Valley Archaeological Information Center of the California Historical Resources Information System in June 2023 (RS#23-232, Appendix 2). There is one recorded site partially in the Project site: P-54-002208, the Poplar Ditch. This ditch is still in use, and a previous recorder of a segment of the ditch believes this structure is eligible for the California Register of Historical Resources.

There are no other resources recorded within one-quarter mile of the Project site. Seven surveys have been undertaken within the Project site; thirteen other surveys have been undertaken within one quarter mile of the Project site. Complete citations for all reports are included in the report list in Appendix 2.

TULARE COUNTY MAP RESEARCH

The earliest map of the area by the General Land Office in 1855 is a plat for Township 21 South Range 27 East showing the layout of the land sections in the area, is difficult to coordinate with modern maps, showing part of the route of the Tule River in section 33 is a dry ravine. No buildings appear in the Project site on this map.

There are several other County maps dating to the early years (1867, 1876, 1883, 1884, 1901) but the small scale (3 miles:1 inch or 2 miles:1 inch), river course changes and lack of detail such as building locations make them difficult to use.

The 1892 map by Thomas Thompson provides one building location in the Project site as well as land ownership (Figure 5).

TOPOGRAPHIC MAP RESEARCH

There are four older Porterville USGS topographic maps with the potential to identify locations of buildings and structures over fifty years in age: 1929, 1942, 1951 and 1969. Two buildings are mapped on the 1929 maps are no longer extant today. In 1942, an additional five buildings were present, now no longer extant. Two other buildings appear first on the 1951 map; and are still present on recent maps.

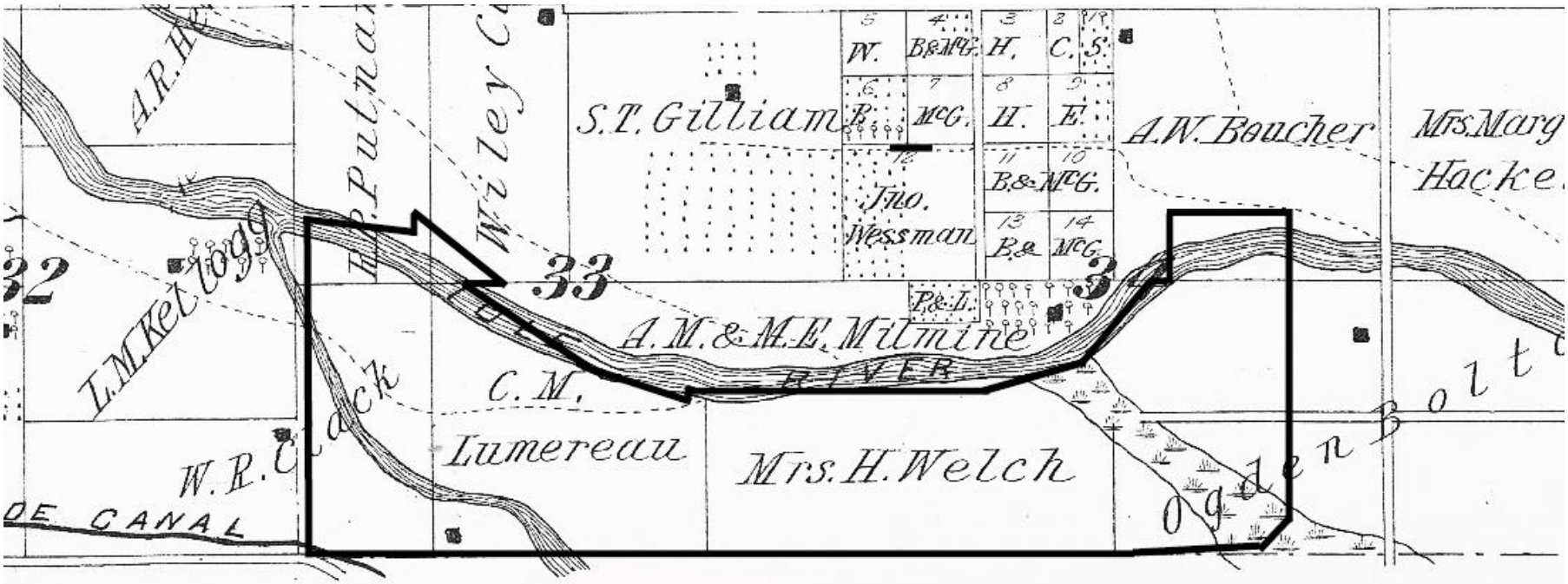
CONCLUSIONS

Prehistoric Period Resources

The course of the Tule River has changed over time, but the presence of alluvial soils suggests that sites may have been present long the river in the past, and been buried during flood events. Archeological field surveys in advance are important, and it may be appropriate to monitor construction in parts of the plan area near the river course. Local Native American groups should be consulted about their concerns with the future projects.

Historic Period Resources

There is only one recorded site in the Project site, the Poplar Ditch, thought to be important under the criteria of the California Register. Older maps show locations of older houses. For the former locations, there may be archeological values associated with the use and occupancy of these sites. A field survey should be a necessary first step before any plans for development are finalized for the Project site. Flooding and the movement of the Tule River may have buried other historic period resources. Should historic period artifacts, deposits or building remnants, research will be greatly aided by the historical maps with identification of ownership.



SOUTH OF TULE RIVER MASTER PLAN

Plan Area 1892

Figure 5

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APPENDIX 1

Resume

PEAK & ASSOCIATES, INC.
RESUME

MELINDA A. PEAK **January 2023**
Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey, Native American consultation, and report preparation.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site-specific research for historic period resources. She has completed a number of historical research projects for a wide variety of site types.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist, and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*
B.A. - Anthropology - University of California, Berkeley

PROJECTS

In recent months, Ms. Peak has completed several determinations of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of many varying types of sites for the National Register of Historic Places.

She has also completed historical research projects on a wide variety of topics for numbers of projects including the development of navigation and landings on the Napa River, wineries, farmhouses dating to the 1860s, bridges, an early roadhouse, Folsom Dam, and a section of an electric railway line.

In recent years, Ms. Peak has prepared many cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to field direct several surveys of these areas, allowing the model to be tested.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of several prehistoric sites. She is has served as the principal investigator for several large excavations, coordinating contacts with Native Americans, the Corps of Engineers, and the Office of Historic Preservation.

Ms. Peak has served as project manager for other major survey and excavation projects, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura, and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project. She also served as principal investigator for a major coaxial cable removal project for AT&T.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and conducted emergency recovery excavations for sites found during monitoring. She has directed the excavations of several historic complexes in Sacramento, Placer, and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of a published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Legacy*. She served as the consultant for a children's book on California, published by Capstone Press in 2003 in the Land of Liberty series.

APPENDIX 2

Record Search

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

6/26/2023

Robert Gerry
Peak & Associates, Inc.
3941 Park Drive Ste 30-329
El Dorado Hills, CA 95762

Re: South of Tule Unit (SOTU)
Records Search File No.: 23-232

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Porterville USGS 7.5' quad. The following reflects the results of the records search for the project area and the 0.25 mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☐ GIS data

Resources within project area:	P-54-002208
Resources within 0.25 mile radius:	None
Reports within project area:	TU-00102, 00259, 00283, 00445, 00759, 01251, 01713
Reports within 0.25 mile radius:	TU-00419, 00446, 00600, 00751, 00952, 00953, 01135, 01136, 01169, 01201, 01406, 01498, 01602

Resource Database Printout (list): ☒ enclosed ☐ not requested ☐ nothing listed

Resource Database Printout (details): ☐ enclosed ☒ not requested ☐ nothing listed

Resource Digital Database Records: ☐ enclosed ☒ not requested ☐ nothing listed

Report Database Printout (list): ☒ enclosed ☐ not requested ☐ nothing listed

Report Database Printout (details): ☐ enclosed ☒ not requested ☐ nothing listed

Report Digital Database Records: ☐ enclosed ☒ not requested ☐ nothing listed

Resource Record Copies: ☒ enclosed ☐ not requested ☐ nothing listed

Report Copies: ☒ enclosed ☐ not requested ☐ nothing listed

OHP Built Environment Resources Directory: ☒ enclosed ☐ not requested ☐ nothing listed

Archaeological Determinations of Eligibility: ☐ enclosed ☐ not requested ☒ nothing listed

CA Inventory of Historic Resources (1976): ☐ enclosed ☒ not requested ☐ nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see https://www.slc.ca.gov/shipwrecks/

Soil Survey Maps: Not available at SSJVIC; please see http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

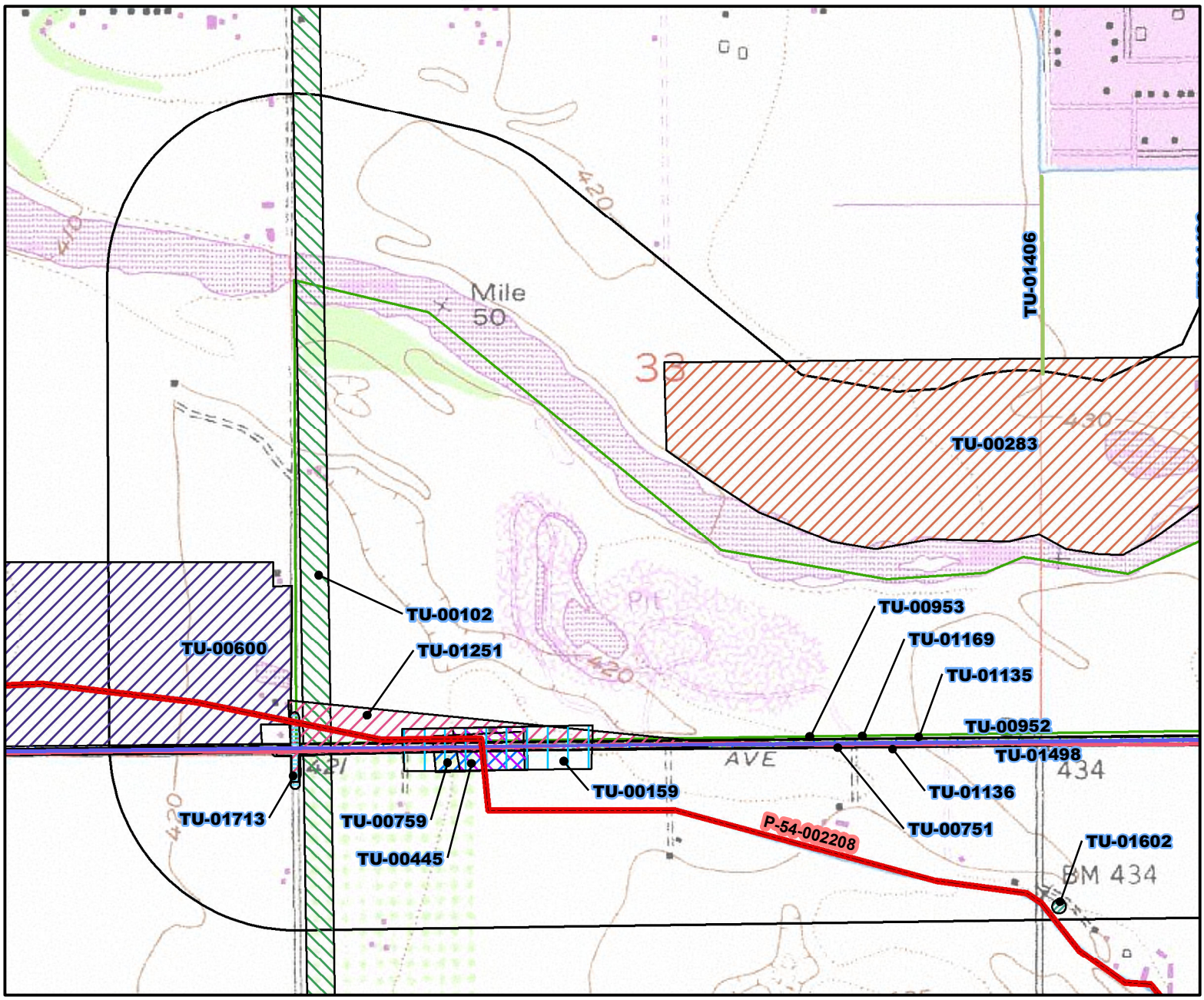
Sincerely,

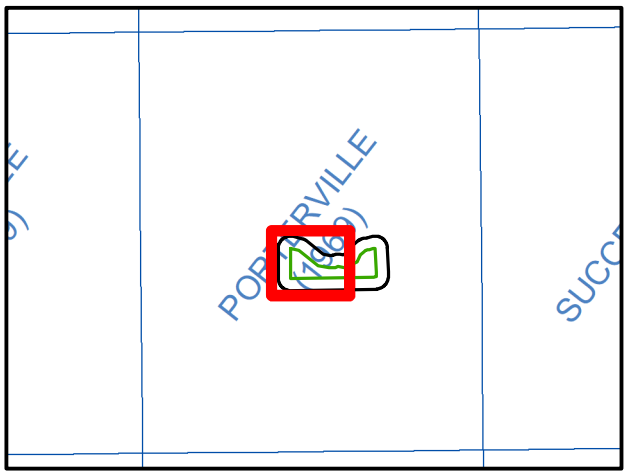
Jeremy E David
Assistant Coordinator

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic





May depict confidential cultural resource locations. Do not distribute.
Map pages depicting no data have been excluded.

Project Area
Record Search radius

N W E S

0 0.05 0.1 0.2 Miles
0 0.0750.15 0.3 Kilometers

SSJV Information Center Record Search 23-232
Requester: Robert Gerry; Peak & Associates, Inc.
Project Name: South of Tule Unit (SOTU)
USGS 7.5' Quad(s): Porterville
County: Tulare

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
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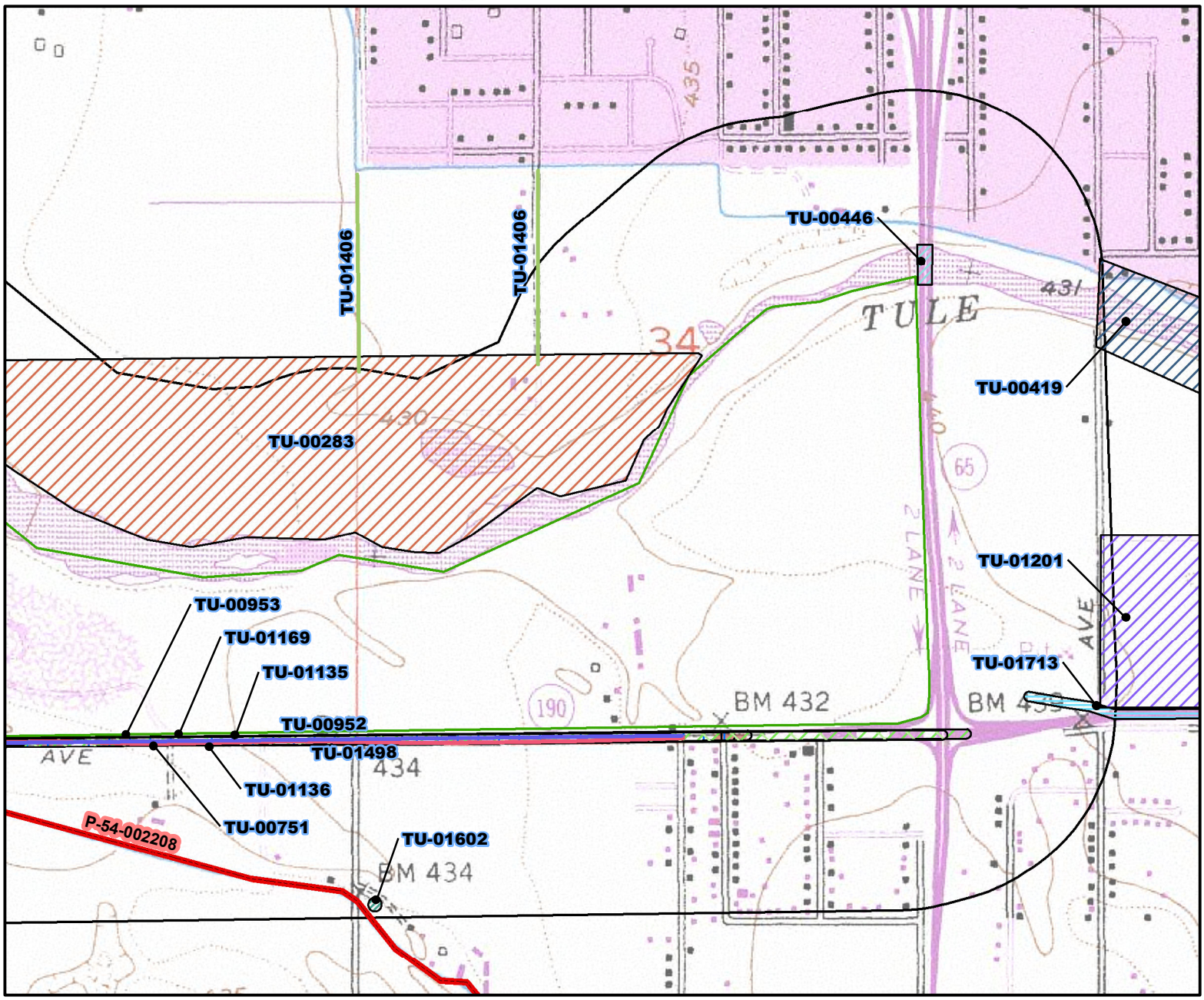
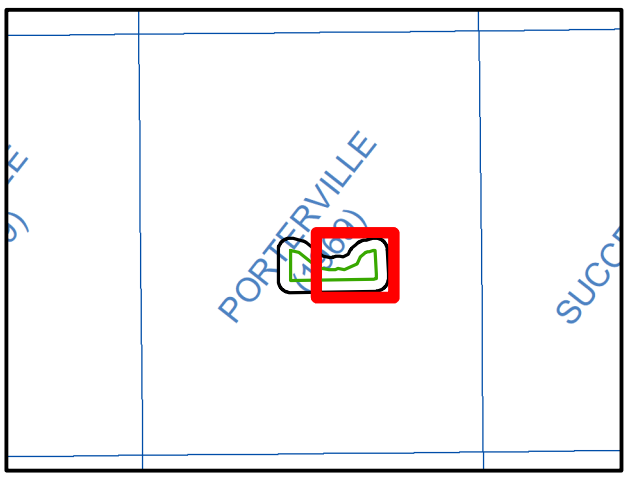
Website: www.csub.edu/ssjvic





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Project Area

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N
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SSJV Information Center Record Search 23-232
Requester: Robert Gerry; Peak & Associates, Inc.
Project Name: South of Tule Unit (SOTU)
USGS 7.5' Quad(s): Porterville
County: Tulare

Resource List

SSJVIC Record Search 23-232

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-54-002208	CA-TUL-003230H	Resource Name - Poplar Ditch; Other - PL-POR-001H; OHP Property Number - 118907; OTIS Resource Number - 551060; Other - CWA20-172-1	Structure, Site	Historic	AH02; AH04; AH06; HP20	1996 (R.E. Parr, D. Schuldies, Center for Archaeological Research); 2005 (M. O'Neill and M. Elliott, Pacific Legacy Inc.); 2009 (S. Melvin, R. Flores, JRP Historical Consulting, LLC.); 2016 (Shannon E. Foglia, Rachel Droessler, AECOM); 2020 (R. Azpitarte, S. Escamilla, ASM Affiliates, Inc.)	TU-00419, TU-01251, TU-01886

Report List

SSJVIC Record Search 23-232

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
TU-00102	NADB-R - 1140863	1995	Hatoff, Brian, Voss, Barb, Waechter, Sharon, Wee, Stephen, and Benté, Vance	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project	Woodward-Clyde Consultants	54-002160
TU-00159		1976	Cantwell, R.J.	Archaeological Survey Report for Road 260 (Hillcrest)	Individual Consultant	
TU-00283		1978	Cursi, Kathi and Varner, Dudley M.	Archaeological Reconnaissance of the River Ranch Estates, Tulare County, California	California State University, Fresno	
TU-00419	Submitter - CAR-96-06	1996	Parr, Robert E.	Archaeological Assessment of the Tule River Parkway (Phase I) In the City of Porterville, Tulare County, California	Center for Archaeological Research, California State University, Bakersfield	54-002205, 54-002206, 54-002207, 54-002208
TU-00445	Caltrans - 06-TUL-190 PM 12.0/23.9 CU 820 EA 312700; NADB-R - 1140211	1992	Riley, Lynn and Waterhouse, Dan	Negative Archaeological Survey Report for the Proposal to Replace and Extend the Bridge Rails for the Tul-190 Crossing at the Friant-Kern Canal, Poplar Ditch, and South Fork of the Tule River	California Department of Transportation	
TU-00446	Caltrans - 06-TUL-65 PM 18.8 CU 820 EA 359100; NADB-R - 1140904	1992	Riley, Lynn	Negative Archaeological Survey Report for the Proposal to Widen, Rehabilitate, and Upgrade the Bridge Rails on the Tule River Bridge Crossing at Route 65	California Department of Transportation	
TU-00600		1991	Weinberger, Gay	Cultural Resource Assessment of God's House of Prayer	Individual Consultant	
TU-00751	Caltrans - 06-TUL-190 PM 8.0/15.0 CU 168 EA 337300	1998	Binning, Jeanne Day, Marine, Mandy, and Osborne, Richard H.	Negative Archaeological Survey Report for the Widening of Route 190 Between P.M. 8.0 and P.M. 15.0.	California Department of Transportation	
TU-00759		1992	Riley, Lynn M. and Snyder, John W.	Bridge Improvements in the Vicinity of Porterville, Tulare County 06-TUL-190 P.M. 12.0/23.9; 06-312700	California Department of Transportation	
TU-00952	Caltrans - 06-TUL-190 P.M. 7.9/15.0 EA 337300	1997	Osborne, Richard and Binning, Jeanne	Supplemental Negative Archaeological Survey Report for 06-TUL-190 P.M. 7.9/15.0 EA 337300	California Department of Transportation	
TU-00953	Caltrans - 06-TUL-190 PM 8.0/15.0 EA 06-337300	1997	Fisher, Jim	Historic Resource Evaluation Report for the Poplar Ditch Near Porterville, Tulare County	California Department of Transportation	54-003993, 54-003994, 54-003995, 54-003996, 54-003997
TU-01135		2001	Dodd, Douglas	Historic Property Survey Report Rehabilitation and Widening of State Route 190 Between Tipton and Porterville in Tulare County: 06-TUL-190, K.P. 12.5/24.0 (P.M. 7.8/15.0); E.A. 337320	California Department of Transportation	

