

Interstate 5 and Louise Avenue Interchange Improvement Project

In the City of Lathrop at the Interstate 5 and

Louise Avenue Interchange

10-SJ-5-R15.85/R17.33

10-0E550/1000000026

Initial Study with Proposed Mitigated Negative Declaration

Volume 1 of 2



Prepared by the
State of California Department of Transportation

September 2026



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in San Joaquin County in California. The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read the document. Additional copies of the document and the related technical studies are available for review at Caltrans District 10 office at 1976 East Doctor Martin Luther King, Junior Boulevard, Stockton, California 95205 from 8:00 a.m. to 5:00 p.m. from Monday through Friday.
- Additional copies of the document and the related technical studies are available for review at the Lathrop Branch Library at 450 Spartan Way, Lathrop, California 95330 during the following hours: Monday, Tuesday, and Thursday from 10:00 a.m. to 6:00 p.m.; Wednesday from 1:00 p.m. to 6:00 p.m.; Friday from 10:00 am to 5:00 p.m.; and Saturday from 12:00 p.m. to 4:00 p.m.
- This document may be downloaded at the following website:
<https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects/10-0e550>.
- Tell us what you think. If you have any comments regarding the proposed project, and/or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to: Laura Cook, Senior Environmental Scientist, District 10 Environmental Division, California Department of Transportation, 1976 East Doctor Martin Luther King, Junior Boulevard, Stockton, California 95205. Submit comments via email to: Laura.Cook@dot.ca.gov.
- Submit comments by the deadline: October 27, 2026.

What happens next:

After comments are received from the public and the reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

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10-SJ-5-R15.85/R17.33
10-0E550/1000000026

Interchange Replacement at Interstate 5 and Louise Avenue from Postmile
R15.85 to R17.33 in San Joaquin County

**INITIAL STUDY
WITH PROPOSED MITIGATED NEGATIVE DECLARATION**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 4332(2)(C)
49 USC 303 and 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation
and

City of Lathrop

Cooperating Agencies: San Joaquin Council of Governments and Federal
Highway Administration

Responsible Agency: California Transportation Commission

C Scott Guidi

C. Scott Guidi
California Department of Transportation
Office Chief, District 10 Environmental
California Department of Transportation
CEQA Lead Agency

09/17/2026

Date

The following individual can be contacted for more information about this document:
Laura Cook, 1976 East Doctor Martin Luther King, Junior Boulevard, Stockton, CA 95205;
209-662-2261; Laura.Cook@dot.ca.gov



DRAFT

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: pending

District-County-Route-Post Mile: 10-SJ-5-R15.85/17.33

EA/Project Number: 10-0E550/1000000026

Project Description

The California Department of Transportation (Caltrans), in cooperation with the City of Lathrop, proposes to implement the Interstate 5 and Louise Avenue Interchange Improvement Project (herein referred to as “project”) to replace the existing compact diamond (Type L-1) interchange at Interstate 5 and Louise Avenue from postmile R15.85 to postmile R17.33 with a diverging diamond interchange to accommodate traffic associated with growth planned in the City of Lathrop’s General Plan. Additionally, the project would include widening the existing Interstate 5 on-and off-ramps, reconstructing the undercrossing underneath the existing freeway bridge, constructing ramp metering, constructing new auxiliary lanes less than 1 mile in length, providing new traffic signals, constructing Class II bicycle lanes along Louise Avenue, and providing new sidewalks along Louise Avenue.

Determination

An Initial Study has been prepared by Caltrans District 10. On the basis of this study, it is determined that the proposed action will not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on Agriculture and Forestry Resources, Cultural Resources, Land Use and Planning, Mineral Resources, Population and Housing, Recreation, Tribal and Cultural Resources, and Wildfire.

The project would have less than significant effects to Aesthetics, Air Quality, Biology, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, and Utilities and Services.

With the implementation of mitigation measures outlined below, the project would have less than significant effects to Transportation.

MM TR-1: Prior to the approval of Final Project Design, the City would implement a preliminary site design to be approved by Caltrans for lane reductions at Harlan Road between Louise Avenue and D'Arcy Parkway as the location for the lane reduction mitigation.

Additionally, the City of Lathrop shall draft a preliminary site design to be approved by Caltrans to add 2.85 miles of Class II Bike lanes along the three following road segments:

- Harlan Road Between Louise Avenue and D'Arcy Parkway (same segment as proposed lane reduction)
- D'Arcy Parkway between Harlan Road and Yosemite Avenue
- Yosemite Avenue between D'Arcy Parkway and the Lathrop/Manteca Altamont Corridor Express Station

C. Scott Guidi
California Department of Transportation
Office Chief, District 10 Environmental
California Department of Transportation
CEQA Lead Agency

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), in cooperation with the City of Lathrop, proposes to improve local and regional circulation and reduce existing and future congestion by improving the Interstate 5 and Louise Avenue interchange through replacing the existing compact diamond (Type L-1) interchange with an diverging diamond interchange. The interchange improvements are needed to enhance traffic operations and improve traffic mobility which will accommodate future traffic demands based on planned growth in the City of Lathrop's General Plan.

Caltrans, as assigned by the FHWA, is the Lead Agency under National Environmental Policy Act (NEPA) and the lead agency under the California Environmental Quality Act (CEQA).