Report List

SSJVIC Record Search 23-232

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
TU-01136		1997	Herbert, Rand	Historic Resource Evaluation Report (HRER) 06-TUL-190 P.M. 8.0/15.0; E.A. 06-337300	JRP Historic Consulting Services	54-003993, 54-003994, 54-003995, 54-003996, 54-003997
TU-01169	Caltrans - 06-TUL-190 P.M. 8.0/15.0 CU 168 EA 337300	1998	Binning, Jeanne Day	Negative Archaeological Survey Report to Widen and Construct New Highway Along Route 190 Between P.M. 8.0 and P.M. 15	California Department of Transportation	
TU-01201	Submitter - CAR Project No. 04-09	2004	Gardner, Jill K.	A Cultural Resources Assessment of 75 Acres of Land for the Porterville River Walk Commercial Center Project in the City of Porterville, Tulare County, California	Center for Archaeological Research, California State University, Bakersfield	
TU-01251		2005	O'Neill, Mary M.	Reconnaissance Report for the Vandalia 12kV Circuit Reconductoring Project on Private Lands, Tulare County, California	Pacific Legacy, Inc.	54-002208
TU-01406	Submitter - RSOC Project No. 201005	2010	Orfila, Rebecca S.	An Archaeological Assessment for Newcomb Street and Beverly Street Shoulder Stabilization Project In City of Porterville Tulare County, California	RSO Consulting, Inc.	
TU-01498	Submitter - Contract No. 06A1106; Submitter - Expenditure Authorization No. 06-0A7408	2010	Leach-Palm, Laura, Brandy, Paul, King, Jay, Mikkelsen, Pat, Seil, Libby, Hartman, Lindsay, and Bradeen, Jill	Cultural Resources Inventory of Caltrans District 6 Rural Conventional Highways in Fresno, Western Kern, Kings, Madera, and Tulare Counties.	Far Western Anthropological Research Group, Inc.	54-000580, 54-001091, 54-001479, 54-004595, 54-004611, 54-004614, 54-004619, 54-004629, 54-004630
TU-01602		2007	Orfila, Rebecca S.	Archaeological Survey for the Southern California Edison Company Replacement of Thirteen Deteriorated Power Poles, Tulare County, California	Center for Archaeological Research, California State University, Bakersfield	
TU-01713	Caltrans - 06-TUL-190 PM 13.1/17.3 EA 06-0Q431; Caltrans - ID 06-1400-0004	2015	Miller, Michelle	Historic Property Survey Report for the Porterville Intersection Improvement Project Tulare County, California	California Department of Transportation	
TU-01713A		2015	Miller, Michelle	Archaeological Survey Report for the Porterville Intersection Improvement Project, Tulare County, California	Cal Trans	
TU-01713B		2015	Miller, Michelle	Extended Phase I Report for the Porterville Intersection Improvement Project, Tulare County, California	Cal Trans	

7.4 Appendix D: NAHC Correspondence

Prepared by NAHC dated April 8, 2022.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 27, 2023

Kelsey George
City of Porterville

Via Email to: ***kgeorge@precisioneng.net***

Re: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, SoTu (South of Tule River) Master Plan Project, Tulare County

Dear Ms. George:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

7.5 Appendix E: Noise Assessment

Prepared by WJV Acoustics, Inc., on August 2, 2023.

ACOUSTICAL ANALYSIS

SOUTH OF TULE RIVER MASTER PLAN
PORTERVILLE, CALIFORNIA

WJVA Report No. 23-22

PREPARED FOR

PRECISION ENGINEERING
1234 O STREET
FRESNO, CALIFORNIA 93721

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

wjv acoustics

AUGUST 2, 2023

1. INTRODUCTION

Project Description:

South of Tule River (SoTu) Master Plan, including entitlements for a Conditional Use Permit (CUP) General Plan Amendment (GPA), and Pre-zone/Rezone (PZ), is filed by the City of Porterville (Applicant) and pertain to 19 parcels that is located directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California. The SoTu Master Plan is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the west by Westwood Street ("Project site"). The site totals approximately 447.30 gross acres. The CUP facilitates the adoption of the SoTu Master Plan. The GPA requests amendment of the existing land use designations to the mix of 10 different land uses proposed in the SoTu Master Plan. The PZ requests a prezone from the existing zoning districts to zoning districts that are consistent with the proposed land use designation. No physical development is proposed.

Although no physical development is proposed by the Project, this acoustical analysis analyzes the potential noise impacts associated with buildout of the Project site at a programmatic level, using reasonable assumptions so that future development of the site can tier from the Initial Study pursuant to CEQA Guidelines *Section 15168(c)(1)* and *15168(d)* for evaluations of environmental issues associated with later activities/subsequent projects. However, depending on the final design of future physical development, additional project specific CEQA review may be required as determined by the City through the entitlement review and approval process.

For the purposes of this analysis, Table I provides the assumption of the Project buildout. As shown in the table, the Project assumes the development of 2,213 dwelling units, 2,873,801 square feet of mixed-use, and 1,821,492 square feet of employment uses.

Table I: Project Buildout Assumption for Impact Analysis

Land Use Designation	Acreage	Permitted Intensity/Density	Average Density		Assumed	
Residential						
Low Density Residential	51.37	7.5 du/ac	5.35 du/ac		5.35 du/ac	
Medium Density Residential	43.72	15.0 du/ac	6.0 du/ac for Single Family Residential		6.0 du/ac for Single Family Residential	
			11.30 du/ac for Multi-family Residential		11.30 du/ac for Multi-family Residential	
High Density Residential	35.08	30.0 du/ac	22.55 du/ac		22.55 du/ac	
Mixed-Use						
Commercial Mixed Use	32.99	30.0 du/ac	20.0 du/ac	2.0 FAR	20.0 du/ac	2.0 FAR
Employment						
Retail Centers	24.35	0.35 FAR	0.35 FAR		0.35 FAR	
Neighborhood Commercial	8.61	0.30 FAR	0.30 FAR		0.30 FAR	
Professional Office	32.83	0.50 FAR	0.30 FAR		0.30 FAR	
Industrial Park	59.61	0.60 FAR	0.35 FAR		0.35 FAR	
Public Uses and Open Space						
Public/Institutional	15.81	0.25 FAR	0.25 FAR		0.25 FAR	
Parks	30.79	0.10 FAR	0.10 FAR		0.10 FAR	
Right-of-Way (ROW)	30.79					
Total	447.30					

Environmental Noise Assessment:

This environmental noise assessment has been prepared to determine if significant noise impacts will be produced by the project and to describe mitigation measures for noise if significant impacts are determined. The environmental noise assessment, prepared by WJV Acoustics, Inc. (WJVA), is based upon the project Land Use Map provided by Precision Engineering, dated 05/19/23 (Figure 1), traffic data provided by JLB Traffic Engineering, Inc., a project site visit on June 27 & 28, 2023. Revisions to the Land Use Map, project traffic information or other project-related information available to WJVA at the time the analysis was prepared may require a reevaluation of the findings and/or recommendations of the report.

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides examples of sound levels for reference.

2. THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines apply the following questions for the assessment of significant noise impacts for a project:

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?

b. Would the project result in 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?

a. Noise Level Standards

CITY OF PORTERVILLE

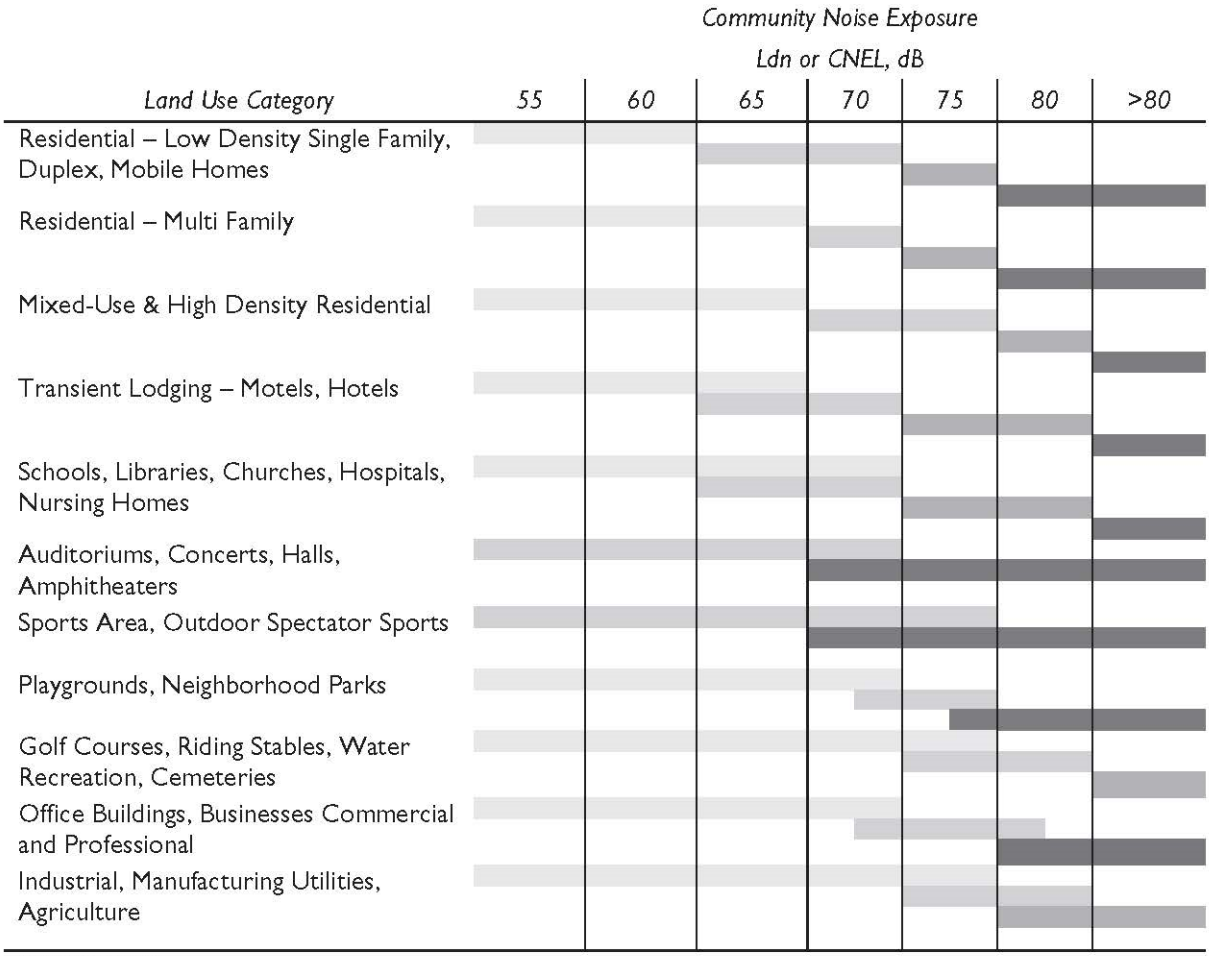
General Plan

The City of Porterville Noise Element of the General Plan (adopted 2008) sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} is the time-weighted average noise level for a 24-hour day with a penalty of 10 dB added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.).

The Noise Element establishes a land use compatibility criterion of 60 dB L_{dn} for exterior noise levels in outdoor activity areas of residential developments. Outdoor activity areas generally include backyards of single-family residences and outdoor common use areas as well as individual patios or decks of multi-family developments. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation.

The City of Porterville General Plan Noise Element provides land use compatibility guidelines for community noise exposure levels. Table II below (Table 9-1 in the General Plan Nosie Element) summarizes these land use compatibility guidelines for various noise exposure levels within the community. An exterior noise level up to 60 dB L_{dn} is considered “Normally Acceptable” and an exterior noise level between 60 dB L_{dn} and 70 dB L_{dn} is considered “Conditionally Acceptable” for residential land uses within the City of Porterville. Exterior noise levels above 70 dB L_{dn} are generally considered unacceptable for residential land uses.

Table II: Land Use Compatibility for Community Noise Environments



Interpretation:	
Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development should not be undertaken.

Source: City of Porterville, 2006.

Implementation Policy N-I-1 states:

"Use the community noise exposure level standards, shown in Table 9-1, as review criteria for new land uses and require a noise study and mitigation measures for all projects that have noise exposure greater than "normally acceptable" levels."

These measures will include, but are not limited to, the following actions:

- *Screen and control noise sources, such as parking and loading facilities, outdoor activities and mechanical equipment;*
    - *Increase setbacks for noise sources from adjacent dwellings;*
    - *Retain fences, walls, and landscaping that serve as noise buffers;*
    - *Use soundproofing materials and double-glazed windows; and*
    - *Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.*

The need for mitigation of exterior noise exposure for other development will be evaluated on a case-by-case basis. Within urban residential neighborhoods where medium and high density residential development and mixed-use development is planned, the City will balance the need for noise mitigation with urban design considerations, and may not require exterior walls along streets where an attractive pedestrian-oriented environment with porches and front stoops is desired.

Implementation Policy N-I-2 states:

"Require that all new residential development achieve interior noise level reductions through sound insulation and other measures to meet the land use compatibility standards by acoustical design and construction of the structure and building elements."

The Noise Element does not specially provide noise level criteria applicable to interior living spaces, however, an interior noise level standard of 45 dB L_{dn} is common practice. This standard is consistent with interior noise level criteria applied by the State of California and the U.S. Department of Housing and Urban Development (HUD). The intent of the interior noise level standard is to provide an acceptable noise environment for indoor communication and sleep.

Implementation Policy N-I-3 states:

"Establish standards for the basic elements of noise reduction design for a new dwelling unit exposed to DNL above 65 dB, including the following:"

- *All façades must be constructed with substantial weight and insulation;*

- *Sound-rated windows providing noise reduction performance similar to that of the façade must be included for habitable rooms;*

- *Sound-rated doors or storm doors providing noise reduction performance similar to that of the façade must be included for all exterior entries;*

- *Acoustic baffling of vents is required for chimneys, fans and gable ends; And*

- *Installation of a mechanical ventilation*

Implementation Policy N-I-4 states:

"Require sound walls or other attenuation measures designed to reduce noise by a minimum of 10 dB in residential areas adjacent to State highways when additional lanes are added or when new residential development or sensitive receptors would be exposed to noise above 65 dB."

Implementation Policy N-I-5 states:

"Reduce noise intrusion generated by miscellaneous noise sources through conditions of approval to control noise-generating activities."

Implementation Policy N-I-6 states:

"Require new noise sources to use best available control technology (BACT) to minimize noise emissions."

Implementation Policy N-I-7 states:

"Require noise from existing mechanical equipment to be reduced by soundproofing materials and sound-deadening installation."

Implementation Policy N-I-8 states:

"Work with the Tulare County Airport Land Use Commission (ALUC) to prepare an Airport Land Use Compatibility Plan and updated airport noise contours, consistent with the new airport layout plan."

Implementation Policy N-I-9 states:

"Require the disclosure of the noise environment to prospective homebuyers where noise levels exceed "normally acceptable" standards."

Municipal Code

Section 18-90.4 (Exterior Noise Standards) of the City of Porterville Municipal code establishes hourly acoustical performance standards for non-transportation noise sources. The standards, provided in Table III, are made more restrictive during the nighttime hours of 10:00 p.m. to 7:00 a.m.

TABLE III

NON-TRANSPORTATION NOISE LEVEL STANDARDS, dBA
CITY OF PORTERVILLE MUNICIPAL CODE, SECTION 18-90.4

Daytime (7 a.m.-10 p.m.)		Nighttime (10 p.m.-7 a.m.)	
L_{eq}	L_{max}	L_{eq}	L_{max}
50	70	45	65

Source: City of Porterville Municipal Code

The municipal code states that *"In the event the measured ambient noise level without the alleged offensive source in operation exceeds the applicable noise level standard in either category above, the applicable standard or standards shall be adjusted so as to equal the ambient noise level."*

Additionally, the municipal code states that *"Each of the noise level standards specified above shall be reduced by five (5) dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises."*

State of California

There are no state noise standards that are applicable to the project.

Federal Noise Standards

There are no federal noise standards that are applicable to the project.

b. Construction Noise and Vibration

Section 18-90.6 (Noise Source Exemptions) provides the following stipulations that may be applicable to the project. *The following activities shall be exempted from the provisions of this article:*

- *Activities conducted in public parks, public playgrounds and public or private school grounds, including, but not limited to, school athletic and school entertainment events, except as otherwise noted in this article*

- *Noise sources associated with construction, whether private or public, within five hundred feet (500') of the uses mentioned in subsection 18-90.4 of this article, provided such activities do not take place before six o'clock (6:00) A.M. or after nine o'clock (9:00) P.M. on any day except Saturday or Sunday, or before seven o'clock (7:00) A.M. or after five o'clock (5:00) P.M. on Saturday or Sunday.*

There are no state or federal standards that specifically address construction vibration. Some guidance is provided by the Caltrans Transportation and Construction Vibration Guidance Manual[3]. The Manual provides guidance for determining annoyance potential criteria and damage potential threshold criteria. These criteria are provided below in Table IV and Table V, and are presented in terms of peak particle velocity (PPV) in inches per second (in/sec).

TABLE IV

GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4

Source: Caltrans

TABLE V

GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile, historic buildings, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans

3. SETTING

The Project site is directly southwest of the city limits of the City of Porterville in the jurisdiction of the County of Tulare, California. The site is generally bound to the north by the Tule River, to the south by State Route 190 (SR 190), to the east by State Route 65 (SR 65), and to the west by Westwood Street, consisting of 19 parcels that total approximately 447.30 gross acres.

The overall project site consists primarily of undeveloped land currently used for agricultural purposes. There are a few existing rural-residential land uses located along SR 190 (Poplar Avenue) and Westwood Street.

a. Background Noise Level Measurements

Existing noise levels in the project vicinity are dominated by traffic noise along local roadways and noise associated with various agricultural land uses near and within the project site, as well as occasional aircraft overflights. Measurements of existing ambient noise levels in the project vicinity were conducted on June 27 & 28, 2023. Long-term (24-hour) ambient noise level measurements were conducted at three (3) locations (sites LT-1, LT-2 and LT-3). Ambient noise levels were measured for a period of 24 continuous hours at each of the three locations. Site LT-1 was located within the western portion of the project site, along S. Westwood Street. Site LT-2 was located within the southern portion of the project site, along SR 190 (W. Poplar Avenue). Site LT-3 was located within the eastern portion project site, along SR 65. All three sites were exposed to noise associated with vehicle traffic on roadways as well as periodic agricultural activities. The locations of the ambient noise monitoring sites are provided on Figure 2.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzers equipped with B&K Type 4176 1/2" microphones. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meters were calibrated with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements.

Measured hourly energy average noise levels (L_{eq}) at site LT-1 ranged from a low of 61.0 dB between 1:00 a.m. and 2:00 a.m. to a high of 71.9 dBA between 5:00 p.m. and 6:00 p.m. Hourly maximum (L_{max}) noise levels at site LT-1 ranged from 80.1 to 96.1 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 37.2 to 53.3 dBA. The L_{90} is a statistical descriptor that defines the noise level exceeded 90% of the time during each hour of the sample period. The L_{90} is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources. The measured L_{dn} value at site LT-1 was 74.3 dB L_{dn}. Figure 3 graphically depicts hourly variations in ambient noise levels at site LT-1. Figure 4 provides a photograph of measurement site LT-1.

Measured hourly energy average noise levels (L_{eq}) at site LT-2 ranged from a low of 63.6 dB between 1:00 a.m. and 2:00 a.m. to a high of 74.1 dBA between 2:00 p.m. and 3:00 p.m. as well as between 3:00 p.m. and 4:00 p.m. Hourly maximum (L_{max}) noise levels at site LT-2 ranged from 81.6 to 94.9 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 40.2

to 59.0 dBA. The measured L_{dn} value at site LT-2 was 76.6 dB L_{dn}. Figure 5 graphically depicts hourly variations in ambient noise levels at site LT-2. Figure 6 provides a photograph of measurement site LT-2.

Measured hourly energy average noise levels (L_{eq}) at site LT-3 ranged from a low of 60.2 dB between 2:00 a.m. and 3:00 a.m. to a high of 69.1 dBA between 9:00 p.m. and 10:00 p.m. Hourly maximum (L_{max}) noise levels at site LT-3 ranged from 73.2 to 93.2 dBA. Residual noise levels at the monitoring site, as defined by the L_{90}, ranged from 41.7 to 61.2 dBA. The measured L_{dn} value at site LT-was 72.6 dB L_{dn}. Figure 7 graphically depicts hourly variations in ambient noise levels at site LT-3. Figure 8 provides a photograph of measurement site LT-3.

Additionally, short-term (15-minute) ambient noise level measurements were conducted at six (6) locations (Sites ST-1 through ST-6). Two (2) individual measurements were taken at each of the six short-term sites to quantify ambient noise levels in the morning and afternoon hours. The locations of the short-term noise monitoring sites are provided on Figure 2.