This project is included in the 2025 Federal Transportation Improvement Program and is proposed for funding from local funds from the City of Lathrop. It is also included in the San Joaquin Council of Governments 2022 Regional Transportation Plan and Sustainable Community Strategy Plan.

1.2 Project Location

The project is located at the existing Interstate 5 and Louise Avenue interchange in the City of Lathrop, 1.7 miles north of the Interstate 5 and State Route 120 Interchange and 1.1 miles south of the Interstate 5 and Lathrop Road Interchange. The project is southeast of the Sacramento-San Joaquin River Delta, San Joaquin County, California (see Figures 1-1 and 1-2, below).

1.3 History and Existing Setting

The Interstate 5 and Louise Avenue interchange is listed in the San Joaquin Council of Governments 2022 Regional Transportation Plan and Sustainable Communities Strategy Plan Project List as SJ07-2005. A Project Study Report-Project Development Support (PSR-PDS) document for the proposed improvements was approved in January 2008; however, the project was not implemented.

Figure 1-1: Project Vicinity Map

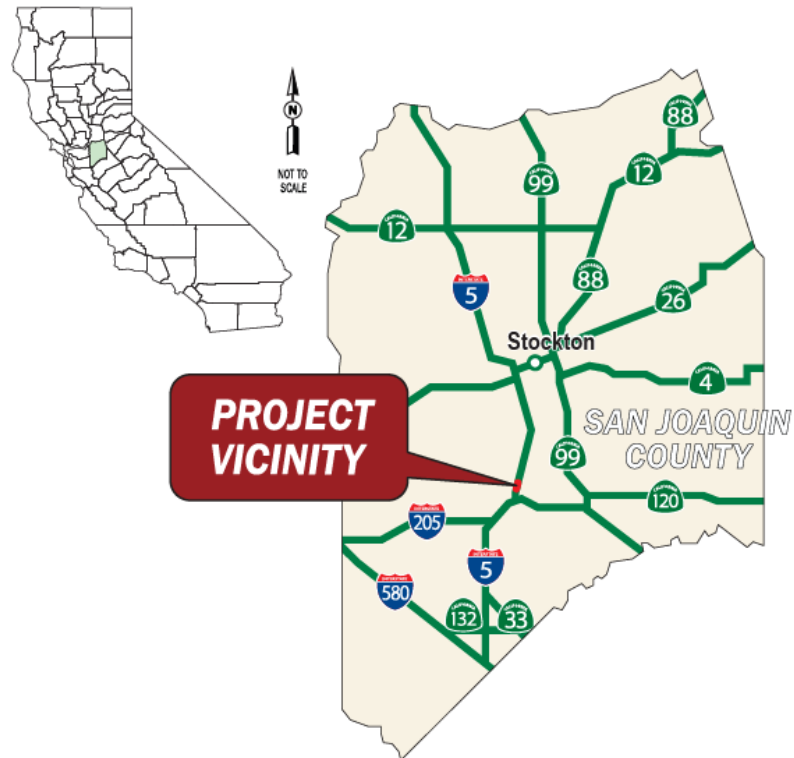


Figure 1-2: Project Location Map



The existing Interstate 5 and Louise Avenue interchange is currently a Type L-1 compact diamond configuration with single-lane on- and off-ramps. The Type L-1 Diamond Configuration is a conventional freeway interchange design where ramps connect the freeway to the crossing roadway in a diamond-shaped layout. Vehicles exiting the freeway reach signalized intersections before turning onto the local roadway. This interchange type is commonly used because it is familiar to drivers, is relatively straightforward to construct, and functions well under moderate traffic conditions.

Recent improvements to the Interstate 5 and Louise Avenue interchange have widened the ramp termini to provide additional capacity for turning movements. Within the project limits, Interstate 5 provides three travel lanes in each direction. To the east of the Interstate 5 and Louise Avenue northbound ramps, Louise Avenue is a local four-lane facility as it continues to Howland Road and the City of Manteca. To the west of the Interstate 5 and River Islands Parkway southbound ramps, River Islands Parkway has been improved to six lanes and provides access to the Mossdale Landing, River Islands, and Central Lathrop developments. Manthey Road is located approximately 200 feet west of the Interstate 5 and River Islands Parkway southbound ramp intersection. Manthey Road is a two-lane local frontage road which continues north until it dead ends just south of Lathrop Road. Golden Valley Parkway is a major arterial that parallels Interstate 5, connecting Spartan Way and Lathrop Road to the north and Sadler Oak to the south.

1.4 Purpose and Need

1.4.1 Purpose

The purpose of the project is to improve traffic operations and provide multimodal accessibility due to development approved by the City of Lathrop.

1.4.2 Need

The project is necessary because the City of Lathrop is projected to experience increased traffic demands at the Interstate 5 and Louise Avenue interchange. Significant economic growth is projected on the east and west sides of the Interstate 5 and Louise Avenue interchange; the improved interchange is needed to support traffic volumes anticipated at the interchange under future conditions to improve access to Interstate 5, east-west mobility along Louise Avenue, and multi-modal accessibility. The Louise Avenue interchange is an important link to Interstate 5 for the City of Lathrop, City of Manteca, and San Joaquin County. The projected growth in and around the City of Lathrop will put traffic demands on the existing interchange that cannot be met unless improvements are made.

The project is also needed to:

- Enhance multi-modal access and connectivity for bicycle and pedestrian traffic along Louise Avenue.
- Reduce emissions output through enhanced operations, which will reduce heavy truck idling by improving interchange throughput.

1.5 Project Description

Caltrans, in cooperation with the City of Lathrop, proposes to replace the existing compact diamond (Type L-1) interchange at Interstate 5 and Louise Avenue from postmile R15.85 to postmile R17.33 with a diverging diamond interchange at the Interstate 5 and Louise Avenue interchange, to accommodate traffic associated with growth planned in the City of Lathrop's General Plan. The diverging diamond interchange will use traffic signals at the Louise Avenue undercrossing to direct traffic lanes crossing the freeway to the left side of the roadway so that no turns crossing traffic are necessary to enter or exit Interstate 5. Additionally, the project would include widening the existing Interstate 5 on- and off-ramps, reconstructing the undercrossing underneath the existing freeway bridge, constructing ramp metering, constructing new auxiliary lanes less than 1 mile in length, providing new traffic signals, providing new sidewalks along Louise Avenue, and constructing Class II bicycle lanes along Louise Avenue. This diverging diamond interchange design allows an interchange configuration that reduces the overall footprint of the interchange.

1.6 Project Alternatives

One Build Alternative and a No-Build Alternative are being considered for the proposed project.

Although transportation system management measures alone could not satisfy the purpose and need of the project, the following transportation system management measures have been incorporated into the Build Alternative for this project: ramp metering, auxiliary lanes, and traffic signal coordination.

The proposed project would not be capacity increasing or require a major highway lane realignment. Additionally, the project does not cross a navigable river. Therefore, reversible lanes and access to navigable rivers are not discussed.

1.6.1 Build Alternative

The Build Alternative proposes to replace the existing Type L-1 compact diamond configuration (refer to Section 1.3, History and Existing Setting for definition of Type L-1) with a diverging diamond interchange. A diverging diamond interchange is an interchange design where traffic on the crossing

roadway briefly shifts to the opposite side of the road while passing through the interchange. This configuration allows vehicles to make left turns onto freeway ramps without crossing opposing traffic.

The Build Alternative would require permanent right-of-way acquisition from the parcels along Louise Avenue. Please refer to Table 1.1, Project Right of Way Acquisition.

Table 1.1 Project Right of Way Acquisition

Parcel Number	Acquisition Type	Area (square feet)	Property Type
192-040-46	Permanent	5,096	Commercial
191-760-21	Permanent	2,487	Vacant
196-270-10	Permanent	3,327	Commercial
198-210-17	Permanent	548	Commercial

The Build Alternative would include the following:

Interstate 5

- Widen the existing northbound Interstate 5 off-ramp from two 12-foot lanes to two 12-foot dedicated left-turn lanes and two 12-foot dedicated right-turn lanes.
- Widen the northbound Interstate 5 on-ramp from one 12-foot lane to two 12-foot lanes. One general-purpose lane and one high-occupancy vehicle lane would be converted to one mixed-flow lane at the entrance of Interstate 5.
- Widen the existing southbound Interstate 5 off-ramp from one 12-foot lane to two 12-foot dedicated left-turn lanes and one 12-foot dedicated right-turn lane.
- Widen the southbound Interstate 5 on-ramp from one 12-foot lane to two 12-foot general purpose lanes and one 12-foot high-occupancy vehicle bypass lane.
- Construct northbound Interstate 5 on-ramp metering.
- Construct southbound Interstate 5 on-ramp metering.
- Construct a retaining wall along the southbound Interstate 5 on-ramp.

- Provide new two-phase traffic signals (traffic signals that alternate between two directions of traffic) at the northbound and southbound Interstate 5 ramp terminals.
- Construct 0.43 mile of auxiliary lane between the southbound Lathrop Road ramp entrance to the southbound Louise Avenue ramp exit on Interstate 5.
- Construct 0.41 mile of auxiliary lane between the northbound Louise Avenue ramp entrance and the northbound Lathrop Road ramp exit on Interstate 5.

Louise Avenue

- Widen the westbound Louise Avenue approach to the northbound Interstate 5 on-ramp to accommodate three 12-foot through lanes and a 12-foot right-turn pocket lane onto the Interstate 5 on-ramp in the westbound direction.
- Widen Louise Avenue at the undercrossing within the existing prestressed concrete box beam freeway bridge structure. Prestressed concrete box beams are precast bridge components strengthened with tensioned steel strands to increase load capacity, durability, and span length. The widening would be done by using tie-back walls, which are walls with steel anchors drilled and grouted into soil or rock to provide additional support. These tie-back walls reinforce the stability of retaining walls through horizontal rods to accommodate the five 12-foot lanes, including two 12-foot westbound through lanes and a dedicated 12-foot lane on to the southbound Interstate 5 entrance ramp and two 12-foot eastbound through lanes and one 12-foot left-turn pocket lane onto the northbound Interstate 5 entrance ramp.
- Construct tie-back retaining walls along Louise Avenue underneath the existing Interstate 5 undercrossing.
- Construct a cul-de-sac that would eliminate access from Manthey Road onto Louise Avenue.
- Construct Class II bicycle lanes along Louise Avenue.
- Construct new sidewalks along eastbound and westbound Louise Avenue.