Table VI summarizes short-term noise measurement results. The noise measurement data included energy average (L_{eq}) maximum (L_{max}) as well as five (5) individual statistical parameters. Observations were made of the dominant noise sources affecting the measurements. The statistical parameters describe the percent of time a noise level was exceeded during the measurement period. For instance, the L_{90} describes the noise level exceeded 90 percent of the time during the measurement period, and is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources.

Short-term noise measurements were conducted for 15-minute periods at each of the six sites. Site ST-1-ST-4, and ST-6 were located just north of the Tule River, near existing sensitive receptor locations (residential land uses). These five short-term ambient noise measurement sites were exposed to low levels of traffic noise from local roadways (predominantly River Springs Drive), as well as other noise sources common in urban/residential environments (construction activities, landscaping activities, barking dogs, human voices, etc.). Site ST-6 was also exposed to traffic noise from SR 65. Site ST-5 was located along the southern portion of the project site near SR 190 (Poplar Avenue), and was exposed primarily to traffic noise. The overall noise measurement data indicate that noise in the project vicinity is highly influenced by vehicular traffic along adjacent roadways.

TABLE VI

SUMMARY OF SHORT-TERM NOISE MEASUREMENT DATA
SOUTH OF TULE RIVER MASTER PLAN, PORTERVILLE
JUNE 27 & 28, 2023

Site	Time	A-Weighted Decibels, dBA							Sources
		L_{eq}	L_{max}	L_2	L_8	L_{25}	L_{50}	L_{90}	
ST-1	8:30 a.m.	55.2	72.0	67.4	55.6	45.7	42.7	39.2	TR, C
ST-1	4:15 p.m.	48.9	68.4	59.2	50.5	44.3	41.0	39.6	TR, V
ST-2	8:50 a.m.	41.5	52.9	46.8	44.4	42.0	40.1	38.2	TR, B, D, V
ST-2	4:35 p.m.	49.2	71.2	53.8	50.7	44.1	41.1	39.2	TR, V
ST-3	9:10 p.m.	43.3	51.1	46.6	45.4	44.0	43.0	40.4	TR, L
ST-3	5:00 p.m.	45.5	60.8	50.0	47.4	45.5	43.8	41.6	TR, AC
ST-4	9:30 a.m.	48.3	57.5	54.2	52.4	49.1	46.1	42.6	TR, B, D
ST-4	5:20 p.m.	52.9	70.3	56.6	53.8	50.4	47.7	43.1	TR, V
ST-5	9:55 a.m.	64.2	74.2	72.5	69.7	65.6	61.1	52.1	TR, AG
ST-5	6:10 p.m.	65.0	76.1	73.0	68.8	65.5	62.3	53.7	TR
ST-6	10:20 a.m.	55.8	59.5	58.7	57.8	56.8	55.6	52.5	TR, L, C
ST-6	5:45 p.m.	56.1	62.2	59.0	58.1	57.3	55.5	53.1	TR, AC

TR: Traffic AC: Aircraft AG: Agricultural Activities C: Construction Activities B: Birds D: Barking Dogs V:Voices L: Landscaping Activities
Source: WJV Acoustics, Inc.

4. NOISE IMPACTS TO OFF-SITE SENSITIVE RECEPTORS, AND MITIGATION MEASURES

a. Project Traffic Noise Impacts on Existing Noise-Sensitive Land Uses Outside Project Site

WJVA utilized the FHWA Traffic Noise Model[4] to quantify expected project-related increases in traffic noise exposure along roadways in the project vicinity. The FHWA Model is a standard analytical method used by state and local agencies for roadway traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Traffic volumes for the analyzed receptor locations were provided by the project traffic engineer, JLB Traffic Engineering, Inc. Truck percentages for SR 190 were provided by Caltrans. Truck percentages (for non-SR 190 traffic) and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources. The Noise modeling assumptions used to calculate project traffic noise are provided as Appendix C.

Traffic noise exposure levels for Existing, Existing Plus Project, 2046 Cumulative No Project and 2046 Cumulative Plus Project traffic scenarios were calculated based upon the FHWA Model and the above-described model inputs and assumptions. Project-related significant impacts would occur if an increase in traffic noise associated with the project would result in noise levels exceeding the City's applicable noise level standards at the location(s) of sensitive receptors. For the purpose of this analysis a significant impact was also assumed to occur if traffic noise levels were to increase by 3 dB at sensitive receptor locations where noise levels already exceed the City's applicable noise level standards (without the project), as 3 dB generally represents the threshold of perception in change for the human ear.

The City's exterior noise level standard for residential land uses is 60 dB L_{dn}. Traffic noise was modeled at twelve (12) receptor locations. The twelve modeled receptors are located at roadway setback distances representative of the sensitive receptors (residences) along each analyzed roadway segment. The receptor locations are described below and provided graphically on Figure 9.

- R-1: Residential land use located approximately 90 feet from the centerline of Westwood St
- R-2: Residential land use located approximately 150 feet from the centerline of Olive Ave
- R-3: Residential land use located approximately 80 feet from the centerline of Westwood St
- R-4: Residential land use located approximately 85 feet from the centerline of Olive Ave
- R-5: Residential land use located approximately 230 feet from the centerline of Olive Ave

- R-6: Residential land use located approximately 135 feet from the centerline of Newcomb St
- R-7: Residential land use located approximately 90 feet from the centerline of Newcombe St
- R-8: Residential land use located approximately 110 feet from the centerline of Prospect St
- R-9: Residential land use located approximately 135 feet from the centerline of SR 190
- R-10: Residential land use located approximately 215 feet from the centerline of SR 190
- R-11: Residential land use located approximately 175 feet from the centerline of SR 190
- R-12: Residential land use located approximately 120 feet from the centerline of Prospect St

Existing Conditions

Table VII provides existing traffic noise exposure levels at the twelve analyzed representative receptor locations, and provides what the project contribution would be to existing traffic conditions.

TABLE VII

PROJECT CONTRIBUTION TO FUTURE TRAFFIC NOISE, dB, L_{dn}
SOUTH OF TULE RIVER MASTER PLAN, PORTERVILLE
EXISTING TRAFFIC CONDITIONS

Modeled Receptor	Existing Without Project Contribution	Existing Plus Project	Project Contribution	Significant Impact?
R-1	62	64	+2	No
R-2	60	60	0	No
R-3	63	65	+2	No
R-4	63	65	+2	No
R-5	58	59	+1	No
R-6	59	61	+2	Yes
R-7	60	65	+5	Yes
R-8	50	50	0	No
R-9	63	65	+2	No
R-10	63	64	+1	No
R-11	64	66	+2	No
R-12	60	60	0	No
R-13	62	64	+2	No
R-14	60	60	0	No
R-15	63	65	+2	No
R-16	63	65	+2	No
R-17	58	59	+1	No

Source: WJV Acoustics, Inc.
JLB Traffic Engineering, Inc.

2046 Cumulative Conditions

Table VIII provides 2046 Cumulative traffic noise exposure levels at the twelve analyzed representative receptor locations, and provides what the project contribution would be to 2046 Cumulative traffic conditions.

TABLE VIII

PROJECT CONTRIBUTION TO FUTURE TRAFFIC NOISE, dB, L_{dn}
SOUTH OF TULE RIVER MASTER PLAN, PORTERVILLE
2046 CUMULATIVE TRAFFIC CONDITIONS

Modeled Receptor	2046 Conditions Without Project Contribution	2046 Conditions Plus Project	Project Contribution	Significant Impact?
R-1	63	65	+2	No
R-2	60	60	0	No
R-3	64	66	+2	No
R-4	64	65	+1	No
R-5	58	59	+1	No
R-6	59	61	+2	Yes
R-7	61	65	+4	Yes
R-8	50	50	0	No
R-9	63	65	+2	No
R-10	63	64	+1	No
R-11	64	66	+2	No
R-12	60	60	0	No

Source: WJV Acoustics, Inc.
JLB Traffic Engineering, Inc.

Reference to Table VII and Table VIII indicate that the project's contribution could result in significant impacts at sensitive receptor (residential) locations along Newcomb Street, both north and south of Olive Avenue. However, the noise levels provided in Table VII and Table VIII do not consider any localized acoustic shielding provided by existing houses or sound walls. The exterior noise level compatibility standards are applied to outdoor activity areas. Outdoor activity areas are generally considered backyards of single-family residential land uses and outdoor common use areas (pools, BBQ/Picnic areas, playgrounds, etc.) as well as individual patios and balconies of multi-family residential land uses.

Most of the existing residential land uses located along Newcomb Street either front the roadway (in which case the homes provide acoustic shielding to the backyard areas) or they have existing 6-foot sound walls. In these situations, exterior noise levels would not be expected to exceed 60 dB L_{dn}, and the project would not result in a noise impact to these homes.

Potential Impact
The project could result in a noise impact at a handful of existing residential land uses along Newcomb Street. This would only be the case at residential land uses along Newcomb Street that either 1). Do not have existing sound walls, or 2). do not have homes that face the roadway. An example of one such home would be the residence indicated as R-7 on Figure 9, located on the corner of Newcome Street and Clare Avenue.

Mitigation Measures:
Possibilities for exterior noise mitigation at existing noise-sensitive uses include the construction of effective sound walls. Due to the many complications of working with individual landowners to implement such measures, it may not be feasible to achieve successful noise mitigation for all existing noise-sensitive uses that could be impacted by the project. For that reason, this impact could remain significant and unavoidable. It should be noted, the City of Porterville considers exterior noise levels up to 70 dB L_{dn} to be conditionally acceptable for residential land uses. This is generally considered when a good faith effort to reduce exterior noise levels to 60 dB L_{dn} cannot be feasibly achieved, and the interior noise level standard of 45 dB L_{dn} is maintained.

b. Proposed Impacts From Operational On-Site Sources

The proposed Project would include several land use designations with the potential to result in noise impacts to existing noise-sensitive (residential) land uses. These land uses include Commercial Mixed Use (32.99 acres), Retail Centers (24.35 acres), Neighborhood Commercial (8.61 acres) and Industrial Park (59.61 acres).

The noise level standards applicable to these proposed land uses are provided above in Table III (Municipal Code standards for non-transportation noise sources). The noise standards become 5 dB more restrictive during nighttime hours (10:00 p.m. to 7:00 a.m.)

A wide variety of noise sources can be associated with such commercial, retail and light industrial land uses. The noise levels produced by such sources can also be highly variable and could potentially impact existing off-site and proposed on-site sensitive receptors. Typical examples of stationary noise sources associated with such land uses include:

- HVAC/Mechanical equipment
- Truck movements
- Parking lot activities (closing of car doors and trunks, stereos, alarms etc.)
- Drive-Through operations
- Loading Dock Activities
- Car Wash Operations
- Refuse/Cardboard Compactor

The exact quantity, type and location of such noise-producing sources were not known at the time of this analysis. These potential noise sources are discussed in general terms below.

HVAC Mechanical Equipment

It is assumed that various components of the above-described land uses would include ground- or roof-mounted HVAC units for interior spaces. WJVA has conducted reference noise level measurements at numerous commercial and retail buildings with roof-mounted HVAC units, and associated noise levels typically range between approximately 45-50 dB at a distance of 50 feet from the building façade.

Truck Movements

Truck movements and deliveries would likely be associated with these land uses. Additionally, the Industrial Park land use designation could potentially include warehousing and/or distribution centers, which would involve associated truck movements.

WJVA has conducted measurements of the noise levels produced by slowly moving trucks for a number of studies. Such truck movements would be expected to produce noise levels in the range of 65 to 71 dBA at a distance of 100 feet. The range in measured truck noise levels is due to differences in the size of trucks, their speed of movement and whether they have refrigeration units in operation during the pass-by.

Parking Lot Activities

Noise due to traffic in parking lots is typically limited by low speeds and is not usually considered to be significant. Human activity in parking lots that can produce noise includes voices, stereo systems and the opening and closing of car doors and trunk lids. Such activities can occur at any time. The noise levels associated with these activities cannot be precisely defined due to variables such as the number of parking movements, time of day and other factors. It is typical for a passing car in a parking lot to produce a maximum noise level of 60-65 dBA at a distance of 50 feet, which is comparable to the level of a raised voice.

Drive-Through Retail

The proposed project could include multiple retail areas that could include drive-through quick-service restaurant operations. In order to assess potential noise levels associated with drive-through operations, WJVA reviewed reference noise levels measured at a Wendy's drive-through restaurant located on South Mooney Boulevard in Visalia. Measurements were conducted during the early afternoon of July 11, 2011 between 12:45 p.m. and 1:45 p.m. using the previously-described noise monitoring equipment.

The microphone used by customers to order food and the loudspeaker used by employees to confirm orders are both integrated into a menu board that is located a few feet from the drive-through lane at the approximate height of a typical car window. Vehicles would enter the drive-through lane from the west and then turn to the north along the east side of the restaurant.

Reference noise measurements were obtained at a distance of approximately 40 feet from the menu board containing the microphone/loudspeaker system at an angle of about 45° toward the rear of the vehicle being served. This provided a worst-case exposure to sound from the loudspeaker system since the vehicle was not located directly between the loudspeaker and measurement location. Cars were lined up in the access lane during the noise measurement period indicating that the drive-through lane was operating at or near a peak level of activity.

Each ordering cycle was observed to take approximately 60 seconds including vehicle movements. A typical ordering cycle included 5-10 seconds of loudspeaker use with typical maximum noise levels in the range of 60-62 dBA at the 40 foot-reference location. Vehicles moving through the drive-through lane produced noise levels in the range of 55-60 dBA at the same distance. Vehicles parked at the ordering position (between the menu board and measurement site) were observed to provide significant acoustic shielding during the ordering sequence. The effects of such shielding are reflected by the noise measurement data. Noise levels were measured to approximately 60 dB L_{eq} at the measurement site, and included noise from all sources, including the loudspeaker, vehicle movements and HVAC equipment.

Loading Dock Activities

Noise sources typically associated with loading dock activities include truck engines, the operation of truck-mounted refrigeration units, fork lifts, the banging of hand carts and roll-up doors, noise from P.A. systems, and the voices of truck drivers and store employees. Truck engines and/or refrigeration units are typically turned off while trucks are in loading dock areas to reduce noise and save energy. Based upon noise level measurements conducted by WJVA for other studies, loading dock noise levels would be expected to be in the range of approximately 60 to 75 dBA at a distance of 100 feet.

Compactor

Retail and commercial land uses often include exterior-located compactors. Based upon noise studies conducted by WJVA for other projects, the maximum noise level produced by a typical un-enclosed trash compactor (Hydra-Fab Model 1200) is approximately 74 dBA at a distance of 10 feet from the equipment.

Car Wash

Commercial/Retail land use designations could potentially include automated car wash operations. Noise levels associated with automated car wash operations vary widely, based upon car wash type, enclosure type, equipment type and orientation. WJVA has prepared numerous noise studies for various car wash projects. Noise levels associated with automated car wash operations are generally in the range of 83-87 dB at a distance of twenty feet from the source.

Potential Impact:

Noise levels from new stationary noise sources cannot be predicted with any certainty at this time since specific uses have not yet been proposed and the locations of stationary noise sources relative to the locations of new noise sensitive uses are not known. However, under some circumstances there is a potential for such uses exceed the City's noise standards for stationary noise sources at the locations of sensitive receptors.

Mitigation Measures:

Noise levels from new stationary noise sources may be effectively mitigated by incorporating noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. Options for noise mitigation include the use of building setbacks, the construction of sound walls and the use of noise source equipment enclosures.

When specific uses within the study area are proposed (and their locations are defined) that could result in a noise-related conflict between a commercial or other stationary noise source and project proposed sensitive receptors, an acoustical analysis should be required that quantifies project-related noise levels and recommends appropriate mitigation measures to achieve compliance with the City's noise standards. The acoustical analysis should be the responsibility of the project applicant.

c. Noise from Construction

Construction noise would occur at various locations within and near the project site through various phases. Existing sensitive receptors could be located as close as 100 feet from construction activities. Table IX provides typical construction-related noise levels at distances of 100 feet, 200 feet, and 300 feet.

Construction noise is not considered to be a significant impact if construction is limited to the allowed hours and construction equipment is adequately maintained and muffled. The City of Porterville limits hours of construction to occur only between the hours of 6:00 a.m. to 9:00 p.m. Monday through Friday, and 7:00 a.m. to 5:00 p.m. on weekends. Any construction activities occurring outside of these hours would be subject to the City's stationary noise standards provided above in Table III. Construction noise impacts could result in annoyance or sleep disruption for nearby residents if nighttime operations were to occur or if equipment is not properly muffled or maintained.

TABLE IX

TYPICAL CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVELS, dBA

Type of Equipment	100 Ft.	200 Ft.	300 Ft.
Concrete Saw	84	78	74
Crane	75	69	65
Excavator	75	69	65
Front End Loader	73	67	63
Jackhammer	83	77	73
Paver	71	65	61
Pneumatic Tools	79	73	69
Dozer	76	70	66
Rollers	74	68	64
Trucks	80	72	70
Pumps	74	68	64
Scrapers	81	75	71
Portable Generators	74	68	64
Backhoe	80	74	70
Grader	80	74	70

Source: FHWA
Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman, 1987

A noise impact could occur if construction activities do not incorporate appropriate best management practices in regards to construction-related noise. The following best management practices should be implemented to minimize the potential for noise impacts on existing sensitive receptors in the project area, during project construction.

Best Management Practices:
Noise levels associated with construction activities may be effectively mitigated by incorporating noise mitigation measures and appropriate best management practices. The following best management practices should be applied during periods of project construction.

- All construction equipment shall be properly maintained and muffled as to minimize noise generation at the source.

- Noise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor.

- All noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from any noise-sensitive land uses.

- Locate construction staging areas, to the extent possible, at the greatest possible distances from any noise-sensitive land uses.

- Signs shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing the contact phone number of a designated noise disturbance coordinator.

d. Vibration Impacts

The dominant sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. Vibration from construction activities could be detected at the closest sensitive land uses, especially during movements by heavy equipment or loaded trucks and during some paving activities (if they were to occur). Typical vibration levels at distances of 100 feet and 300 feet are summarized by Table X. These levels would not be expected to exceed any significant threshold levels for annoyance or damage, as provided above in Table IV and Table V.

TABLE X

TYPICAL VIBRATION LEVELS DURING CONSTRUCTION

	PPV (in/sec)	
Equipment	**@ 100´**	**@ 300´**
Bulldozer (Large)	0.011	0.006
Bulldozer (Small)	0.0004	0.00019
Loaded Truck	0.01	0.005
Jackhammer	0.005	0.002
Vibratory Roller	.03	0.013
Caisson Drilling	.01	0.006

Source: *Caltrans*

5. NOISE IMPACTS TO PROPOSED ON-SITE SENSITIVE RECEPTORS, AND MITIGATION MEASURES

a. Traffic Noise Impacts To Proposed On-Site Receptors

The City of Porterville General Plan Noise Element establishes an exterior noise level standard of 60 dB L_{dn} for outdoor activity areas of residential uses. An exterior noise level up to 60 dB L_{dn} is considered "Normally Acceptable" and an exterior noise level up to 70 dB L_{dn} is considered "Conditionally Acceptable" for residential land uses. Outdoor activity areas generally include backyards of single-family residences and individual patios or decks and common outdoor activity areas of multi-family developments. The noise element also requires that interior noise levels attributable to exterior noise sources not exceed 45 dB L_{dn}.

The proposed project would include new sensitive receptors (residential land uses) that could be impacted by traffic noise exposure adjacent to or near arterial roadways and highways. Such roadways include Westwood Street, SR 190 (W. Poplar Avenue), Newcomb Street and SR 65. WJVA used the above-described FHWA traffic noise model and traffic noise modeling assumptions to determine the distances from the center of the roadways to the 60 dB L_{dn} and 70 dB L_{dn} noise exposure contours. Table XI provides the distances from the center of each roadway to these noise exposure contours. Table XI provides the contour distances for 2046 Cumulative conditions as they represent a worst-case assessment of noise exposure at proposed sensitive receptor locations. Distances to the SR 65 contours are based upon existing traffic volumes as 2046 Cumulative volumes were not available at the time this analysis was prepared.

TABLE XI

DISTANCES TO TRAFFIC NOISE CONTOURS
SOTU MASTER PLAN, PORTERVILLE
CUMULATIVE 2046 CONDITIONS

Roadway Segment (Description)	Distance (feet) From Roadway Centerline to Contour	
	60 dB L_{dn}	70 dB L_{dn}
Westwood Street	**157**	34
SR 190 (Poplar Avenue)	**409**	88
Newcomb Street	**137**	23
SR 65[1]	**674**	145

Source: WJV Acoustics, Inc.
JLB Traffic Engineering, Inc.

[1]based upon existing traffic volumes as future projected volumes were not available

It should be noted, contour distances provided in Table XI are based upon unattenuated traffic noise levels, and do not consider any localized acoustical shielding that may be provided by elevational/toparchic changes between the receptor and the roadway, existing buildings, or walls. Therefore, these setback distances should be considered a worst-case assessment of traffic noise

impacting the project site. Once site specific plans and details are developed, project site noise exposure may be re-evaluated based upon site-specific conditions.

Potential Impact:
A noise impact could occur if new proposed sensitive receptors (residential land uses) are located within the cumulative 60dB L_{dn} traffic noise contours. Table XI provides the setback distances from the centerline of each of the four site-adjacent arterial roadways and highways to the 60 dB L_{dn} exterior nose level contour.