River Islands Parkway

- Widen westbound River Islands Parkway to tie into the future River Islands Parkway.

- Widen the eastbound River Islands Parkway approach to the southbound Interstate 5 on-ramp to accommodate two 12-foot through lanes and one 12-foot dedicated right-turn lane.

This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are listed later in this chapter under “Standard Measures and Best Management Practices Included in All Build Alternatives.”

1.6.2 No-Build (No-Action) Alternative

Under the No-Build Alternative, no improvements to the existing Interstate 5 and Louise Avenue Interchange would occur. This would result in continued queueing, traffic delays, and no multi-modal improvements at the Interstate 5 and Louise Avenue interchange.

1.7 Alternatives Considered but Eliminated from Further Discussion

The project also considered a partial cloverleaf/tight diamond interchange configuration, also known as a Type L1/L9 configuration. This interchange configuration would have maintained the tight-diamond interchange design on the east side of Interstate 5 and realigned on-ramps and off-ramps to incorporate a loop on-ramp to southbound Interstate 5 on the west side of Interstate 5. This alternative was eliminated because it does not offer any additional operational benefits compared to the diverging diamond interchange alternative and would require considerable right-of-way acquisition and relocation of businesses on the west side of Interstate 5. This alternative was removed from further consideration.

1.8 Standard Measures and Best Management Practices Included in All Build Alternatives

The measures in this section are associated with Caltrans and/or City of Lathrop standard specifications or standard special provisions. As a result, they are included for all projects advanced by these agencies and considered to be standard measures.

VIS-1: In conjunction with approval of plans, specifications, and estimates, the City would require the contractor to avoid removing or negatively affecting visual resources such as mature trees and shrub groupings to the extent feasible. In addition, the City would require the contractor to minimize tree and vegetation removals, especially with native trees and vegetation, to maintain the existing visual character.

VIS-2: Following completion of the project improvements, all fill slopes, temporarily impacted areas, and/or otherwise disturbed areas would be restored to preconstruction contours (as appropriate) and revegetated with the native species mix identified in the Visual Impact Memorandum (2023).

VIS-3: In conjunction with approval of plans, specifications, and estimates, the City would require the contractor to minimize fugitive light from portable sources used during construction or determine if construction adjacent to commercial properties should be limited to daylight hours to minimize impacts to sensitive viewers. Invasive exotic plants shall be controlled to the maximum extent possible.

BIO-1: The following seasonal work restrictions would be implemented during construction by a qualified biologist retained by the City to minimize potential for impacts to nesting birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code 3503:

- If work must begin during the nesting season (February 1 to August 31), a qualified biologist would survey all suitable nesting habitat in the Biological Study Area for the presence of nesting birds. This survey would occur no more than 10 days prior to the start of construction. If no nesting activity is observed, work may proceed as planned. If an active nest is discovered, a qualified biologist would evaluate the potential for the project to disturb nesting activities. The evaluation criteria would include, but are not limited to, the location or orientation of the nest in the nest tree, the distance of the nest from the Biological Study Area, the line of sight between the nest and the Biological Study Area, and the feasibility of establishing no-disturbance buffers.
- Additionally, the California Department of Fish and Wildlife would be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities.
- If work is allowed to proceed, a qualified biologist would be on site weekly during construction activities to monitor nesting activity. The biologist would have the authority to stop work if it is determined the project is adversely affecting nesting activities.

BIO-2: To avoid the introduction of invasive species into the Biological Study Area during project construction, contract specifications shall include, at a minimum, the following measures to be implemented by a qualified biologist retained by the City:

- All earthmoving equipment to be used during project construction shall be thoroughly cleaned before arriving on the project site.
- All seeding equipment (that is, hydroseed trucks) shall be thoroughly rinsed at least three times prior to beginning seeding work.

- To avoid spreading any nonnative invasive species already existing on site to off-site areas, all equipment shall be thoroughly cleaned before leaving the site.

AQ-1: The contractor would comply with Caltrans' Standard Specifications in Section 7-1.02A and 7-1.02C, Emissions Reduction, which requires contractors to comply with all laws applicable to the project and to certify that they will comply with the California Air Resources Board emission reduction regulations. Additionally, the contractor would comply with Section 14-9 for reducing air quality impacts from construction activities and Section 14-9.02, which specifically requires compliance by the contractor with all applicable air-pollution-control rules, regulations, and ordinances related to air quality, including air quality management district's rules and regulations.

AQ-2: The contractor would use Tier 4 interim or Tier 4 final engines for off-road diesel-fueled vehicles subject to 13 California Code of Regulations Section 2449 instead of the use of lower-tiered engines.

AQ-3: The contractor would comply with Air Quality Management Districts or Air Pollution Control Districts Rules on Dust Control.

AQ-4: The contractor would also implement the following measures to reduce construction-related emissions:

- Water or a dust palliative would be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line depending on local regulations.
- Soil binder would be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.
- Trucks would be washed as they leave the right-of-way as necessary to control fugitive dust emissions.
- Construction equipment and vehicles would be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations, Title 17, Section 93114.
- A dust control plan would be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Equipment and materials storage sites would be located as far away from residential and park uses as practicable. Construction areas would be kept clean and orderly.

- Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, would be used.
- All transported loads of soils and wet materials would be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) would be provided to minimize emission of dust during transportation.
- Dust and mud that are deposited on paved, public roads due to construction activity and traffic would be promptly and regularly removed to reduce particulate matter emissions.
- To the extent feasible, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Mulch would be installed, or vegetation planted as soon as practical after grading to reduce windblown particulate matter in the area. Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may require controls such as dampened straw.

CR-1: If buried cultural resources are encountered during project activities, it is Caltrans policy that work stop within 60 feet of the area until a qualified archaeologist can evaluate the nature and significance of the find.

CR-2: In the event that human remains are found, the county coroner would be notified and all construction activities within 60 feet of the discovery shall stop. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Most Likely Descendent. The person who discovered the remains would contact the District 10 Division of Environmental Planning, District Environmental Cultural Branch Chief, and District Native American Coordinator. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

E-1: The following would be implemented to minimize energy consumption from construction activities:

- Limit idling of vehicles and equipment.
- Use solar-powered equipment, if feasible (for example, signal boards).
- Conduct regular vehicle and equipment maintenance.
- If feasible, recycle nonhazardous waste and excess materials to reduce disposal off site.

- Consider energy-efficient options when replacing old roadway lighting or adding new roadway lighting, if feasible.

GEO-1: A Geotechnical Report would be prepared that would outline required geologic/geotechnical field investigations and laboratory testing that would be performed. The Geotechnical Report would be prepared to obtain site-specific data appropriate to the project design in accordance with Caltrans Standard Specifications.

HAZ-1: Sites identified as high or medium risk may have hazardous materials conditions that extend into the right-of-way adjacent to the parcel. A Phase II environmental screening of the subsurface soils and/or groundwater would be completed within the project limits adjacent to the parcels that are near construction activities. At a minimum, the Phase II screening would be required to investigate the area and maximum depth where construction is anticipated to disturb the subsurface soil and/or encounter groundwater.

HAZ-2: In order to avoid impacts from pavement striping from construction testing and removal requirements for yellow striping and pavement marking materials would be required by the project engineer in accordance with Caltrans Standard Special Provision 14-11.12 -Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue.

HAZ-3: The contractor would be required to conduct aerially deposited lead testing within the project limits to evaluate the potential presence of aerially deposited lead, and an appropriate soil management plan would be developed for soil containing significant concentrations of aerially deposited lead.

HAZ-4: The project engineer would be required to retain a California-certified asbestos and lead Inspector to conduct asbestos surveys prior to any modification or demolition to accommodate the planned construction, including the existing bridge and associated areas of right of way acquisition.

WQ-1: The project would comply with the provisions of the National Pollution Discharge Elimination System Construction General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order Number 2022-0057-Division of Water Quality (DWQ), National Pollutant Discharge Elimination System Number CAS000002 and any subsequent permits in effect at the time of construction.

WQ-2: Prior to the start of construction, the construction contractor would prepare and implement a Stormwater Pollution Prevention Plan to address all construction-related activities, equipment, and materials that have the potential to stabilize disturbed soils. The Stormwater Pollution Prevention Plan would identify the sources of pollutants that may affect the quality of stormwater and include best management practices to control the pollutants.

WQ-3: Prior to groundwater dewatering activities, Caltrans would submit a Notice of Intent to the Central Valley Regional Water Quality Control Board to obtain a construction dewatering permit. Groundwater dewatering activities would comply with all applicable provisions in the construction dewatering permit, including preparation of a salinity evaluation and minimization plan, water sampling, analysis, treatment (if required), and reporting of dewatering-related discharges. Upon completion of groundwater dewatering activities, a Notice of Termination would be submitted to the Central Valley Regional Water Quality Control Board.

WQ-4: The project would comply with the provisions of the National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order Number 2022-0033-DWQ, National Pollutant Discharge Elimination System Number CAS000003 and any subsequent permits in effect at the time of construction.

WQ-5: Best management practices would be implemented for preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization), concentrated flow conveyance systems such as ditches, berms, dikes, and swales, over side drains, flared end sections, and outlet protection/velocity dissipation devices, when appropriate.

WQ-6: Caltrans-approved treatment best management practices would be implemented consistent with the requirements of National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order Number 2022-0033-DWQ, National Pollutant Discharge Elimination System Number CAS000003 and any subsequent permits in effect at the time of construction. Treatment best management practices may include biofiltration strips, biofiltration swales, infiltration basins, detention devices, design pollution prevention infiltration areas, dry weather flow diversion, gross solids removal devices, media filters, bioretention, open graded friction course, wet basins and other best management practices.

N-1: The contractor would comply with Caltrans' Standard Specifications in Section 14-8 for reducing noise impacts from construction activities. Section 14-8.02 specifically requires compliance by the Contractor with all applicable noise control rules, regulations, and ordinances related to noise.

TR-1: Prior to the start of construction, the construction contractor would prepare a Traffic Management Plan to be reviewed and approved by Caltrans. During construction, the construction contractor would adhere to all requirements of the Traffic Management Plan. During construction, the construction contractor would notify applicable fire, emergency, medical, and law enforcement providers about the timing, location, and duration of construction activities to minimize temporary delays in provider response times. Additionally, the Traffic Management Plan would develop and

implement a construction management program that maintains access to and from the project area through signage, detour routes, and flagmen.

1.9 Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with CEQA and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, has been prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the U.S. National Marine Fisheries Service and the U.S. Fish and Wildlife Service—that is, species protected by the Federal Endangered Species Act).

The proposed project is a joint project by Caltrans and FHWA and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project, often a “lower level” document is prepared for NEPA.

After receiving comments from the public and reviewing agencies, a final environmental document would be prepared under CEQA. Caltrans may prepare additional environmental and/or engineering studies to address comments. The final environmental document would include responses to comments received on the proposed initial study with mitigated negative declaration and would identify the preferred alternative. A NEPA categorical exclusion would be prepared to satisfy NEPA requirements.

Chapter 2 CEQA Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact with Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A “No Impact” answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as best management practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below.

“No Impact” determinations in each section are based on the scope, description, and location of the proposed project as well as the appropriate technical report (bound separately in Volume 2), and no further discussion is included in this document.

2.1.1 Aesthetics

Considering the information in the Visual Impact Memorandum dated November 9, 2023, the following significance determinations have been made:

Except as provided in Public Resources Code Section 21099:

Question—Would the project:	CEQA Significance Determinations for Aesthetics
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact

Question—Would the project:	CEQA Significance Determinations for Aesthetics
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 a 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
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

Affected Environment

The project is in an urbanized area of the City of Lathrop. Land use adjacent to the project site consists of both developed land to the northeast, southeast, and southwest and undeveloped land to the northwest. There are existing commercial businesses along Louise Avenue near the project area, including fast food restaurants, a gas station, grocery stores, and big-box stores. There are also existing single-family residential uses southwest and northeast of the project area. Within the project limits, the project's existing visual character consists of existing paved freeway, vegetated median, shoulder areas, and vegetated slope embankments. Interstate 5 runs north-south at grade in the vicinity of the project site except at the interchange with Louise Avenue, where it passes over Louise Avenue. Louise Avenue runs east to west at grade through the project site. The viewers within the project area are motorists traveling north and south on Interstate 5 and motorists traveling east and west on Louise Avenue. The project would reconfigure the existing interchange (currently zoned Highway Commercial) with a diverging diamond interchange configuration in an existing disturbed and developed area. The existing sources of light and glare at the project site and in the nearby vicinity primarily include traffic, street lighting, and signalization lighting. Other nearby sources of light and glare include the neighboring commercial businesses that are adjacent to the project site. The project is not on any officially designated or eligible scenic highway. The nearest officially designated scenic highway is State Route 580, approximately 15 miles southwest of the project area.

Environmental Consequences

Construction of the project would result in temporary visual changes because of construction activities, including removing vegetation, grading, the use of night lighting, dust control, temporary structures, hauling equipment, construction staging and signs indicating traffic detours. However, these changes are temporary, would be confined to the project site, and would not degrade the current visual characteristics. Implementation of standard measure VIS-1 would require the contractor to avoid removing or negatively

affecting visual resources such as mature trees and or shrub groupings to the extent feasible. Standard measure VIS-1 would avoid removing visual resources, minimize tree and vegetation removals, and maintain the existing visual character of the project site. Additionally, implementation of standard measure VIS-2 would require all fill slopes and revegetation to use native species mix as identified in the Visual Impact Assessment Memorandum. Standard measure VIS-2 would restore the visual characteristics to preexisting conditions and minimize any additional impacts to the project site.

Viewers within the project area include nearby residents, employees, customers, and motorists. Views of the interchange from Interstate 5, Louise Avenue, and adjacent roadways would remain similar following project implementation. Travelers within the project area would continue to experience views dominated by freeway facilities, pavement, bridge structures, traffic control devices, and commercial development. These changes would not substantially alter the overall visual character of the interchange or obstruct existing public views. Therefore, impacts to visual character and public views would be less than significant.

The project would change the existing interchange configuration by implementing a diverging diamond interchange configuration (refer to Section 1.6.1, Build Alternative for more detail). This configuration would introduce roadway infrastructure, pavement striping, sidewalks and signal lighting. These features are typical of freeway interchange facilities and would be compatible with the existing visual environment and character of the project area. With the new interchange configuration, motorists would travel on the opposite side of the road along Louise Avenue, which would be different from the existing views from the interchange configuration. The proposed improvements would occur almost entirely within or adjacent to the existing interchange footprint and would remain consistent with the surrounding urban and transportation character. The project would not substantially degrade the existing visual character or quality of the site or its surroundings. The new interchange configuration would also replace existing light sources with ones that are similar in nature to the existing light sources on the project site. Daytime glare would not be substantial, as no highly reflective glass elements are part of the project. During construction, any streetlights, traffic lights, or landscape lighting installed would follow Caltrans and City of Lathrop lighting and design standards to avoid impacts related to spill or glare. Additionally, if night work is anticipated for construction, light spillage or glare could potentially occur and standard measure VIS-3 would be implemented to minimize light from portable sources to reduce substantial light or glare impacts during construction. As mentioned previously, the project would replace the existing interchange with a diverging diamond configuration,. Therefore, the project would not introduce new sources of light and glare but may result in modified lighting locations.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no additional avoidance, minimization, and/or mitigation measures are required.