Mitigation:
Noise levels from transportation noise sources may be effectively mitigated by incorporating noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. Options for noise mitigation include the use of building setbacks and the construction of berms and sound walls.

b. Noise Impacts from Operational On-Site Sources

As described above, the proposed Project would include several land use designations with the potential to result in noise impacts to proposed noise-sensitive (residential) land uses. These land uses include Commercial Mixed Use (32.99 acres), Retail Centers (24.35 acres), Neighborhood Commercial (8.61 acres) and Industrial Park (59.61 acres).

The noise level standards applicable to these proposed land uses are provided above in Table III (Municipal Code standards for non-transportation noise sources). The noise standards become 5 dB more restrictive during nighttime hours (10:00 p.m. to 7:00 a.m.)

A wide variety of noise sources can be associated with such commercial, retail and light industrial land uses. The noise levels produced by such sources can also be highly variable and could potentially impact existing off-site and proposed on-site sensitive receptors. Typical examples of stationary noise sources associated with such land uses include:

- HVAC/Mechanical equipment
- Truck movements
- Parking lot activities (closing of car doors and trunks, stereos, alarms etc.)
- Drive-Through operations
- Loading Dock Activities
- Car Wash Operations
- Refuse/Cardboard Compactor

The exact quantity, type and location of such noise-producing sources were not known at the time of this analysis. These potential noise sources were discussed in general terms above, in Section 4. These same noise sources could potentially result in noise impacts at proposed (on-site) residential land uses.

Potential Impact:
Noise levels from new stationary noise sources cannot be predicted with any certainty at this time since specific uses have not yet been proposed and the locations of stationary noise sources relative to the locations of new noise sensitive uses are not known. However, under some circumstances there is a potential for such uses exceed the City's noise standards for stationary noise sources at the locations of sensitive receptors.

Mitigation Measures:
Noise levels from new stationary noise sources may be effectively mitigated by incorporating noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. Options for noise mitigation include the use of building setbacks, the construction of sound walls and the use of noise source equipment enclosures.

When specific uses within the study area are proposed (and their locations are defined) that could result in a noise-related conflict between a commercial or other stationary noise source and project proposed sensitive receptors, an acoustical analysis should be required that quantifies project-related noise levels and recommends appropriate mitigation measures to achieve compliance with the City's noise standards. The acoustical analysis should be the responsibility of the project applicant.

c. Noise Impacts from Nearby Airports or Airstrips

The Project site is located approximately one (1) mile north of the Porterville Municipal Airport. WJVA reviewed the Tulare County Comprehensive Airport Land Use Plan[5], and determined that no portion of the project site lies within any of the Porterville Municipal Airport noise contours. The Porterville Municipal Airport noise contours are provided as Figure 10.

6. IMPACT SUMMARY

This impact summary addresses only the noise impacts determined to be "potentially significant" and summarizes the appropriate measures that would be required to reduce noise levels to a "less than significant" level, if applicable.

- **Potential Impact:** Noise levels from new stationary noise sources associated with proposed Commercial Mixed Use, Retail Center, Neighborhood Commercial, and Industrial Park land uses within the project site could potentially impact existing and new sensitive receptors (residential land uses). Exact uses of these land use designations were not known at the time this analysis was prepared.

  Mitigation: Noise levels from new stationary noise sources may be effectively mitigated by incorporating appropriate noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. If required, options for noise mitigation include the use of building setbacks, the construction of sound walls and the use of noise source equipment enclosures. When specific uses within the study area are proposed that could result in a noise-related conflict between a commercial or other stationary noise source and existing or proposed noise-sensitive receptor, an acoustical analysis may be required by the City that quantifies project-related noise levels and recommends appropriate mitigation measures to achieve compliance with the City's noise standards.

- **Potential Impact:** A noise impact could occur if new proposed sensitive receptors (residential land uses) are located within the 2046 cumulative 60dB L_{dn} traffic noise contours. Table XI provides the setback distances from the centerline of each of the four site-adjacent arterial roadways and highways to the 60 dB L_{dn} exterior nose level contour.

  Mitigation: Noise levels from transportation noise sources may be effectively mitigated by incorporating noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. Options for noise mitigation include the use of building setbacks and the construction of berms and sound walls.

- **Potential Impact:** A noise impact could occur if construction activities occur outside of the City's allowable hours of construction and/or do not incorporate appropriate best management practices in regards to construction-related noise. Implement best management practices to minimize the potential for noise impacts on existing sensitive receptors in the project area, during project construction. The following provides the City's allowable hours of construction as well as generalized best management practices that should be applied during periods of project construction to ensure that noise impacts do not result from project construction:

- Per the City of Porterville Municipal Code, construction activities should not occur outside the hours of 6:00 a.m. to 9:00 p.m. during weekdays and 7:00 a.m. to 5:00 p.m. on weekends. Construction activities that occur outside these hours would be subject to the stationary noise standards provided above in Table III.

- All construction equipment shall be properly maintained and muffled as to minimize noise generation at the source.

- Noise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor.

- All noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from any noise-sensitive land uses.

- Locate construction staging areas, to the extent possible, at the greatest possible distances from any noise-sensitive land uses.

- Signs shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing a contact phone number of a designated noise disturbance coordinator.

7. SOURCES CONSULTED

1. Dyett and Bhatia, *City of Porterville 2030 General Plan*, 2008.

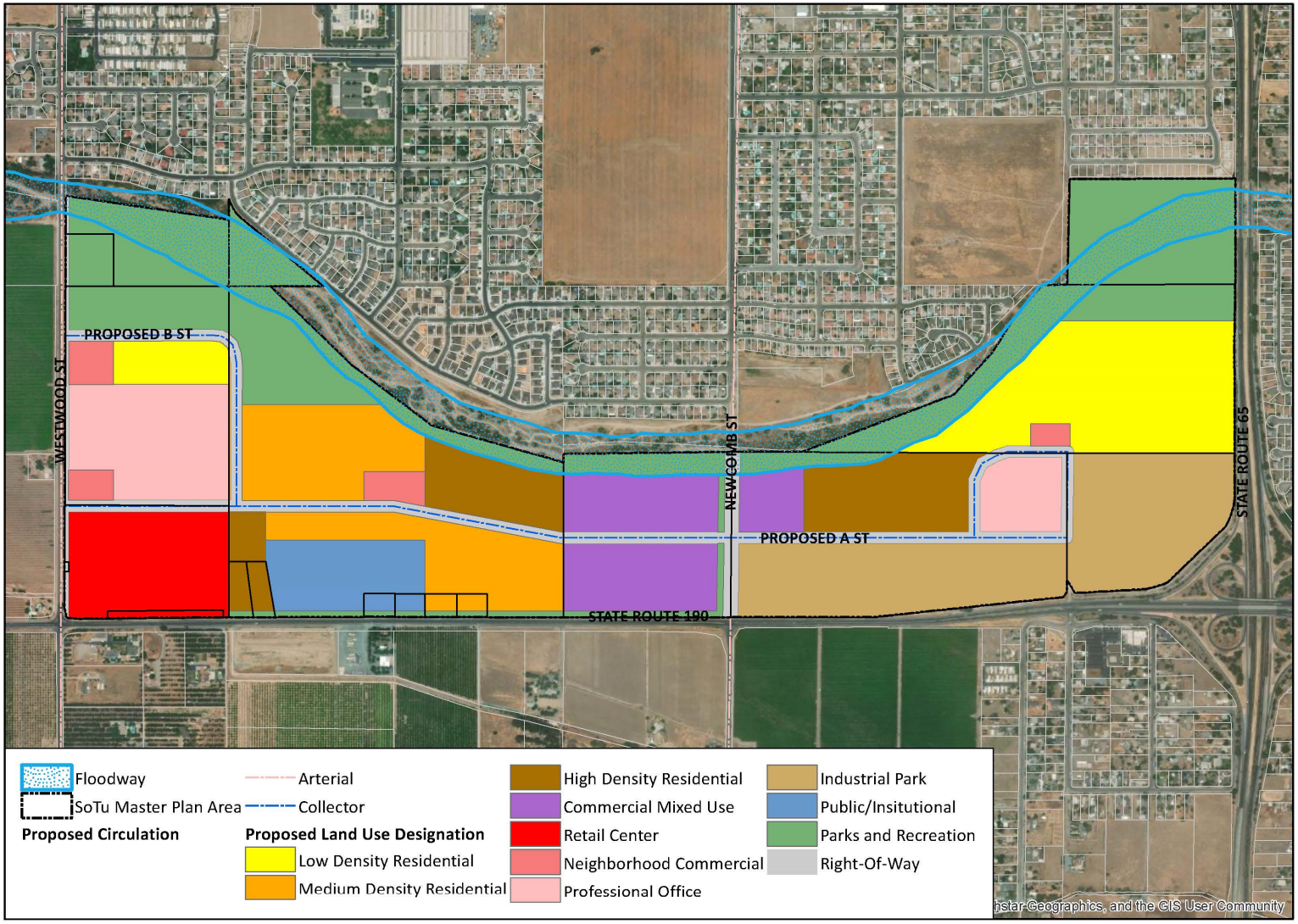
2. City of Porterville Municipal Code, updated November 15, 2022

3. California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* September 2013.

4. Federal Highway Administration, *Traffic Noise Model, Version 2.5,* April 14, 2004

5. Aries Consultants, Ltd., *Tulare County Comprehensive Airport Land Use Plan,* December. 2012

FIGURE 1: PROJECT LAND USE PLAN



SOTU MASTER PLAN LAND USE MAP

CREATED 5/19/2023

FIGURE 2: PROJECT VICINITY AND AMBIENT NOISE MONITORING SITES

FIGURE 3: HOURLY NOISE LEVELS AT SITE LT-1

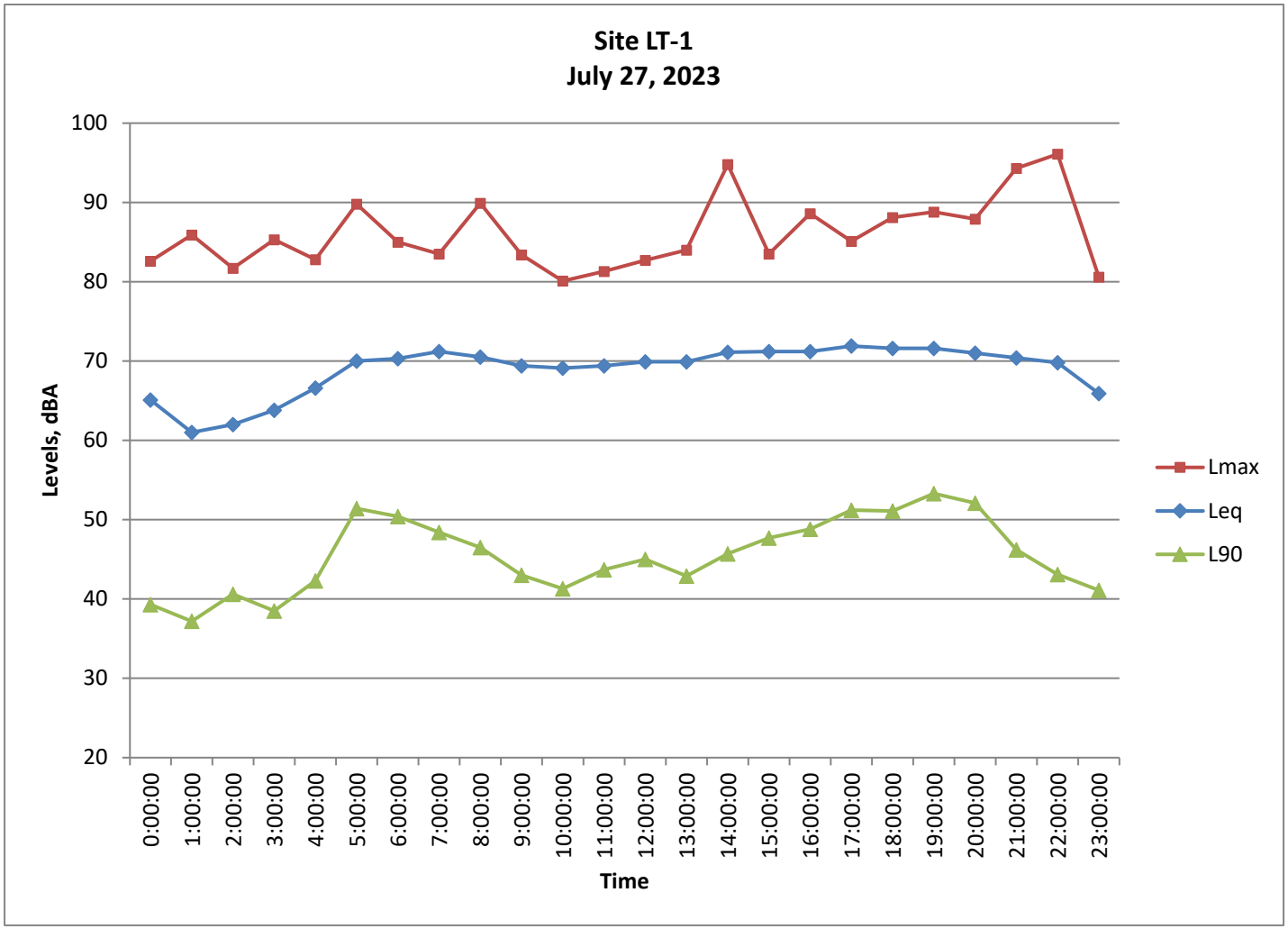


FIGURE 4: NOISE MEASUREMENT SITE LT-1

FIGURE 5: HOURLY NOISE LEVELS AT SITE LT-2

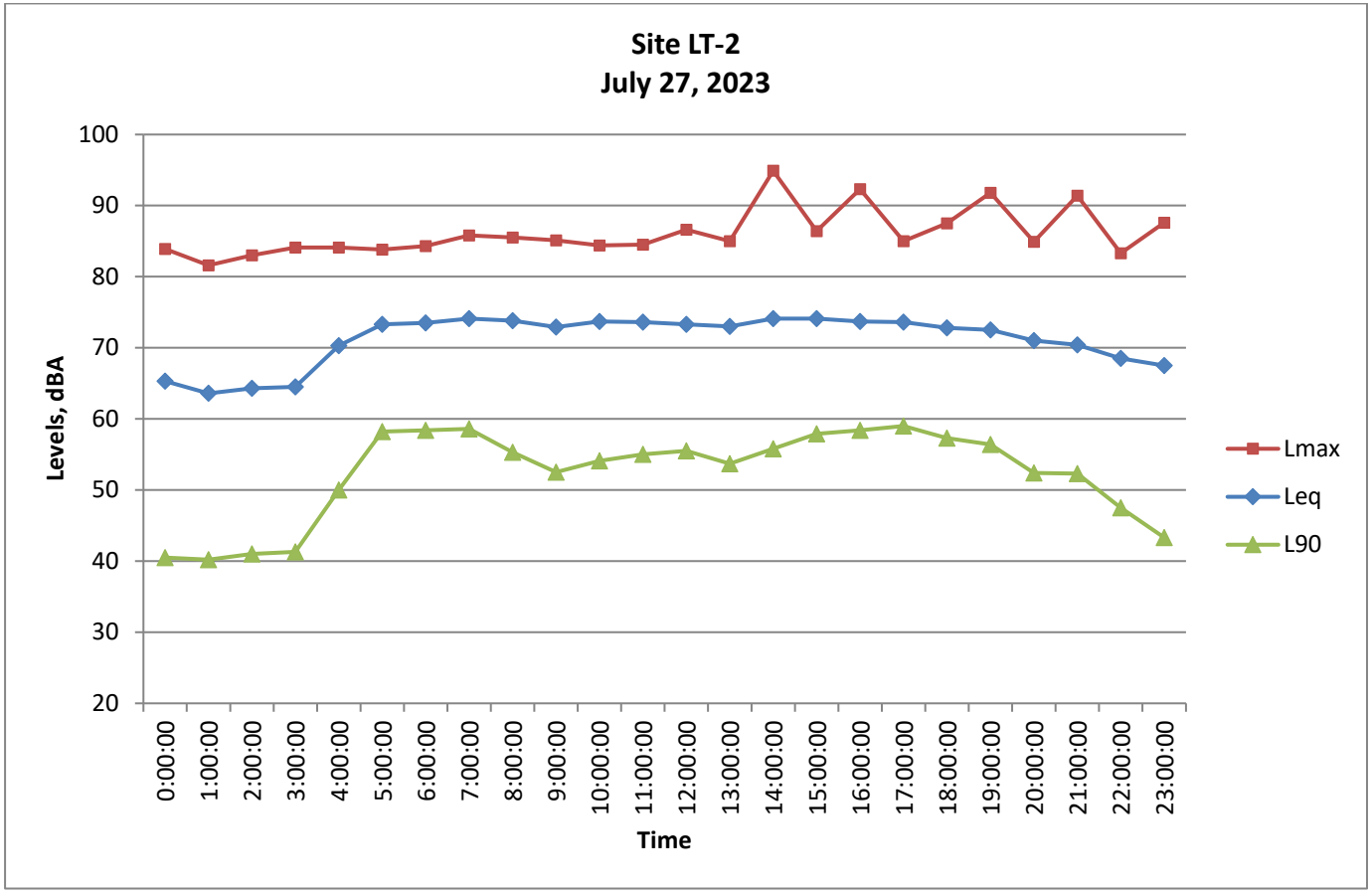


FIGURE 6: NOISE MEASUREMENT SITE LT-2

FIGURE 7: HOURLY NOISE LEVELS AT SITE LT-3

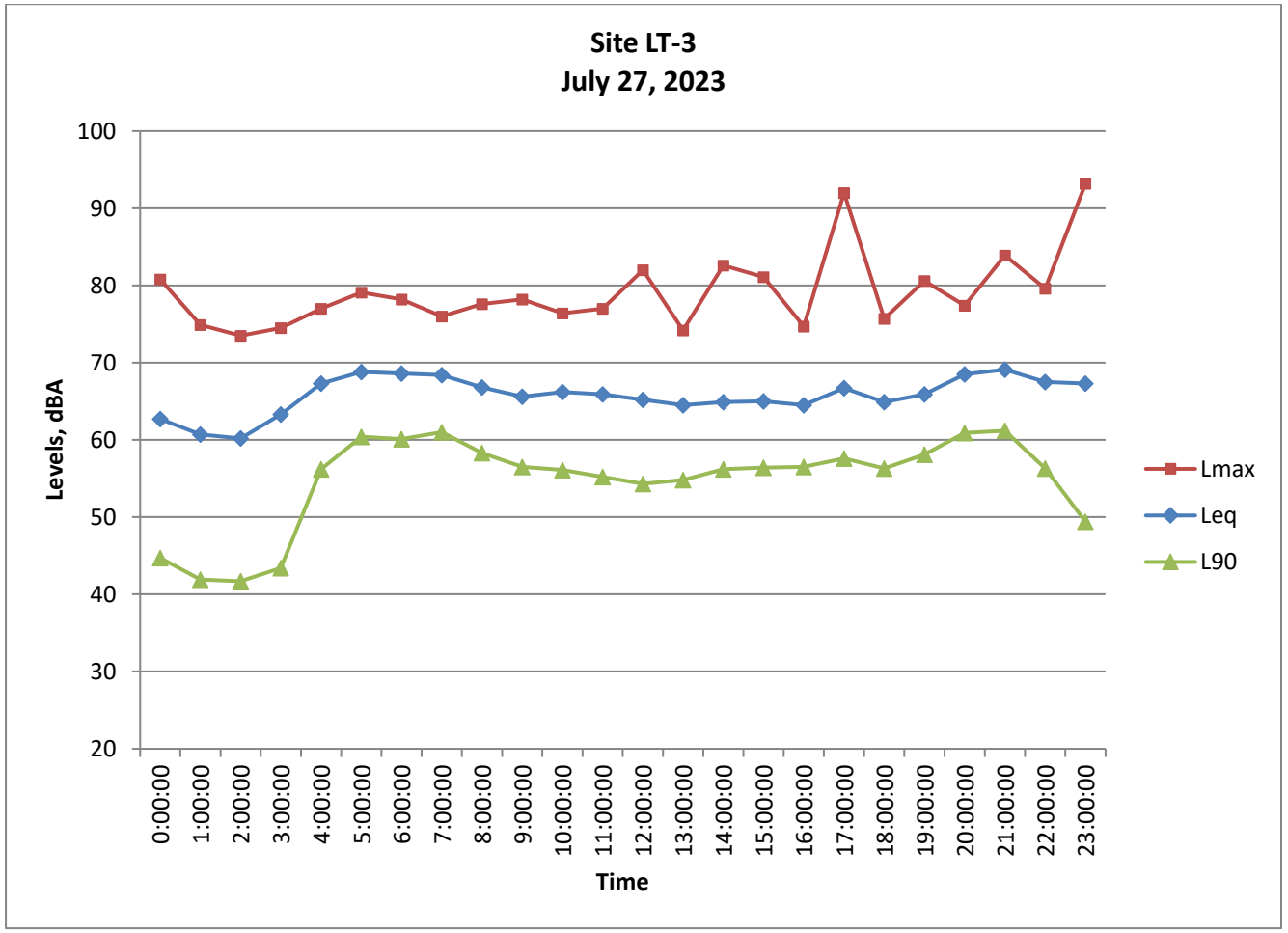
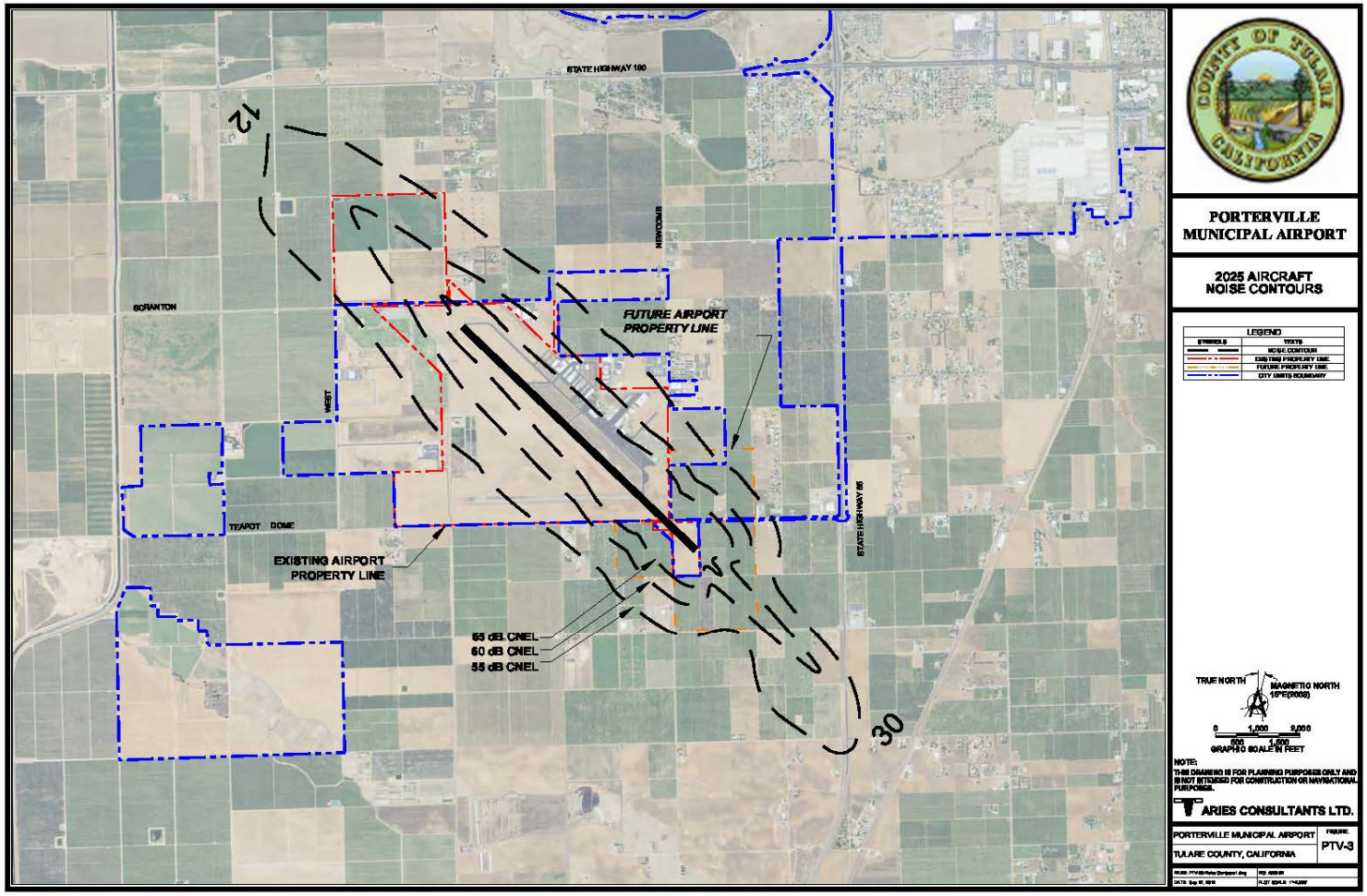