2.1.2 Agriculture and Forestry Resources

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

Considering the information in the Department of Conservation's California Important Farmland Finder and the California Williamson Act Enrollment Finder mapping programs, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
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?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning, 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

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
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?	No Impact

2.1.3 Air Quality

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

Considering the information in the Air Quality Report dated July 28, 2026, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Air Quality
a) Conflict with or obstruct implementation of the applicable air quality plan?	No Impact
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?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact

Affected Environment

Air quality monitoring stations are located throughout the nation and are maintained by local air districts and State air quality regulating agencies. The United States Environmental Protection Agency uses data collected at permanent monitoring stations to identify regions as “attainment,”

“nonattainment,” or “maintenance,” depending on whether the regions meet the requirements stated in the primary national ambient air quality standards.

Nonattainment areas are imposed with additional restrictions as required by the Environmental Protection Agency. In addition, different classifications of nonattainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the National Ambient Air Quality Standards. The project falls within the San Joaquin Valley Air Basin. Table 2.1 lists the State and federal attainment statuses of the San Joaquin Valley Air Basin for all regulated pollutants.

Table 2.1: State and Federal Attainment Status of the San Joaquin Valley Air Basin

Pollutant	State Attainment Status	Federal Attainment Status
Ozone – One Hour	Nonattainment/Severe	Revoked
Ozone – Eight Hour	Nonattainment	Extreme Nonattainment
Respirable Particulate Matter (Particulate Matter 10 Micrometers or Less)	Nonattainment	Attainment/Maintenance
Fine Particulate Matter (Particulate Matter 2.5 Micrometers or Less)	Nonattainment	Moderate Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment	Attainment/Unclassified
Sulfur Dioxide	Attainment	Attainment/Unclassified
Lead	Attainment	No Designation/Classification
Visibility-Reducing Particles	Unclassified	Not Applicable
Sulfates	Attainment	Not Applicable
Hydrogen Sulfide	Unclassified	Not Applicable
Vinyl Chloride	Attainment	Not Applicable

Source: Interstate 5/Louise Avenue Interchange Air Quality Report (LSA 2026).

Air quality conditions in the project area are most accurately characterized by ambient pollutant concentrations measured at monitoring stations in Manteca. The Manteca Air Quality Monitoring Station (530 Fish Back Road) is the closest station that monitors the station to the project site; however, this station only monitors particulate matter 10 microns or less in diameter and

particulate matter 2.5 microns or less in diameter. The closest station that monitors the rest of the pollutants is the Stockton-Hazelton Air Quality Monitoring Station at the Health Department at 1601 East Hazelton Street in Stockton, which monitored criteria pollutants through 2021, with the nearby Stockton-University Park Air Quality Monitoring Station at 702 N Aurora Street, Stockton taking over in 2021. For more information regarding the air quality data and trends at Manteca Air Quality Monitoring Station and the Stockton-Hazelton Air Quality Monitoring Station, please refer to the Air Quality Report.

The Stockton Metropolitan Airport climatological station, maintained by San Joaquin Valley Air Pollution Control District, is near the project site and is representative of meteorological conditions near the project. The climate in San Joaquin County is characterized by hot, dry summers and cool, wet winters. Average temperatures range from 45 to 95 degrees Fahrenheit throughout the year. During the summer months, temperatures can reach as high as 105 degrees Fahrenheit, while winter nights can dip below freezing. The region receives an average of 12 inches of precipitation annually, with most of it occurring during the winter months. Despite its moderate climate, San Joaquin experiences occasional cold snaps and heat waves that can bring extreme weather conditions to the area. San Joaquin County, California, gets 16 inches of rain, on average, per year. The United States average is 38 inches of rain per year. San Joaquin County averages 0 inches of snow per year. The United States average is 28 inches of snow per year. On average, there are 261 sunny days per year in San Joaquin County, with the national average being 205 sunny days.

Table 2.2 lists air quality standards, principal health and atmospheric effects, and typical sources of pollutants.

Table 2.2: Air Pollutant Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic volatile organic compounds may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds and nitrogen oxides in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Respirable Particulate Matter	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; and natural sources.
Fine Particulate Matter	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter—a toxic air contaminant—is in the PM _{2.5} size range. Many toxic and other aerosol and solid compounds are part of PM _{2.5} .	Combustion, including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants, including nitrous oxides, sulfur oxides, ammonia, and reactive organic gases.
Nitrogen Dioxide	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “nitrous oxides” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Sulfur Dioxide	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.
Lead	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Sulfates	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.
Hydrogen Sulfide	Colorless, flammable, poisonous. Respiratory irritant. Can cause headache and nausea, as well as neurological damage and premature death. Has a strong odor.	Industrial processes such as refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Visibility-Reducing Particles	Reduces visibility. Produces haze. Note: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter, above. May be related more to aerosols than to solid particles.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.

Source: Interstate 5/Louise Avenue Interchange Air Quality Report (LSA 2026).

Sensitive Populations

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are near localized sources of toxics and carbon monoxide are of particular concern. Land uses considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes.

Existing land uses in the project area include single-family residences, a mobile home park, a church, vacant land, restaurants, hotels, and office, commercial, and industrial uses. Existing land uses in the project area are described in further detail below.