FIGURE 8: NOISE MEASUREMENT SITE LT-3

FIGURE 9: MODELED TRAFFIC NOISE RECEPTOR LOCATIONS

FIGURE 10: PORTERVILLE MUNICIPAL AIRPORT NOISE CONTOURS



APPENDIX A-1

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

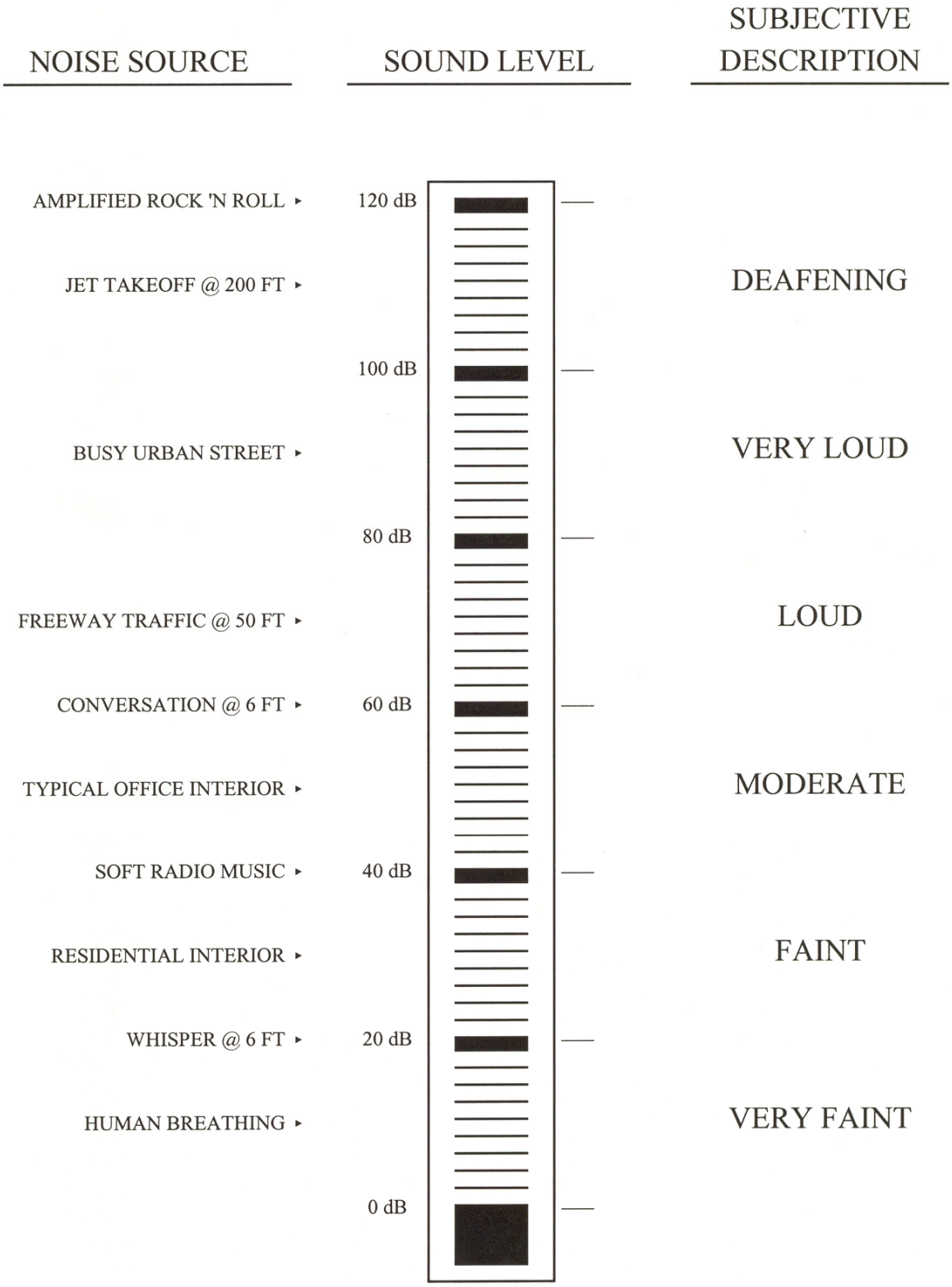
NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B
EXAMPLES OF SOUND LEVELS



APPENDIX C

TRAFFIC NOISE MODELING CALCULATIONS

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 2, 2023

Project #:	23-22 SOTU
Description:	Existing
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB) 60 65 70 75

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	Westwood	n/o Olive R-1	9830	90		10	2	1	45	90	
2	Olive	w/o Westwood R-2	10800	90		10	2	1	45	150	
3	Westwood	s/o Olive R-3	9930	90		10	2	1	45	80	
4	Olive	e/o Westwood R-4	10660	90		10	2	1	45	85	
5	Olive	w/o Newcomb R-5	13130	90		10	2	1	45	230	
6	Newcomb	n/o Olive R-6	7710	90		10	2	1	45	135	
7	Newcomb	s/o Olive R-7	5570	90		10	2	1	45	90	
8	Prospect	s/o Olive R-8	700	90		10	2	1	45	110	
9	SR 190	w/o Westwood R-9	5970	85		15	6.1	4.8	55	135	
10	SR 190	e/o Westwood R-10	12150	85		15	6.1	4.8	55	215	
11	SR 190	w/o Prospect R-11	11930	85		15	6.1	4.8	55	175	
12	Prospect	s/o SR 190 R-12	2810	85		15	6.1	4.8	55	120	
13	SR 65		29000	85		15	4.6	3.7	65	100	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 2, 2023

Project #:	23-22 SOTU
Description:	Existing + Project
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	Westwood	n/o Olive R-1	15150	90		10	2	1	45	90	
2	Olive	w/o Westwood R-2	11280	90		10	2	1	45	150	
3	Westwood	s/o Olive R-3	16230	90		10	2	1	45	80	
4	Olive	e/o Westwood R-4	14560	90		10	2	1	45	85	
5	Olive	w/o Newcomb R-5	17170	90		10	2	1	45	230	
6	Newcomb	n/o Olive R-6	12540	90		10	2	1	45	135	
7	Newcomb	s/o Olive R-7	16420	90		10	2	1	45	90	
8	Prospect	s/o Olive R-8	720	90		10	2	1	45	110	
9	SR 190	w/o Westwood R-9	9880	85		15	6.1	4.8	55	135	
10	SR 190	e/o Westwood R-10	16310	85		15	6.1	4.8	55	215	
11	SR 190	w/o Prospect R-11	21260	85		15	6.1	4.8	55	175	
12	Prospect	s/o SR 190 R-12	2890	85		15	6.1	4.8	55	120	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 2, 2023

Project #:	23-22 SOTU
Description:	Cumulative 2046 NP
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB)	60	65	70	75					

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	Westwood	n/o Olive R-1	10450	90		10	2	1	45	90	
2	Olive	w/o Westwood R-2	11430	90		10	2	1	45	150	
3	Westwood	s/o Olive R-3	10690	90		10	2	1	45	80	
4	Olive	e/o Westwood R-4	11730	90		10	2	1	45	85	
5	Olive	w/o Newcomb R-5	14230	90		10	2	1	45	230	
6	Newcomb	n/o Olive R-6	8540	90		10	2	1	45	135	
7	Newcomb	s/o Olive R-7	6490	90		10	2	1	45	90	
8	Prospect	s/o Olive R-8	700	90		10	2	1	45	110	
9	SR 190	w/o Westwood R-9	7000	85		15	6.1	4.8	55	135	
10	SR 190	e/o Westwood R-10	13480	85		15	6.1	4.8	55	215	
11	SR 190	w/o Prospect R-11	13060	85		15	6.1	4.8	55	175	
12	Prospect	s/o SR 190 R-12	2810	85		15	6.1	4.8	55	120	

WJV Acoustics, Inc
FHWA-RD-77-108
Calculation Sheets
August 2, 2023

Project #:	23-22 SOTU
Description:	Cumulative 2046 + Proj
Ldn/Cnel:	Ldn
Site Type:	Soft

Contour Levels (dB) 60 65 70 75

Segment	Roadway Name	Segment Description	ADT	%Day	%Evening	%Night	%Med	%Heavy	Speed	Distance	Offset
1	Westwood	n/o Olive R-1	15970	90		10	2	1	45	90	
2	Olive	w/o Westwood R-2	11910	90		10	2	1	45	150	
3	Westwood	s/o Olive R-3	16950	90		10	2	1	45	80	
4	Olive	e/o Westwood R-4	18100	90		10	2	1	45	85	
5	Olive	w/o Newcomb R-5	18240	90		10	2	1	45	230	
6	Newcomb	n/o Olive R-6	12960	90		10	2	1	45	135	
7	Newcomb	s/o Olive R-7	17340	90		10	2	1	45	90	
8	Prospect	s/o Olive R-8	720	90		10	2	1	45	110	
9	SR 190	w/o Westwood R-9	10910	85		15	6.1	4.8	55	135	
10	SR 190	e/o Westwood R-10	17640	85		15	6.1	4.8	55	215	
11	SR 190	w/o Prospect R-11	21050	85		15	6.1	4.8	55	175	
12	Prospect	s/o SR 190 R-12	2890	85		15	6.1	4.8	55	120	
13	Newcomeb	n/o South Collector	10570	90		10	2	1	45	100	
14	Westwood	n/o SR 190	13030	90		10	2	1	45	100	

7.6 Appendix F: Vehicle Miles Traveled Analysis

Prepared by JBL Traffic Engineering, Inc., on August 4, 2023.

Draft Vehicle Miles Traveled Analysis

SoTu Master Plan

Bound by the Tule River, State Route 65, State Route 190 and Westwood Street

In the City of Porterville, California

Prepared for:

City of Porterville
291 North Main Street
Porterville, CA 93257

August 4, 2023

Project No. 053-001

Traffic Engineering, Transportation Planning, & Parking Solutions
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Phone: (559) 570-8991
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Traffic Engineering, Transportation Planning, & Parking Solutions

Draft Vehicle Miles Traveled Analysis

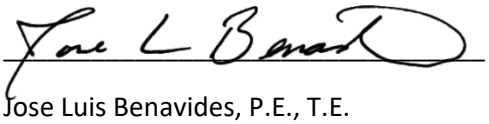
For the SoTu Master Plan bound by the Tule River, State Route 65, State Route 190 and Westwood Street

In the City of Porterville, CA

August 4, 2023

This Draft Vehicle Miles Traveled Analysis has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions and decisions are based.

Prepared by:



Jose Luis Benavides, P.E., T.E.

President

Traffic Engineering, Transportation Planning, & Parking Solutions
516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
Phone: (559) 570-8991
www.JLBtraffic.com

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Plan Description

This Draft Report describes a **Vehicle Miles Traveled (VMT) Analysis** prepared by **JLB Traffic Engineering, Inc.** (JLB) for the **SoTu Master Plan (Plan)** located on approximately 421.89 acres bound by the Tule River, State Route 65, State Route 190 and Westwood Street in the County of Tulare, but within the sphere of influence of the City of Porterville. The Plan will require a conditional use permit, a general plan amendment and a rezone application. Currently, this area is planned for low density residential, retail centers, education and parks. The Plan will change these planned land uses to include low density residential, medium density residential, high density residential, commercial mixed-use, retail center, neighborhood commercial, professional office, general industrial and parks.

Regulatory Setting, Criteria of Significance and Methodology

Regulatory Setting

Senate Bill (SB) 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as VMT instead of Level of Service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto the roads, the project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities are no longer a relevant CEQA criteria for transportation impacts.

CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

The City of Porterville has not yet adopted its own official VMT guidelines but uses the County of Tulare's *SB 743 Guidelines,* referred to in this document as the County of Tulare's VMT Guidelines. The County of Tulare's VMT Guidelines were published on June 8, 2020 and are consistent with the requirements of CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research (OPR), was utilized as a reference and guidance document in the preparation of the County of Tulare's VMT Guidelines.

Criteria of Significance

The County of Tulare's VMT Guidelines adopted a screening standard and criteria that can be used to screen out qualified projects that meet the adopted criteria from needing to prepare a detailed VMT analysis. However, these screening criteria are generally applied to land development projects not general or community plans.

In terms of analyzing a plan, the County of Tulare's VMT Guidelines states the following, "VMT analysis for the General Plan or Community Plans would generally be conducted by comparing the total VMT/capita of the study area with the plan in the planning horizon year to the VMT/capita of the study area in the base year. This analysis would be conducted using the TCAG regional travel for updates to the General Plan." (County of Tulare, 2020). However, as there is no existing development located within the study area, a comparison to this study area in the base year would not represent a comparison to any meaningful existing data. Consequently, this VMT Analysis compares the VMT of the study area, including the plan, in the horizon year to the VMT of the entire region in the base year. For this particular Plan and VMT Analysis, the entire region utilized is the boundaries of the County of Tulare. The Technical Advisory (TA) recommends the following in regard to analyzing a plan, "Agencies should analyze VMT outcomes of land use plans across the full area over which the plan may substantively affect travel patterns, including beyond the boundary of the plan or the jurisdiction's geography" (Governor's Office of Planning and Research, 2018). Therefore, the study area with the plan in the horizon year and the VMT of the entire region in the base year are the two scenarios and study regions that will be compared. If the horizon year output is less than the base year output, then the VMT associated with the Plan is determined to have a less than significant impact.

Methodology

This VMT Analysis not only compares the VMT per capita, as stated in the County of Tulare's VMT Guidelines, it also includes an analysis of the VMT per employee and VMT per service population. As recommended within the TA, these outputs contain both origin and destination VMT. The Tulare County Association of Governments (TCAG) model was utilized to output the baseline and horizon year VMT for the analysis. The VMT per capita, VMT per employee and VMT per service population were output for the base year scenario for the entire region and the horizon year scenario for the study area. If the VMT associated with the Plan is determined to have a significant impact, then VMT mitigations would be applied to the Plan in order to reduce the VMT in the horizon year in the study area. As there are no VMT mitigation measures listed in the County of Tulare's VMT Guidelines, the California Air Pollution Control Officers Association (CAPCOA) document *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (VMT Mitigation Guidelines) published in December 2021 was utilized to determine the effect of VMT mitigation measures.

VMT Calculations

VMT Output

Table I displays the VMT per Capita, VMT per Employee and VMT per Service Population for the Base Year No Project (Entire Region) and the Horizon Year plus Project (Study Area) output by the TCAG model. The TCAG model output a Base Year No Project (Entire Region) of 14.51 VMT per Capita, 11.92 VMT per Employee and 23.52 VMT per Service Population. The TCAG Base Year No Project (Entire Region) outputs act as the VMT Threshold. The TCAG model output a Horizon Year plus Project (Study Area) of 6.12 VMT per Capita, 11.74 VMT per Employee and 23.52 VMT per Service Population. As can be seen in Table I, before VMT mitigations are considered, the Plan has a less than significant VMT impact in terms of VMT per Capita and VMT per Service Population, but a significant VMT impact in terms of VMT per Service Population. As a result, the Project would need to implement VMT mitigation measures. Appendix A presents a summary of the VMT outputs by the TCAG model.

Table I: VMT Output

VMT Measurement	*TCAG Base Year No Project VMT Results (Entire Region)* [1]	*TCAG Horizon Year plus Project VMT Results (Study Area)* [1]	*Significant VMT Impact Before Mitigations?*
VMT per Capita	14.51	6.12	No
VMT per Employee	11.92	11.74	No
VMT per Service Population	23.52	24.48	Yes

Note: 1 = VMT Results from TCAG Model

VMT Mitigations

The VMT mitigation measures considered for this Plan include those appropriate for the study area. As this VMT is being studied for a plan and not a land development project, VMT mitigation measure T-1 through T-16 were not considered for this Plan. The VMT mitigation measures that were considered feasible for this Plan are Improve Street Connectivity (T-17), Provide Pedestrian Network Improvements (T-18), Construct or Improve Bike Facility (T-19-A), Expand Bikeway Network (T-20) and Implement Transit-Supportive Roadway Treatments. Appendix B presents a summary of the VMT reduction associated with each mitigation measure utilized in this Report. The selected VMT reduction rates appropriate for the Plan were based on the CAPCOA VMT Mitigation Guidelines.

Land Use Subcategory

T-17. Improve Street Connectivity: The Plan will include an increase in the number of intersections. Therefore, this measure was applied to the Plan. See Appendix B for more information.

Neighborhood Design Subcategory

T-18. Provide Pedestrian Network Improvement: The Plan will include pedestrian network improvements that connect to a greater network. Therefore, this measure was applied to the Plan. See Appendix B for more information.

T-19-A. Construct or Improve Bike Facility: The Plan will include the construction of bike facilities that connect to a greater network. Therefore, this measure was applied to the Plan. See Appendix B for more information.

T-19-B. Construct or Improve Bike Boulevard: The Plan will not include the construction of bike boulevards (Class III bike lanes). Therefore, this measure was not applied to the Plan.

T-20. Expand Bikeway Network: The Plan will include the expansion of a bikeway network when compared to the existing plan in this area. Therefore, this measure was applied to the Plan. However, the reduction from this measure was negligible. See Appendix B for more information.

T-21-A. Implement Conventional Carshare Program: The Plan will not implement a conventional carshare program. Therefore, this measure was not applied to the Plan.

T-21-B. Implement Electric Carshare Program: The Plan will not implement an electric carshare program. Therefore, this measure was not applied to the Plan.

T-22-A. Implement Pedal (Non-Electric) Bikeshare Program: The Plan will not implement a pedal (non-electric) bikeshare program. Therefore, this measure was not applied to the Plan.

T-22-B. Implement Electric Bikeshare Program: The Plan will not implement an electric bikeshare program. Therefore, this measure was not applied to the Plan.

T-22-C. Implement Scootershare Program: The Plan will not implement a scootershare program. Therefore, this measure was not applied to the Plan.

Trip Reduction Programs Subcategory

T-23. Provide Community-Based Travel Planning: The Plan will not provide community-based travel planning. Therefore, this measure was not applied to the Plan.

Parking or Road Pricing/Management Subcategory

T-24. Implement Market Price Public Parking (On-Street): The plan will not implement market price public parking. Therefore, this measure was not applied to the Plan.

Transit Subcategory

T-25. Extend Transit Network Coverage or Hours: The plan will not extend transit network coverage or hours. However, it is recommended that the City of Porterville and the Tulare County Regional Transit Agency consider implementing a route within the Plan or altering an existing route to service the Plan area. Therefore, this measure was not applied to the Plan.

T-26. Increase Transit Service Frequency: At present, there is no transit serving the plan areas and as such increasing transit service frequency is technically not possible. Therefore, this measure was not applied to the Plan.

T-27. Implement Transit-Supportive Roadway Treatments: The plan will implement transit-supportive roadway treatments such as bus bays at intersections of all major streets. Therefore, this measure was applied to the Plan. See Appendix B for more information.

T-28. Provide Bus Rapid Transit: The plan will not provide bus rapid transit. Therefore, this measure was not applied to the Plan.

T-29. Reduce Transit Fares: The plan will not reduce transit fares. Therefore, this measure was not applied to the Plan.

Use Cleaner-Fuel Vehicles Subcategory

T-30. Use Cleaner-Fuel Vehicles: Using cleaner-fuel vehicles is not a feasible measure for the Plan as employee and resident vehicles cannot be forced to be clean-fuel vehicles. Therefore, this measure was not applied to the Plan.

The mitigation measures combine to reduce the Plan's VMT by 10.15%. As can be seen in Table II, the mitigation measures result in a reduction of 0.62 VMT per Capita, 1.19 VMT per Employee and 2.48 VMT per Service Population to the Plan. In conclusion, after reductions from VMT mitigations are considered, the Plan has less than significant VMT impacts.

Table II: VMT Mitigations

VMT Measurement	*TCAG Base Year No Plan VMT Results (Entire Region)* [1]	*TCAG Horizon Year plus Plan VMT Results (Study Area)* [1]	*Reduction in VMT from Mitigations*[2]	*VMT After Mitigations*	*Significant VMT Impact After VMT Mitigations?*
VMT per Capita	14.51	6.12	0.62	5.50	No
VMT per Employee	11.92	11.74	1.19	10.55	No
VMT per Service Population	23.52	24.48	2.48	22.00	No

Note: 1 = VMT Results from TCAG Model
2 = VMT Mitigations calculated using CAPCOA's VMT Mitigation Guidelines

Conclusions

- Per the TCAG model, the VMT output for the Base Year No Plan (Entire Region) is 14.51 VMT per Capita, 11.92 VMT per Employee and 23.52 VMT per Service Population.
- Per the TCAG model, the VMT output for the Horizon Year plus Plan (Plan Area) is 6.12 VMT per Capita, 11.74 VMT per Employee and 24.48 VMT per Service Population.
- Once the VMT mitigation measures are considered, the Plans VMT output is reduced by 0.62 VMT per Capita, 1.19 VMT per Employee and 2.48 VMT per Service Population.
- Therefore, the VMT of the Horizon Year plus Plan (Plan Area) is 5.50 VMT per Capita, 10.55 VMT per Employee and 22.00 VMT per Service Population after considering VMT mitigations.
- As a result, the Plan is projected to have a less than significant VMT impact in terms of VMT per Capita, the VMT per Employee and the VMT per Service Population.

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Appendix A: VMT Output

Residential VMT Calculation			
Region	Total Homebased VMT	Total Population	VMT/Capita
2022 Entire Modeling Area (No Project)	6328508	436145	14.51
2046 Project Area (Plus Project)	26062	4256	6.12
		Percent Difference	-57.8%

*Output from the TCAG Model

Non-Residential VMT Calculation			
Region	Total Homebased Work VMT	Total Employment	VMT/Employee
2022 Entire Modeling Area (No Project)	2246509	188434	11.92
2046 Project Area (Plus Project)	10752	916	11.74
		Percent Difference	-1.5%

*Output from the TCAG Model

Service Population VMT Calculation			
Region	Total VMT	Total Service Population	VMT/Service Population
2022 Entire Modeling Area (No Project)	14688740	624579	23.52
2046 Project Area (Plus Project)	126606	5172	24.48
		Percent Difference	4.1%

*Output from the TCAG Model

Appendix B: VMT Mitigation Measures

SoTu Master Plan VMT Analysis

		Land Use:	Home-Based	Work-Based	Total Service	
		Base Year 2022 Home-Based/Work-Based/Total VMT	6,328,508	2,246,509	14,688,740	
		Base Year 2022 Population/Employment/Service Population	436,145	188,434	624,579	
		Base Year 2022 VMT per Capita/Employee/Service Population	14.51	11.92	23.52	
		Cumulative Year 2046 Project Home-Based/Work-Based/Total VMT	26,062	10,752	126,606	
		Cumulative Year 2046 Project Population/Employment/Service Population	4,256	916	5,172	
		Cumulative Year 2046 Project VMT per Capita/Employee/Service Population	6.12	11.74	24.48	
		% Difference	-57.82%	-1.53%	4.09%	
Measure	VMT Mitigation	Maximum Reduction	VMT Reduction (%)	VMT Reduction (%)	VMT Reduction (%)	
		Plan/Community Scale				
		Land Use				
T-17	Improve Street Connectivity	30.00%	7.70%	7.70%	7.70%	
		Neighborhood Design				
T-18	Provide Pedestrian Network Improvement	6.40%	2.59%	2.59%	2.59%	*See later pages for calculations
T-19-A	Construct or Improve Bike Facility	0.80%	0.03%	0.03%	0.03%	*See later pages for calculations
T-19-B	Construct or Improve Bike Boulevard	0.20%	0.00%	0.00%	0.00%	
T-20	Expand Bikeway Network	0.50%	0.00%	0.00%	0.00%	*See later pages for calculations
T-21-A	Implement Conventional Carshare Program	0.15%	0.00%	0.00%	0.00%	
T-21-B	Implement Electric Carshare Program	0.18%	0.00%	0.00%	0.00%	
T-22-A	Implement Pedal (Non-Electric) Bikeshare Program	0.02%	0.00%	0.00%	0.00%	
T-22-B	Implement Electric Bikeshare Program	0.06%	0.00%	0.00%	0.00%	
T-22-C	Implement Implement Scootershare Program	0.70%	0.00%	0.00%	0.00%	
	Combined Neighborhood Design	10.00%	2.62%	2.62%	2.62%	
		Trip Reduction Programs				
T-23	Provide Community-Based Travel Planning	2.30%	0.00%	0.00%	0.00%	
		Parking Or Road Pricing/Management				
T-24	Implement Market Price Public Parking (On-Street)	30.00%	0.00%	0.00%	0.00%	
		Transit				
T-25	Extend Transit Network Coverage or Hours	4.60%	0.00%	0.00%	0.00%	
T-26	Increase Transit Service Frequency	11.30%	0.00%	0.00%	0.00%	
T-27	Implement Transit-Supportive Roadway Treatments	0.60%	0.03%	0.03%	0.03%	*See later pages for calculations
T-28	Provide Bus Rapid Transit	13.80%	0.00%	0.00%	0.00%	
T-29	Reduce Transit Fares	1.20%	0.00%	0.00%	0.00%	
	Combined Transit	15.00%	0.03%	0.03%	0.03%	
	Combined Plan/Community Scale Mitigations	***70.00%***	***10.15%***	***10.15%***	***10.15%***	
		Clean Vehicles and Fuels				
T-30	Use Cleaner-Fuel Vehicles	N/A	N/A	N/A	N/A	
		VMT Mitigation Calculations				
		Land Use:	**Home-Based**	**Work-Based**	**Total Service**	
		Base Year 2022 VMT per Capita/Employee/Service Population	14.51	11.92	23.52	
		Cumulative Year 2046 Project VMT per Capita/Employee/Service Population	6.12	11.74	24.48	
		Mitigation VMT Reduction:	-0.62	-1.19	-2.48	
		Project VMT after Mitigations:	5.50	10.55	22.00	
		Significant VMT Output?	**No**	**No**	**No**	

T-17. Improve Street Connectivity

GHG Mitigation Potential

Up to 30.0% of GHG emissions from vehicle travel in the plan/community

Co-Benefits (icon key on pg. 34)

Climate Resilience

Improving street connectivity could increase route redundancy, allowing faster and more efficient travel during extreme weather events, evacuations, or for emergency vehicles requiring access to hazard sites.

Health and Equity Considerations

Multiple active modes routing options allows vulnerable road users to choose based on perceived safety, comfort, speed, and other factors.

Measure Description

This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of vehicle intersections compared to the average intersection density in the U.S. Increased vehicle intersection density is a proxy for street connectivity improvements, which help to facilitate a greater number of shorter trips and thus a reduction in GHG emissions.

Subsector

Land Use

Locational Context

Urban, suburban

Scale of Application

Plan/Community

Implementation Requirements

Projects that increase intersection density would be building a new street network in a subdivision or retrofitting an existing street network to improve connectivity (e.g., converting cul-de-sacs or dead-end streets to grid streets).

Cost Considerations

Capital and infrastructure costs for improved street connectivity may be high. Depending on the location, losses may also be incurred through the reduction of sellable land due to the increased street footprint. Benefits come mainly from the reduction of traffic on arterial streets, which reduces congestion and allows for safer use of nonmotorized transportation, such as bikes. These outcomes, in turn, can reduce car usage, which provides costs savings to commuters and municipalities.

Expanded Mitigation Options

Pair with Measure T-18, *Provide Pedestrian Network Improvement*, to best support use of the local pedestrian network.

GHG Reduction Formula

$$A = \frac{B - C}{C} \times D = \frac{(39 / 0.6989) - 36}{36} * (-0.14) = -7.70\%$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from vehicle travel in plan/community	0–30.0	%	calculated
User Inputs				
B	Intersection density in project site with measure	[ ]	intersections per sq mile	user input
Constants, Assumptions, and Available Defaults				
C	Average intersection density	36	intersections per sq mile	Fehr & Peers 2009
D	Elasticity of VMT with respect to intersection density	-0.14	unitless	Stevens 2016

Further explanation of key variables:

- (C) – The average intersection density is based on the standard suburban intersection density in the U.S. (Fehr & Peers 2009). This density is approximately equivalent to block faces of 750 to 800 feet, or cul-de-sac–style built environments, which are appropriate for suburban areas.
- (D) – A meta-regression analysis of 15 studies found that a 0.14 percent decrease in VMT occurs for every 1 percent increase in intersection density (Stevens 2016).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The percent reduction in GHG emissions (A) is capped at 30 percent. The purpose of the 30 percent cap is to limit the influence of any single built environmental factor (such as intersection density).

Subsector Maximum

Same as (A_{max}). Measure T-17 is the only measure at the Plan/Community scale within the Land Use subsector.

Example GHG Reduction Quantification

The user reduces VMT by constructing their project with a higher intersection density than the surrounding city. In this example, the project intersection density (B) would be 72

intersections per square mile (sq mile), which would reduce GHG emissions from project VMT by 14 percent.

$$A = \frac{72 \frac{\text{int}}{\text{sq mile}} - 36 \frac{\text{int}}{\text{sq mile}}}{36 \frac{\text{int}}{\text{sq mile}}} \times -0.14 = -14\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

Sources

- Fehr & Peers. 2009. *Proposed Trip Generation, Distribution, and Transit Mode Split Forecasts for the Bayview Waterfront Project Transportation Study*.
- Stevens, M. 2016. Does Compact Development Make People Drive Less? *Journal of the American Planning Association* 83:1(7–18), DOI: 10.1080/01944363.2016.1240044. November. Available: https://www.researchgate.net/publication/309890412_Does_Compact_Development_Make_People_Drive_Less. Accessed: January 2021.

T-18. Provide Pedestrian Network Improvement

GHG Mitigation Potential

Up to 6.4% of GHG emissions from vehicle travel in the plan/community

Co-Benefits (icon key on pg. 34)

Climate Resilience

Improving pedestrian networks increases accessibility of outdoor spaces, which can provide health benefits and thus improve community resilience. This can also improve connectivity between residents and resources that may be needed in an extreme weather event.

Health and Equity Considerations

Ensure that the improvements also include accessibility features to allow for people of all abilities to use the network safely and conveniently. Ensure that sidewalks connect to nearby community assets, such as schools, retail, and healthcare.

Measure Description

This measure will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions.

Subsector

Neighborhood Design

Locational Context

Urban, suburban, rural

Scale of Application

Plan/Community

Implementation Requirements

The GHG reduction of this measure is based on the VMT reduction associated with expansion of sidewalk coverage expansion, which includes not only building of new sidewalks but also improving degraded or substandard sidewalk (e.g., damaged from street tree roots). However, pedestrian network enhancements with non-quantifiable GHG reductions are encouraged to be implemented, as discussed under *Expanded Mitigation Options*.

Cost Considerations

Depending on the improvement, capital and infrastructure costs may be high. However, improvements to the pedestrian network will increase pedestrian activity, which can increase businesses patronage and provide a local economic benefit. The local municipality may achieve cost savings through a reduction of cars on the road leading to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

When improving sidewalks, a best practice is to ensure they are contiguous and link externally with existing and planned pedestrian facilities. Barriers to pedestrian access and interconnectivity, such as walls, landscaping buffers, slopes, and unprotected crossings should be minimized. Other best practice features could include high-visibility crosswalks, pedestrian hybrid beacons, and other pedestrian signals, mid-block crossing walks, pedestrian refuge islands, speed tables, bulb-outs (curb extensions), curb ramps, signage, pavement markings, pedestrian-only connections and districts, landscaping, and other improvements to pedestrian safety (see Measure T-35, *Provide Traffic Calming Measures*).

GHG Reduction Formula

$$A = \left(\frac{C}{B} - 1\right) \times D = \left(\frac{7.32}{4.82} - 1\right) * -0.05 = -2.59\%$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from household vehicle travel in plan/community	0–6.4	%	calculated
User Inputs				
B	Existing sidewalk length in study area	[ ]	miles	user input
C	Sidewalk length in study area with measure	[ ]	miles	user input
Constants, Assumptions, and Available Defaults				
D	Elasticity of household VMT with respect to the ratio of sidewalks-to-streets	-0.05	unitless	Frank et al. 2011

Further explanation of key variables:

- (B and C) – Sidewalk length should be measured on both sides of the street. For example, if one 0.5-mile-long street has full sidewalk coverage, the sidewalk length would be 1.0 mile. If there is only sidewalk on one side of the street, the sidewalk length would be 0.5 mile. The recommended study area is 0.6 mile around the pedestrian network improvement. This represents a 6- to 10-minute walking time.
- (D) – A study found that a 0.05 percent decrease in household vehicle travel occurs for every 1 percent increase in the sidewalk-to-street ratio (Frank et al. 2011; Handy et al. 2014).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The percent reduction in GHG emissions (A) is capped at 3.4 percent, which is based on the following assumptions:

- 35.2 percent of vehicle trips are short trips (2 mile or less, average of 1.29 miles) and thus could easily shift to walking (FHWA 2019).
- 64.8 percent of vehicle trips are longer trips that are unlikely to shift to walking (2 miles or more, average of 10.93 miles) (FHWA 2019).
- So $A_{max} = \frac{35.2\% \times 1.29 \text{ miles}}{64.8\% \times 10.93 \text{ miles}} = 6.4\%$

Subsector Maximum

($\sum A_{max_{T\text{-}18 \text{ through } T\text{-}22\text{-}C}} \leq 10\%$) This measure is in the Neighborhood Design subsector. This subcategory includes Measures T-18 through T-22-C. The VMT reduction from the combined implementation of all measures within this subsector is capped at 10 percent.

Example GHG Reduction Quantification

The user reduces household VMT by improving the pedestrian network in the study area. In this example, the existing sidewalk length (B) is 9 miles, and the sidewalk length with the measure (C) would be 10 miles. With these conditions, the user would reduce GHG emissions from household VMT within the study area by 0.6 percent.

$$A = \left(\frac{10 \text{ miles}}{9 \text{ miles}} - 1\right) \times -0.05 = -0.6\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in household VMT would be the same as the percent reduction in GHG emissions (A).

Improved Public Health

Users are directed to the Integrated Transport and Health Impact Model (ITHIM) (CARB et al. 2020). The ITHIM can quantify the annual change in health outcomes associated with active transportation, including deaths, years of life lost, years of living with disability, and incidence of community and individual disease.

Sources

- California Air Resources Board (CARB), California Department of Public Health (CDPH), and Nicholas Linesch Legacy Fund. 2020. Integrated Transport and Health Impact Model. Available: https://skylab.cdph.ca.gov/HealthyMobilityOptionTool-ITHIM/#Home. Accessed: September 17, 2021.
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T-19-A. Construct or Improve Bike Facility

GHG Mitigation Potential

Up to 0.8% of GHG emissions from vehicles parallel roadways

Co-Benefits (icon key on pg. 34)

Climate Resilience

Constructing and improving bike facilities can incentivize more bicycle use and decrease vehicle use, which have health benefits and can thus improve community resilience. This can also improve connectivity between residents and resources that may be needed in an extreme weather event.

Health and Equity Considerations

Prioritize low-income and underserved areas and communities with lower rates of vehicle ownership or fewer transit options. Make sure that the bicycle facility connects to a larger existing bikeway network that accesses destinations visited by low-income or underserved communities.

Measure Description

This measure will construct or improve a single bicycle lane facility (only Class I, II, or IV) that connects to a larger existing bikeway network. Providing bicycle infrastructure helps to improve biking conditions within an area. This encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When constructing or improving a bicycle facility, a best practice is to consider local or state bike lane width standards. A variation of this measure is provided as T-19-B, *Construct or Improve Bike Boulevard*.

Subsector

Neighborhood Design

Locational Context

Urban, suburban

Scale of Application

Plan/Community. This measure reduces VMT on the roadway segment parallel to the bicycle facility (i.e., the corridor). An adjustment factor is included in the formula to scale the VMT reduction from the corridor level to the plan/community level.

Implementation Requirements

The bicycle lane facility must be either Class I, II, or IV. Class I bike paths are physically separated from motor vehicle traffic. Class IV bikeways are protected on-street bikeways, also called cycle tracks. Class II bike lanes are striped bicycle lanes that provide exclusive use to bicycles on a roadway.

Cost Considerations

Capital and infrastructure costs for new bike facilities may be high. The local municipality may achieve cost savings through a reduction of cars on the road leading to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

Implement alongside Measures T-22-A, T-22-B, and/or T-22-C to ensure that micromobility users can ride safely along bicycle lane facilities and not have to ride along pedestrian infrastructure, which is a risk to pedestrian safety.

GHG Reduction Formula

$$A = -B \times \frac{\frac{F}{I} \times (C + D) \times E \times G}{H} = -.88 * \frac{(320 / 365) * (0.0019 + 0.0) * 1 * 2.2}{11.7} = -0.03\%$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from displaced vehicles on roadway parallel to bicycle facility	0–0.8	%	calculated
User Inputs				
B	Percent of plan/community VMT on parallel roadway	0–100	%	user input
C	Active transportation adjustment factor	Table T-19.1	unitless	CARB 2020
D	Credits for key destinations near project	Table T-19.2	unitless	CARB 2020
E	Growth factor adjustment for facility type	Table T-19.3	unitless	CARB 2020
Constants, Assumptions, and Available Defaults				
F	Annual days of use of new facility	Table T-19.4	days per year	NOAA 2017
G	Existing regional average one-way bicycle trip length	Table T-10.1	miles per trip	FHWA 2017
H	Existing regional average one-way vehicle trip length	Table T-10.1	miles per trip	FHWA 2017
I	Days per year	365	days per year	standard

Further explanation of key variables:

- (B) – The percent of total plan/community VMT within the roadway parallel to the bike facility should represent the expected total VMT generated by all land use in that area, including office, residences, retail, schools, and other uses. The most appropriate source for this data is from a local travel demand forecasting model. An alternate method uses VMT per worker or VMT per resident as calculated for SB 743 compliance and screening purposes multiplied by the population in the area.
- (C, D, and E) – The active transportation adjustment factor, key destination credit, and growth factor adjustment should be looked up by the user in Tables T-19.1 through T-19.3 in Appendix C. The active transport adjustment factor is based on the existing annual average daily traffic (AADT) of the facility, length of the proposed bike facility, and the city population. The key destination credit is based on the number of key destinations within 0.5-mile of the facility. The growth factor is based on the type of proposed bicycle facility.
- (F) – The annual days of use for the new facility should be looked up by users in Table T-19.4 based on the county in which the project is located. The days of use is based on the number of days per year where there is no rainfall (i.e., <=0.1 inches) (NOAA 2017).

- (G and H) – Ideally, the user will calculate bicycle and vehicle trip lengths for the corridor at a scale no larger than the surrounding census tract. Potential data sources include the U.S. Census, California Household Travel Survey (preferred), or local survey efforts. If the user is not able to provide a project-specific value using one of these data sources, they have the option to input regional average one-way bicycle and vehicle trip lengths for one of the six most populated CBSAs in California provided in Table T-10.1 in Appendix C (FHWA 2017).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) For projects that use CBSA data from Table T-10.1 in Appendix C, the maximum percent reduction in GHG emissions (A) is 0.8 percent. This is based on a neighborhood project the size of a large corridor (B = 100%) within the CBSA of Sacramento-Roseville-Arden-Arcade that uses the highest values for (C, D, and E) in Tables T-19.1 through T-19.3 and annual use days for Sacramento County (F) in Table T-19.4. This maximum scenario is presented in the below example quantification.

(C_{max}) The active transportation adjustment factor (C) was determined for roadways with AADT ranging from 1 to 30,000 (CARB 2020). Roadways with AADT greater than 30,000 are generally not appropriate for bicycle facilities. Care should be taken by the user in interpreting the results from this equation for a project roadway with AADT greater than 30,000.

Subsector Maximum

($\sum A_{max_{T\text{-}18 \text{ through } T\text{-}22\text{-}C}} \leq 10\%$) This measure is in the Neighborhood Design subsector. This subcategory includes Measures T-18 through T-22-C. The VMT reduction from the combined implementation of all measures within this subsector is capped at 10 percent.

Example GHG Reduction Quantification

The user reduces VMT by constructing a bicycle facility that displaces vehicle trips with bicycle trips. In this example, the following assumptions are made to obtain inputs from Tables T-19.1 through T-19.3 in Appendix C:

- Percent of plan/community VMT on parallel roadway (B) = 100%. The project would establish a bike corridor the whole length of a central commercial thoroughfare. It is assumed this main street makes up the entire neighborhood.
- Active transportation adjustment factor (C) = 0.0207. Existing AADT on the roadway parallel to the proposed bicycle facility is 10,000, the facility length is 2.5 miles, and the project site is in a university town with a population of 200,000.
- Key destination credit (D) = 0.003. There are 10 key destinations within 0.25 mile of the project site.
- Growth factor adjustment (E) = 1.54. The bike facility would be a new Class IV bikeway.

The project is within the Sacramento-Roseville-Arden-Arcade CBSA and the user does not have project-specific values for average bicycle and vehicle trip lengths. Accordingly, the inputs of 2.9 miles and 10.9 miles, respectively (G and H), from Table T-10.1 in Appendix C are assumed. The user would displace GHG emissions from project study area VMT by 0.8 percent.

$$A = -100\% \times \left(\frac{\frac{307 \text{ days}}{365 \text{ days}} \times (0.0207 + 0.003) \times 1.54 \times 2.9 \text{ miles}}{10.9 \text{ miles}} \right) = -0.8\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

Improved Public Health

Users are directed to the ITHIM (CARB et al. 2020). The ITHIM can quantify the annual change in health outcomes associated with active transportation, including deaths, years of life lost, years of living with disability, and incidence of community and individual disease.

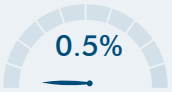
Sources

- California Air Resources Board (CARB). 2020. *Quantification Methodology for the Strategic Growth Council's Affordable Housing and Sustainable Communities Program*. September. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/auctionproceeds/draft_sgc_ahsc_qm_091620.pdf. Accessed: January 2021.
- California Air Resources Board (CARB), California Department of Public Health (CDPH), and Nicholas Linesch Legacy Fund. 2020. Integrated Transport and Health Impact Model. Available: https://skylab.cdph.ca.gov/HealthyMobilityOptionTool-ITHIM/#Home. Accessed: September 17, 2021.
- Federal Highway Administration (FHWA). 2017. *National Household Travel Survey–2017 Table Designer*. Travel Day PT by TRPTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.

- National Oceanic and Atmospheric Administration (NOAA). 2021. *Global Historical Climatology Network–Daily (GHCN-Daily), Version 3*. 2015-2019 Average of Days Per Year with Precipitation >0.1 Inches. Available: https://www.ncei.noaa.gov/access/search/data-search/daily-summaries?bbox=38.922,-120.071,38.338,-119.547&place=County:1276&dataTypes=PRCP&startDate=2015-01-01T00:00:00&endDate=2019-01-01T23:59:59. Accessed: May 2021.

T-20. Expand Bikeway Network

GHG Mitigation Potential



Up to 0.5% of GHG emissions from vehicle travel in the plan/community

Co-Benefits (icon key on pg. 34)

Climate Resilience

Expanding bikeway networks can incentivize more bicycle use and decrease vehicle use, which have health benefits and can thus improve community resilience. This can also improve connectivity between residents and resources that may be needed in an extreme weather event.

Health and Equity Considerations

Prioritize low-income and underserved areas and communities with lower rates of vehicle ownership or fewer transit options. Make sure that destinations visited by low-income or underserved communities are served by the network.

Measure Description

This measure will increase the length of a city or community bikeway network. A bicycle network is an interconnected system of bike lanes, bike paths, bike routes, and cycle tracks. Providing bicycle infrastructure with markings and signage on appropriately sized roads with vehicle traffic traveling at safe speeds helps to improve biking conditions (e.g., safety and convenience). In addition, expanded bikeway networks can increase access to and from transit hubs, thereby expanding the "catchment area" of the transit stop or station and increasing ridership. This encourages a mode shift from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When expanding a bicycle network, a best practice is to consider bike lane width standards from local agencies, state agencies, or the National Association of City Transportation Officials' *Urban Bikeway Design Guide*.

Subsector

Neighborhood Design

Locational Context

Urban, suburban

Scale of Application

Plan/Community

Implementation Requirements

The bikeway network must consist of either Class I, II, or IV infrastructure.

Cost Considerations

Capital and infrastructure costs for expanding the bikeway network may be high. Construction of these facilities may also increase vehicle traffic, leading to more congestion and temporarily longer trip times for motorist. However, the local municipality may achieve cost savings through a reduction of cars on the road leading to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

As networks expand, ensure safe, secure, and weather-protected bicycle parking facilities at origins and destinations. Also, implement alongside T-22-A, T-22-B, and/or T-22-C to ensure that micromobility options can ride safely along bicycle lane facilities and not have to ride along pedestrian infrastructure, which is a risk to pedestrian safety.

GHG Reduction Formula

$$A = -1 \times \frac{\left(\frac{C - B}{B}\right) \times D \times F \times H}{E \times G} = -1 * \frac{\frac{(5.05 - 2.75)}{2.75} * 0.0006 * 2.2 * 0.25}{0.9688 * 11.7} = 0.00\%$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from employee commute vehicle travel in plan/community	0–0.5	%	calculated
User Inputs				
B	Existing bikeway miles in plan/community	[ ]	miles	user input
C	Bikeway miles in plan/community with measure	[ ]	miles	user input
Constants, Assumptions, and Available Defaults				
D	Bicycle mode share in plan/community	Table T-20.1	%	FHWA 2017
E	Vehicle mode share in plan/community	Table T-3.1	%	FHWA 2017
F	Average one-way bicycle trip length in plan/community	Table T-10.1	miles per trip	FHWA 2017
G	Average one-way vehicle trip length in plan/community	Table T-10.1	miles per trip	FHWA 2017
H	Elasticity of bike commuters with respect to bikeway miles per 10,000 population	0.25	unitless	Pucher & Buehler 2011

Further explanation of key variables:

- (B) – The existing bikeway miles in a plan/community should be calculated by measuring the distance of all Class I, II, III, and IV bikeways within the plan/community. This information can sometimes be found in a city's bicycle master plan, if a plan has been prepared and is up to date.
- (D, E, F, and G) – Ideally, the user will calculate bicycle and auto mode share and trip length for a plan/community at the city scale. Potential data sources include the California Household Travel Survey (preferred) or local survey efforts. If the user is not able to provide a project-specific value using one of these data sources, they have the option to input the mode shares and trip lengths for bicycles and vehicles for one of the six most populated CBSAs in California, as presented in Table T-3.1, T-10.2, and T-20.1 in Appendix C. Trip lengths are likely to be longer for areas not covered by the listed CBSAs, which represent the denser areas of the state. Similarly, it is likely for areas outside of the area covered by the listed CBSAs to have vehicle mode shares higher and bicycle mode shares lower than the values provided in the tables.
- (H) – A multivariate analysis of the impacts of bike lanes on cycling levels in the 100 largest U.S. cities found that a 0.25 percent increase in commute cycling occurs for every 1 percent increase in bike lane distance (Pucher & Buehler 2011).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) For projects that use CBSA data from Tables T-3.1, T-10.2, and T-20.1 in Appendix C, the maximum percent reduction in GHG emissions (A) is 0.5 percent. This is based on a project within the CBSA of San Jose-Sunnyvale-Santa Clara that has no existing bike lane infrastructure. This maximum scenario is presented in the below example quantification.

($\left(\frac{C-B}{B}\right)_{max}$) The maximum percent increase in bike lane miles in the plan/community is conservatively capped at 1000 percent. If there is no existing bike lane infrastructure in the plan/community, (B) should be set to (1/11×C), resulting in a percentage change of 1000 percent.

Subsector Maximum

($\sum A_{max_{T\text{-}18 \text{ through } T\text{-}22\text{-}C}} \leq 10\%$) This measure is in the Neighborhood Design subsector. This subcategory includes Measures T-18 through T-22-C. The VMT reduction from the combined implementation of all measures within this subsector is capped at 10 percent.

Example GHG Reduction Quantification

The user reduces employee commute VMT by increasing the length of a bicycle network within a plan/community, which displaces commute vehicle trips with bicycle trips. In this example, the existing bikeway length in the plan/community (B) is 0 miles and the length with the measure (C) is 11 miles. The project is within the San Jose-Sunnyvale-Santa Clara CBSA, yielding the following inputs from Tables T-3.1, T-10.2, and T-20.1 in Appendix C.

- Bicycle mode share (D) = 0.79 percent.
- Vehicle mode share (E) = 91.32 percent.
- Average one-way bicycle trip length (F) = 2.8 miles.
- Average one-way vehicle trip length (G) = 11.5 miles.

The user would displace GHG emissions from project study area employee commute VMT by 0.5 percent.

$$A = -1 \times \left(\frac{(1000\%) \times 0.79\% \times 2.8 \text{ miles} \times 0.25}{91.32\% \times 11.5 \text{ miles}} \right) = -0.5\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an

adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in employee commute VMT would be the same as the percent reduction in GHG emissions (A).

Improved Public Health

Users are directed to the ITHIM (CARB et al. 2020). The ITHIM can quantify the annual change in health outcomes associated with active transportation, including deaths, years of life lost, years of living with disability, and incidence of community and individual disease.

Sources

- California Air Resources Board (CARB), California Department of Public Health (CDPH), and Nicholas Linesch Legacy Fund. 2020. Integrated Transport and Health Impact Model. Available: https://skylab.cdph.ca.gov/HealthyMobilityOptionTool-ITHIM/#Home. Accessed: September 17, 2021.
- Federal Highway Administration (FHWA). 2017. *National Household Travel Survey – 2017 Table Designer*. Travel Day PMT by TRPTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.
- Pucher, J., and Buehler, R. 2011. *Analysis of Bicycling Trends and Policies in Large North American Cities: Lessons for New York.* March. Available: http://www.utrc2.org/sites/default/files/pubs/analysis-bike-final_0.pdf. Accessed: January 2021.

T-27. Implement Transit-Supportive Roadway Treatments

GHG Mitigation Potential

Up to 0.6% of GHG emissions from vehicle travel in the plan/community

Co-Benefits (icon key on pg. 34)

Climate Resilience

Implementing transit-supportive roadway treatments improves the reliability of the transportation network and allows redundancy to exist even if an extreme event disrupts part of the system. It could also incentivize more people to use transit, resulting in less traffic and better allowing emergency responders to access a hazard site during an extreme weather event. Furthermore, emergency responders can use queue jumps and dedicated bus lanes when needed.

Health and Equity Considerations

Transit facilities can have conflicts with cyclists. Consider appropriate treatments to minimize conflicts. Improved transit investments should be equitably distributed prioritizing areas with transit deficiencies in underserved communities.

Measure Description

This measure will implement transit-supportive treatments on the transit routes serving the plan/community. Transit-supportive treatments incorporate a mix of roadway infrastructure improvements and/or traffic signal modifications to improve transit travel times and reliability. This results in a mode shift from single occupancy vehicles to transit, which reduces VMT and the associated GHG emissions.

Subsector

Transit

Locational Context

Urban, suburban

Scale of Application

Plan/Community

Implementation Requirements

Treatments can include transit signal priority, bus-only signal phases, queue jumps, curb extensions to speed passenger loading, and dedicated bus lanes.

Cost Considerations

Costs and savings of transit-supportive roadway treatments vary depending on the strategy pursued, ranging from low-cost route optimization changes to high-cost infrastructure projects (e.g., bus-only lanes). Reducing route cycle time without significantly increasing the number of transit vehicles can result in net cost savings for the transit system. Dedicated transit infrastructure will improve transit reliability and increase ridership. This supplements existing transit income streams for municipalities. Increased ridership similarly reduces vehicle use, which has cost benefits for both commuters and municipalities.

Expanded Mitigation Options

This measure could be paired with other Transit subsector strategies (Measure T-25 and Measure T-29) for increased reductions.

GHG Reduction Formula

$$A = -1 \times \frac{B \times C \times D \times E \times G}{F} = -1 * \frac{1 * -0.08 * -0.40 * 0.0137 * 0.578}{0.9688} = -0.03\%$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from vehicle travel in plan/community	0–0.6	%	calculated
User Inputs				
B	Percent of plan/community transit routes that receive treatments	0–100	%	user input
Constants, Assumptions, and Available Defaults				
C	Percent change in transit travel time due to treatments	-10	%	TRB 2007
D	Elasticity of transit ridership with respect to transit travel time	-0.4	unitless	TRB 2007
E	Transit mode share in plan/community	Table T-3.1	%	FHWA 2017a
F	Vehicle mode share in plan/community	Table T-3.1	%	FHWA 2017a
G	Statewide mode shift factor	57.8	%	FHWA 2017b

Further explanation of key variables:

- (C) – A literature review of studies from the U.S. and United Kingdom indicates that the travel time savings associated with one type of transit-supportive roadway treatment—transit signal prioritization—typically ranged from 8 to 12 percent (TRB 2007). To account for the likelihood that a user would implement multiple transit-supportive treatments, the midpoint of this range is used for the measure formula. Use of the midpoint is still conservative given the additional travel time savings associated with other transit-supportive treatments. If the user can provide a project-specific value based on the suite of their treatments, then the user should replace this default in the GHG reduction formula.
- (E and F) – Ideally, the user will calculate transit and auto mode shares for a plan/community at the city scale (or larger). Potential data sources include the California Household Travel Survey (preferred) or local survey efforts. If the user is not able to provide a project-specific value using one of these data sources, they have the option to input the mode shares for transit and vehicles for one of the six most populated CBSAs in California, as presented in Table T-3.1 in Appendix C. It is likely for areas outside of the area covered by the listed CBSAs to have vehicle mode shares higher and transit mode shares lower than the values provided in the table.

- (G) – Mode shift factor is an adjustment to reflect the reduction in vehicle trips associated with a reduction in person trips as some vehicles carry more than one person. It is calculated as (1/average vehicle occupancy) (FHWA 2017b).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) For projects that use default CBSA data from Table T-3.1 and (C_{max}), the maximum percent reduction in GHG emissions (A) is 0.6 percent. This maximum scenario is presented in the below example quantification.

(C_{max}) The percent reduction in transit travel time is capped at 20 percent, which is based on the values reported in a literature review of studies from the U.S. and United Kingdom (TRB 2007).

Subsector Maximum

($\sum A_{max_{T\text{-}25 \text{ through } T\text{-}29}} \leq 15\%$) This measure is in the Transit subsector. This subcategory includes Measures T-25 through T-29. The VMT reduction from the combined implementation of all measures within this subsector is capped at 15 percent.

Mutually Exclusive Measures

If the user selects Measure T-28, *Provide Bus Rapid Transit*, and converts all transit routes in the plan/community to BRT, then the user cannot also take credit for this measure or Measure T-26, *Increase Transit Service Frequency*. This is because Measure T-28 accounts for the VMT reduction associated with increased transit frequency and decreased transit travel time as well as the additional BRT-specific bonus. To combine the GHG reductions from Measure T-28 with Measure T-27 and/or Measure T-26 would be considered double counting. However, where BRT is proposed on less than all of the existing bus routes in the plan/community area, this measure and/or Measure T-26 could be applied to the remaining bus routes, and the measure reductions could be combined with Measure T-28 to determine the emissions reduction at the larger plan/community scale.

Example GHG Reduction Quantification

The user reduces plan/community GHGs by implementing transit-supportive roadway treatments that decrease transit travel time, thereby encouraging a mode shift from vehicles to transit and reducing VMT. In this example, the project is in San Francisco-Oakland-Hayward CBSA where the transit and vehicle mode shares would be 11.38 percent and 86.96 percent, respectively (E and G). Assuming the maximum decrease in transit travel time of 20 percent (C_{max}) and implementation for all transit routes (100 percent) in the plan/community (B), the user would reduce plan/community GHG emissions from VMT by 0.6 percent.

$$A = -1 \times \frac{100\% \times -20\% \times -0.4 \times 11.38\% \times 57.8\%}{86.96\%} = -0.6\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in passenger vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in passenger VMT would be the same as the percent reduction in GHG emissions (A).

Sources

- Federal Highway Administration (FHWA). 2017a. *National Household Travel Survey–2017 Table Designer*. Travel Day PMT by TRPTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.
- Federal Highway Administration (FHWA). 2017b. *National Household Travel Survey–2017 Table Designer*. Average Vehicle Occupancy by HHSTFIPS. Available: https://nhts.ornl.gov/. Accessed: January 2021.
- Transportation Research Board (TRB). 2007. *Transit Cooperative Research Program Report 118: Bus Rapid Transit Practitioner's Guide*. Available: https://nacto.org/docs/usdg/tcrp118brt_practitioners_kittleson.pdf. Accessed: January 2021.

7.7 Appendix G: Early Consultation Letters

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

July 26, 2023

Jason Ridenour
City of Porterville
Community Development Department
291 N. Main Street
Porterville, CA 93257

Project: South of the Tule River Master Plan

District CEQA Reference No: 20230611

Dear Mr. Ridenour:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Master Plan from the City of Porterville (City) for the South of the Tule River Master Plan (SoTu Master Plan) project. Per the project documentation, the project consists of changing the designated land uses and zone districts of approximately 447.30 acres of land of the selected parcels from their current land use designations and zone districts to a variety of different uses that include varying densities of residential uses, office uses, commercial uses, industrial uses, and open space uses (Project). The Project is generally bound to the north by the Tule River, to the south by State Route 190, to the east by State Route 65, and to the West by Westwood Street in Porterville, CA.

The District offers the following comments regarding the Project:

1) Land Use Planning

Nearly all development projects within the San Joaquin Valley Air Basin, from general plans to individual projects have the potential to generate air pollutants, making it more difficult to attain state and federal ambient air quality standards. Land use decisions are critical to improving air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence transportation needs, and motor vehicle emissions are the largest source of air pollution in the Valley. Land use decisions and project design elements such as preventing urban sprawl, encouraging mix-use development, and project design elements that reduce vehicle miles traveled (VMT) have proven to be beneficial for air quality. The District recommends that the MND incorporate strategies that reduce VMTs and require the cleanest available heavy duty trucks, vehicles, and off-road equipment, including

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zero and near-zero technologies. VMTs can be reduced through encouragement of mix-use development, walkable communities, etc. Additional design element options can be found at:
https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

In addition, the District recommends that the MND incorporate strategies that will advance implementation of the best practices listed in Tables 5 and 6 of California Air Resource Board's (CARB's) Freight Handbook Concept Paper, to the extent feasible. This document compiles best practices designed to address air pollution impacts as "practices" which may apply to the siting, design, construction, and operation of freight facilities to minimize health impacts on nearby communities. The concept paper is available at:
https://ww2.arb.ca.gov/sites/default/files/2020-03/2019.12.12%20-%20Concept%20Paper%20for%20the%20Freight%20Handbook_1.pdf

2) Project Siting

The SoTu Master Plan is the blueprint for future growth and provides guidance for the community's development. Without appropriate mitigation and associated policy, future development projects within the City may contribute to negative impacts on air quality due to increased traffic and ongoing operational emissions. Appropriate project siting helps ensure there is adequate distance between differing land uses, which can prevent or reduce localized and cumulative air pollution impacts from business operations that are in close proximity to receptors (e.g., residences, schools, health care facilities, etc.). SoTu Master Plan siting-related goals, policies, and objectives should include measures and concepts outlined in the following resources:

- CARB's Air Quality and Land Use Handbook: A Community Health Perspective. The document includes tables with recommended buffer distances associated with various types of common sources (e.g., distribution centers, chrome platers, gasoline dispensing facilities, etc.), and can be found at: https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources

- CARB's Freight Handbook Concept Paper: This document compiles best practices designed to address air pollution impacts, which may apply to the siting, design, construction, and operation of freight facilities to minimize health impacts on nearby communities, and can be found at: https://ww2.arb.ca.gov/sites/default/files/2020-03/2019.12.12%20-%20Concept%20Paper%20for%20the%20Freight%20Handbook_1.pdf

3) Project Related Emissions

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM2.5) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM10, PM2.5 standards.

As such, the District recommends that the MND stipulate that future development projects within the SoTu Master Plan identify and characterize project construction and operational air emissions. The District recommends the air emissions be compared to the District significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://www.valleyair.org/transportation/GAMAQI.pdf. The District recommends that future projects be mitigated to the extent feasible, and that future projects with air emissions above the aforementioned thresholds be mitigated to below these thresholds.

The District understands that the SoTu Master Plan is a program-level project where future individual project-specific data may not be available at this time. As such, the Master Plan should include a discussion of policies, which when implemented, will require assessment and characterization of project-level emissions, and subsequently require mitigation of air quality impacts to the extent feasible at the individual project-specific level. Environmental reviews of potential impacts on air quality should incorporate the following items:

3a) Construction Emissions

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should require that future development projects utilize the cleanest available off-road construction equipment, including the latest tier equipment.

3b) Operational Emissions

Operational (ongoing) air emissions from mobile sources and stationary sources should be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://www.valleyair.org/transportation/GAMAQI.pdf.

Recommended Mitigation Measure: At a minimum, project related impacts on air quality should be reduced to levels of significance through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks

and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at: https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

3c) Project Trip Length for HHD Truck Travel

The City's environmental review should adequately characterize and justify an appropriate trip length distance for off-site HHD truck travel to and from the Project site. Based on the following factors: 1) the Project includes zoning for industrial space that is expected to generate a high volume of HHD truck trips, and 2) HHD trucks generally travel further distances for distribution. The District recommends the environmental review include a discussion characterizing an appropriate trip length distance for HHD truck travel, and reflect such appropriate distance supported by project-specific factors.

3d) Recommended Model for Quantifying Air Emissions

Project-related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

4) Health Risk Screening/Assessment

The District understands that the Project is a program-level project where future individual project-specific data may not be available at this time. As such, the City should incorporate a requirement for future development projects to evaluate the risk on sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for future development projects. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources

of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):
A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.
To assist land use agencies and project proponents with Prioritization analyses, the District has created a prioritization calculator based on the aforementioned CAPCOA guidelines, which can be found here:
http://www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION-CALCULATOR.xls

Health Risk Assessment:
Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA. This step will ensure all components are addressed when performing the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the health impacts would exceed the District's established risk thresholds, which can be found here:
http://www.valleyair.org/transportation/ceqa_idx.htm.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources.

5) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for any future development projects with emissions that exceed 100 pounds per day of any pollutant.

An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: www.valleyair.org/ceqa.

6) Voluntary Emission Reduction Agreement

Future development projects within the SoTu Master Plan could have a significant impact on air quality. The District recommends the MND include a feasibility discussion on implementing a Voluntary Emission Reduction Agreement (VERA) as a mitigation measure for future development projects that are determined to exceed the District's CEQA significance thresholds.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated.

Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of agricultural equipment with the latest generation technologies.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

7) Allowed Uses Not Requiring Project-Specific Discretionary Approval

In the event that the City determines that a project be approved as an allowed use not requiring a project-specific discretionary approval, the District recommends the MND include language requiring such projects to prepare a technical assessment, in consultation with the District, to determine if additional analysis and/or mitigation is required.

8) Truck Routing

Truck routing involves the assessment of which roads Heavy Heavy-Duty (HHD) trucks take to and from their destination, and the emissions impact that the HHD trucks may have on residential communities and sensitive receptors. Since the Project includes industrial uses, there is potential for an increase in HHD truck trips in the area.

The District recommends the City evaluate HHD truck routing patterns for future development projects, with the aim of limiting exposure of residential communities and sensitive receptors to emissions. This evaluation would consider the current truck routes, the quantity and type of each truck (e.g., Medium Heavy-Duty, HHD, etc.), the destination and origin of each trip, traffic volume correlation with the time of day or the day of the week, overall Vehicle Miles Traveled (VMT), and associated exhaust emissions. The truck routing evaluation would also identify alternative truck routes and their impacts on VMT and air quality.

9) Cleanest Available Heavy-Duty Trucks

The San Joaquin Valley will not be able to attain stringent health-based federal air quality standards without significant reductions in emissions from HHD trucks, the

single largest source of NOx emissions in the San Joaquin Valley. The District's CARB-approved 2018 PM2.5 Plan includes significant new reductions from HHD trucks, including emissions reductions by 2023 through the implementation of CARB's Statewide Truck and Bus Regulation, which requires truck fleets operating in California to meet the 2010 standard of 0.2 g-NOx/bhp-hr by 2023. Additionally, to meet federal air quality attainment standards, the District's Plan relies on a significant and rapid transition of HHD fleets to zero or near-zero emissions technologies.

The Project includes industrial space which is expected to generate high volumes of HHD truck trips. For future development projects, the District recommends that the following measures be considered by the City to reduce project-related operational emissions:

- *Recommended Measure*: Fleets associated with operational activities utilize the cleanest available HHD trucks, including zero and near-zero technologies.

- *Recommended Measure*: All on-site service equipment (cargo handling, yard hostlers, forklifts, pallet jacks, etc.) utilize zero-emissions technologies.

10) Reduce Idling of Heavy-Duty Trucks

The goal of this strategy is to limit the potential for localized PM2.5 and toxic air contaminant impacts associated with the idling of Heavy-Duty trucks. The diesel exhaust from idling has the potential to impose significant adverse health and environmental impacts.

The Project includes industrial space which is expected to result in HHD truck trips, the District recommends the MND include measures to ensure compliance of the state anti-idling regulation (13 CCR § 2485 and 13 CCR § 2480) and discuss the importance of limiting the amount of idling, especially near sensitive receptors. In addition, the District recommends the City consider the feasibility of implementing a more stringent 3-minute idling restriction and requiring appropriate signage and enforcement of idling restrictions.

11) Electric On-Site Off-Road and On-Road Equipment

Since the Project includes industrial zoning, future development projects may have the potential to result in increased use of off-road equipment (e.g., forklifts) and on-road equipment (e.g., mobile yard trucks with the ability to move materials). The District recommends that the MND include requirements for project proponents to utilize electric or zero emission off-road and on-road equipment.

12) Under-fired Charbroilers

Future development projects have the potential to occupy restaurants with under-fired charbroilers. Such charbroilers may pose the potential for immediate health risk, particularly when located in densely populated areas or near sensitive receptors.

Since the cooking of meat can release carcinogenic PM2.5 species, such as polycyclic aromatic hydrocarbons, controlling emissions from new under-fired charbroilers will have a substantial positive impact on public health. The air quality impacts on neighborhoods near restaurants with under-fired charbroilers can be significant on days when meteorological conditions are stable, when dispersion is limited and emissions are trapped near the surface within the surrounding neighborhoods. This potential for neighborhood-level concentration of emissions during evening or multi-day stagnation events raises air quality concerns.

Furthermore, reducing commercial charbroiling emissions is essential to achieving attainment of multiple federal PM2.5 standards. Therefore, the District recommends that the MND include a measure requiring the assessment and potential installation, as technologically feasible, of particulate matter emission control systems for new large restaurants operating under-fired charbroilers.

The District is available to assist the City and project proponents with this assessment. Additionally, the District is currently offering substantial incentive funding that covers the full cost of purchasing, installing, and maintaining the system during a demonstration period covering two years of operation. Please contact the District at (559) 230-5800 or technology@valleyair.org for more information, or visit: http://valleyair.org/grants/rctp.htm

13) Vegetative Barriers and Urban Greening

For future development projects within the Project area, and at strategic locations throughout the Project area in general, the District suggests the City consider incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residences, schools, healthcare facilities).

While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the update of gaseous pollutants. Examples of vegetative barriers include, but are not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help

improve air quality and public health in addition to enhancing the overall beautification of a community with drought tolerant, low-maintenance greenery.

14) Clean Lawn and Garden Equipment in the Community

Since the Project consists of residential, commercial, and industrial development, gas-powered lawn and garden equipment have the potential to result in an increase of NOx and PM2.5 emissions. Utilizing electric lawn care equipment can provide residents with immediate economic, environmental, and health benefits. The District recommends the Project proponent consider the District's Clean Green Yard Machines (CGYM) program which provides incentive funding for replacement of existing gas powered lawn and garden equipment. More information on the District CGYM program and funding can be found at:
http://www.valleyair.org/grants/cgym.htm
and http://valleyair.org/grants/cgym-commercial.htm.

15) On-Site Solar Deployment

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that the City consider incorporating solar power systems as an emission reduction strategy for future development projects.

16) Electric Vehicle Chargers

To support and accelerate the installation of electric vehicle charging equipment and development of required infrastructure, the District offers incentives to public agencies, businesses, and property owners of multi-unit dwellings to install electric charging infrastructure (Level 2 and 3 chargers). The purpose of the District's Charge Up! Incentive program is to promote clean air alternative-fuel technologies and the use of low or zero-emission vehicles.

The District recommends that the City and project proponents install electric vehicle chargers at project sites, and at strategic locations.

Please visit www.valleyair.org/grants/chargeup.htm for more information.

17) Nuisance Odors

While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often resulting in citizen complaints.

The City should consider all available pertinent information to determine if future development projects could have a significant impact related to nuisance odors. Nuisance odors may be assessed qualitatively taking into consideration the proposed business or industry type and its potential to create odors, as well as proximity to off-site receptors that potentially would be exposed to objectionable odors. The intensity of an odor source's operations and its proximity to receptors influences the potential significance of malodorous emissions. Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact.

According to the District Guidance for Assessing and Mitigating air Quality Impacts (GAMAQI), a significant odor impact is defined as more than one confirmed complaint per year averaged over a three-year period, or three unconfirmed complaints per year averaged over a three-year period. An unconfirmed complaint means that either the odor or air contaminant release could not be detected, or the source of the odor could not be determined.

As the future development projects that will fall within the SoTu Master Plan do not yet exist the City should and stipulate odor mitigation measures in the MND as conditions of approval for those business and industry types. An example would be for a project proponent whose project is determined to have a potentially significant odor impact to draft and implement an odor management plan as a mitigation measure in the MND.

18) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

18a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

Future development projects may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, project proponents shall obtain an ATC permit from the District for equipment/activities subject to District permitting requirements.

Recommended Mitigation Measure: For projects subject to permitting by the San Joaquin Valley Air Pollution Control District, demonstration of compliance with District Rule 2201 (obtain ATC permit from the District) shall be provided to the City before issuance of the first building permit.

For further information or assistance, project proponents may contact the District's SBA Office at (559) 230-5888.

18b) District Rule 9510 - Indirect Source Review (ISR)

Accordingly, future development projects within the SoTu Master Plan may be subject to District Rule 9510 if upon full buildout, the project would equal or exceed any of the following applicability thresholds, depending on the type of development and public agency approval mechanism:

Table 1: ISR Applicability Thresholds

Development Type	Discretionary Approval Threshold	Ministerial Approval / Allowed Use / By Right Thresholds
Residential	50 dwelling units	250 dwelling units
Commercial	2,000 square feet	10,000 square feet
Light Industrial	25,000 square feet	125,000 square feet
Heavy Industrial	100,000 square feet	500,000 square feet
Medical Office	20,000 square feet	100,000 square feet
General Office	39,000 square feet	195,000 square feet
Educational Office	9,000 square feet	45,000 square feet
Government	10,00 square feet	50,000 square feet
Recreational	20,000 square feet	100,000 square feet
Other	9,000 square feet	45,000 square feet

District Rule 9510 also applies to any transportation or transit development projects where construction exhaust emissions equal or exceed two tons of NOx or two tons of PM.

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

In the case the individual development project is subject to District Rule 9510, per Section 5.0 of the rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency so that proper mitigation and clean air design under ISR can be incorporated into the public agency's analysis.

Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

District staff is available to provide assistance and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

18c) District Rule 9410 (Employer Based Trip Reduction)

Future development projects may be subject to District Rule 9410 (Employer Based Trip Reduction) if the project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees.

Information about District Rule 9410 can be found online at: www.valleyair.org/tripreduction.htm.

For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org

18d) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)

Future development projects will be subject to District Rule 4002 since the Project will include demolition, renovation, and removal of existing structures. To protect the public from uncontrolled emissions of asbestos, this rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Any asbestos present must be handled in accordance with established work practice standards and disposal requirements.

Information on how to comply with District Rule 4002 can be found online at: http://www.valleyair.org/busind/comply/asbestosbultn.htm.

18e) District Rule 4601 (Architectural Coatings)

The Project will be subject to District Rule 4601 since it is expected to utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: http://www.valleyair.org/rules/currntrules/r4601.pdf

18f) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at:
https://www.valleyair.org/busind/comply/PM10/forms/DCP-Form.docx

Information about District Regulation VIII can be found online at:
http://www.valleyair.org/busind/comply/pm10/compliance_pm10.htm

18g) District Rule 4901 - Wood Burning Fireplaces and Heaters

The purpose of this rule is to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices. This rule establishes limitations on the installation of new wood burning fireplaces and wood burning heaters. Specifically, at elevations below 3,000 feet in areas with natural gas service, no person shall install a wood burning fireplace, low mass fireplace, masonry heater, or wood burning heater.

Information about District Rule 4901 can be found online at:
http://valleyair.org/rule4901/

18h) Other District Rules and Regulations

Future development projects may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

19) Future Projects / Land Use Agency Referral Documents

Future development projects may require an environmental review and air emissions mitigation. A project's referral documents and environmental review documents provided to the District for review should include a project summary, the land use designation, project size, air emissions quantifications and impacts, and proximity to sensitive receptors and existing emission sources, and air emissions mitigation measures. For reference and guidance, more information can be found in the District's Guidance for Assessing and Mitigating Air Quality Impacts at: https://www.valleyair.org/transportation/GAMAQI.pdf

20) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Matt Crow by e-mail at Matt.Crow@valleyair.org or by phone at (559) 230-5931.

Sincerely,

Brian Clements
Director of Permit Services

For: Mark Montelongo
Program Manager

7.8 Appendix H: Project Review Committee Comments

PROJECT REVIEW COMMITTEE

Project No: 2023-018
Subject Address: NEC of SR 190 and Westwood Street
Applicant/Agent: City of Porterville

This item has been deemed complete/incomplete pursuant to California Government Code Section §65920.

The following departments have provided their comments. Please contact the appropriate department who need additional time in preparing their comments:
☑ Engineering ☒ Planning ☑ Building ☑ Fire ☑ Field Services ☐ Parks ☐ Police

Next Level of Submittal: Zone Change, General Plan Amendment, SOI amendment,

The Project Review Committee (PRC) has reviewed project proposing a master plan for ±447 acres of land located southwest of the City of Porterville, south of the Tule River ("SoTu"). The "SoTu Master Plan" is being initiated by the City of Porterville to guide future development in the area. Although there is no physical development proposed with the SoTu Master Plan, goal is to provide the necessary framework to guide development in this area as it transitions from agricultural land to a vibrant, distinct, and multi-modal district of mixed densities and uses that is attractive to residential and visitors to live, work, explore, and shop. All comments are based upon staff's understanding of the project at the time of PRC. The following topics and requirements were discussed at the Project Review Committee (PRC) Meeting on **May 31, 2023**. Any changes upon further submittals may result in additional comments. The project shall be required to comply with State Laws, the City of Porterville Development Ordinance (PDO), adopted Building Codes and all other applicable laws and ordinances.

Applications Needed:
☒ GPA ☒ ZC ☐ CUP ☐ ANNEX ☐ LLA ☐ TPM ☐ TSM

PLANNING DIVISION COMMENTS:

The project is required to be developed and maintained in accordance with the PDO (Chapter 21 of the Municipal Code). The PDO can be found in its entirety at:
CHAPTER 21 DEVELOPMENT CODE (amlegal.com)

1. Fees for the proposed entitlements are as follows:
   - Zone Change: $1,105
   - CUP: $1,164
   - General Plan Amendment: $1,599

   - Additional Costs:

a) The requested entitlements are a discretionary action of the City Council, and as such are subject to review under the California Environmental Quality Act (CEQA).

1. The City maintains contracts with four on-call environmental consultants for use in preparing such documents. The cost to prepare this document is actual consultant cost, plus 10% for administration, plus 10% for contingencies. Filing fees with Department of Fish and Game Filing will be required and will be based on level of environmental review. Staff will share updated information once level of review is determined.

2. Noticing map and labels – 300' radius from property $26.50 Please note that it is an optional item for the City to prepare the required map and mailing

3. ** *A portion of the Property is currently outside the City's sphere of influence about and under Williamson Act.*

Engineering Comments:

4. Unless otherwise noted, the developer/applicant shall comply with the City Master Plans and Standard Drawings, Standard Specifications for Public Works Construction (2018 Edition), and Standard Plans and Specifications (2018 Standards), except where they are in conflict with current access compliance regulations, the current California Building Code, the Tulare County Hazardous Waste Management Plan, the California Manual on Uniform Traffic Control Devices, the Porterville Circulation Element, and the Tulare County Congestion Management Program.

5. The developer/applicant shall pay all applicable fees according to the Municipal Code and State law. The developer/applicant is hereby notified that you have the right to pay fees, dedications, reservations or other exactions, under protest, pursuant to Government Code Section 66020(a). You have 90 days from the date fees are paid to file a written protest.

6. The developer/applicant shall submit design master plans consisting of combined grading & drainage and sewer & water utilities to ensure the proper functioning and/or phasing at the time of development. The developer/applicant shall construct drainage facilities as required to serve the property (Ord. No. 1306). A master plan drainage basin is required to contain the area's runoff and is recommended to be integrated into the available park space. A minimum amount of runoff must be contained onsite per the State's MS4 requirements. Drainage calculations must be submitted to verify that onsite drainage area/s will capture necessary runoff. The parking lot/site shall be designed to convey water to the City drainage system without crossing driveways. The

developer/applicant is required to install a sidewalk channel drain at the low side of the driveway, where applicable.

7. The developer/applicant shall comply with driveway vehicular sight distance requirements per Section 300.16 of the Development Ordinance and driveway separation from property line per City standards. Sight distance analyses will also be required for roadways connecting to SR 190, Westwood Street, and Newcomb Street.

8. The developer/applicant shall construct bus turnouts throughout the development to be approved by the City's Transit Manager. The bus turnouts shall be located in the vicinity of the property lines separating the commercial properties from the residential property. The developer/applicant shall dedicate right-of-way necessary for the required bus turnouts.

9. The developer/applicant shall, under City inspection, remove all existing abandoned and unnecessary items, to the satisfaction of the City Engineer, before the issuance of a certificate of occupancy (for example, foundations, septic tanks, irrigation pipes, etc.).

10. The developer/applicant shall abandon existing wells, if any, after first getting an abandonment permit from the Tulare County Environmental Health Services Division. The developer/applicant is required to provide the City Engineer with proof of compliance with County regulations before performing any grading or issuance of the building permit, whichever comes first.

11. Easement(s) shall be in place that allow for mutual ingress, egress, and maintenance of the parking lot.

12. Easement(s) shall be in place that allow for mutual use of sewer and water, if applicable.

13. The developer/applicant shall dedicate right-of-way for street widths that match the ultimate width in the adopted Land Use and Circulation Element and/or the width established by the City Council, and dedication of required property for accessible ramp(s), sidewalk, etc. Area to be dedicated shall include space for the future extension of the Tule River Parkway trail system.

14. A pedestrian bridge able to support emergency vehicles shall be constructed at the Prospect Street alignment. This bridge will link the Tule River Parkway trail system north and south of the Tule River and serve as a secondary access for emergency purposes.

15. The developer/applicant shall underground all existing utility structures that exist above grade.

16. The developer/applicant shall provide 3000K LED streetlights on Marbelite poles (spaced at staggered 160' intervals) following Southern California Edison Company specifications, as approved by the City Engineer. Wood poles are expressly prohibited without prior written approval of the City Engineer.

17. The developer/applicant is advised that they are obligated to comply with the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for discharge of Storm Water Associated with construction activity (except operations that result in disturbance of less than one acre of total land area **and** which are not a part of a larger common plan of development or sale). Before construction begins the proponent must:

- Submit a Notice of Intent (NOI) to comply with the permit, a site map, and appropriate fee to the State Water Resources Control Board (SWRCB).
- Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the entire project before construction begins. The SWPPP must contain, at a minimum:
    1. All items listed in Section A of the permit.
    2. Descriptions of measures to be taken to prevent or eliminate unauthorized non-storm water discharges and **all** temporary (e.g., fiber rolls, silt fences, etc.) **and** permanent (e.g., vegetated swales, detention basins, etc.) best management practices that will be implemented to prevent pollutants from discharging with storm water into water of the United States.

<u>If</u> portions of the project area are to be sold off before the entire project is completed, the proponent must:

- Submit to the California Regional Water Quality Control Board a change of information form identifying the new owners along with a revised site map clearly depicting those portions that were sold and those that are remaining.
- Informing each new owner of their responsibility to submit their own NOI, site map, and appropriate fee to the SWRCB and prepare their own SWPPP.

18. San Joaquin Valley Air Pollution Control District (District) Adoption of Rules 9510 and 3180 – Indirect Source Review (ISR) Rules:

Effective March 21, 2018, the San Joaquin Valley Air Pollution Control District will enforce the Indirect Source Rule (ISR). ISR applies to projects that are at least:

- 250 residential units
- 10,000 square feet of commercial space
- 450,000 square feet of educational space
- 50,000 square feet of government space

- 125,000 square feet of light industrial space
- 500,000 square feet of heavy industrial space
- 100,000 square feet of medical or recreational space
- 195,000 square feet of general office space
- Or, 45,000 square feet of any land use not identified above.

Large Development Project applicants are required to submit an AIA application no later than seeking an approval from the City.
A Large Development Project is not subject to this rule, if any of the following apply:

- A final discretionary approval for the Large Development Project has been received prior to March 1, 2006; or
- The Large Development Project requires or required a discretionary approval and is subject to the rule under Section 2.1; or
- Prior to March 21, 2018, the applicant received project-level building permits, a conditional use permit, or similar approvals for the particular Large Development Project; or
- The Large Development Project qualifies as a Grandfathered Large Development Project (as defined in the rule).

For more information, the rule is available at: http://www.valleyair.org/rules/currntrules/r9510-a.pdf. You may also contact the District by called the District Technical Services at 559-230-6000.

19. If developer/applicant anticipates that interstate (extra length) trucks will service this property, then the developer/ applicant shall pay the required fee and apply for revision to the STAA Truck Route before issuance of the building permit.

20. The developer/applicant shall comply with the City Flood Damage Prevention Ordinance No. 1777 in all areas of special flood hazards (i.e., Zones A, AE, AH, AO, AR or A99) and the requirements of the Central Valley Flood Protection Board, where applicable.
    - A preliminary elevation certificate shall be provided to the City prior for review prior to the foundation forms inspection being scheduled.
    - A final elevation certificate shall be provided to the City prior to the final inspection (or any type of occupancy inspection) is scheduled.

Building Comments:
None

Fire Comments:
21. Fire only requests that there is a secondary vehicular access point, that can support fire apparatus, over the river between Newcomb and Hwy 65. Additionally, there should be

a buffer and access points for properties developed along the river to allow access for fire apparatus.

Field Services:

22. A back-flow device is required on the water meter.

23. The developer/applicant shall comply with the City standard for "backflow" prevention pursuant to Resolution No. 9615.