- **East side of Interstate 5, South of Louise Avenue:** Land use in this area includes a church with an outdoor playground, a hotel, restaurants, and commercial and industrial uses. Land uses in this area range from slightly lower in elevation of Interstate 5 to approximately 20 feet lower in elevation than Interstate 5.
- **East side of Interstate 5, North of Louise Avenue:** Land uses in this area include single-family residences, a mobile home park, hotels, and commercial uses. Land uses in this area range from similar in elevation to Interstate 5 to approximately 20 feet lower in elevation than Interstate 5.
- **West side of Interstate 5, South of Louise Avenue:** Land uses in this area include two restaurants, vacant land, and office and commercial uses. Land use in this area ranges from 10 to 24 feet lower in elevation than Interstate 5.
- **West side of Interstate 5, North of Louise Avenue:** Land uses in this area include single-family residences and commercial uses. Land use in this area ranges from 6 to 22 feet lower in elevation than Interstate 5.

Interagency Consultation

An interagency conference call with public agencies and interagency partners was held online on August 14, 2024, to present the project and proposed improvements. Public agencies had questions regarding traffic, auxiliary lane improvements, levels of service, and project funding. A follow-up meeting was held on October 15, 2025, to further discuss these topics, after which the interagency consultation partners determined that the project is not a "Project of Air Quality Concern" and would not result in new violations of air quality standards. Please refer to Chapter 3 for more details.

Environmental Consequences

Short-term Construction Emissions

Project implementation would result in short-term construction emissions. Site preparation and roadway construction would involve clearing; cut-and-fill activities; grading, removing, or improving existing roadways; and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include carbon monoxide, nitrogen oxides, volatile organic compounds, directly emitted particulate matter less than 10 microns in diameter and particulate matter less than 2.5 microns in diameter, and toxic air contaminants such as diesel exhaust particulate matter. Construction activities are expected to increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site.

There is low potential for construction emissions leading to odors which would affect adjacent properties and nearby sensitive receptors. Project construction may result in temporary, short-term, construction-related objectionable odors from sources such as equipment emissions and asphalt paving. However, such odors would be temporary and would dissipate quickly once the project is constructed and operational. To minimize these impacts, implementation of the standard measures listed in Section 1.8 would reduce short-term construction-related impacts and odors to sensitive receptors. Operation of the project is not anticipated to generate odors above and beyond those that are already generated by the existing traffic. Furthermore, the project would minimize emissions through standard measures listed in Section 1.8 such that it would not exceed existing emission standards and affect sensitive receptors adjacent to the project.

The construction emissions were estimated for the project using the California Emissions Estimator Model version 2022.1, which is consistent with the guidance provided by Caltrans for evaluating construction impacts from roadway projects. Table 2.3 represents the maximum amount of construction-related emissions during a peak construction day from the Air Quality Report. The emissions presented below are based on the best information available at the time of the calculations.

Table 2.3: Construction Emissions for the Project

Construction Phases	Peak Daily Emissions (pounds/day) Volatile Organic Compounds	Peak Daily Emissions (pounds/day) Carbon Monoxide	Peak Daily Emissions (pounds/day) Nitrogen Oxides	Peak Daily Emissions (pounds/day) Particulate Matter Less Than 10 Microns in Diameter	Peak Daily Emissions (pounds/day) Particulate Matter Less Than 2.5 Microns in Diameter
Land Clearing/Grubbing	0.5	5.9	3.9	0.7	0.3
Roadway Grading and Excavation	3.6	39.3	28.1	3.2	1.4
Linear, Drainage, Utilities, and Sub-Grade	1.9	21.7	14.4	1.6	0.6
Paving	0.9	13.5	7.2	0.6	0.3
Maximum Daily Emissions (pounds/day)	3.6	39.3	28.1	3.2	1.4
Total Project Emissions (tons/construction project)	0.5	5.7	4.0	0.4	0.2

Source: LSA *Air Quality Report*, Compiled by LSA using CalEEMod v2022.1 (2026). Note: Model results were modified to assume a 55 percent reduction in PM₁₀ and PM_{2.5} emissions as a result of required dust-control measures.

Long Term Operational Emissions

The potential impact of the project on regional vehicle emissions was calculated using traffic data for the project region and emission rates from the Caltrans Emissions Factors Model version 1.0.2.0, which uses emission factors developed by the California Air Resources Board in its Emission Factor Model, Version 2021. The emission factor data for scenario years that were used with the corresponding traffic data for the Existing Condition, Opening Year, Interim Year, and Design Year scenarios.

Operational emissions consider long-term changes in emissions that would result from the project. The operational emission analysis is shown in Table 2.4, which compares forecast emissions for the Existing Condition, Opening Year, Interim Year, and Design Year scenarios. The Existing Condition

represents the operational emissions in 2020. The Opening Year represents the operational emissions in 2025 under the Build Alternative Condition and under the No Build Alternative Condition. The Interim Year represents the operational emissions in 2042 under the Build Alternative condition and under the No Build Alternative condition. The Design Year represents the operational emissions in 2045 under the Build Alternative condition and under the No Build Alternative condition. Refer to the Traffic Operations Analysis Report prepared on November 2, 2022 (included in Volume 2 of this document) for more detail related to these scenarios.

Table 2.4: Summary of Comparative Emission Analysis

Condition	Carbon Monoxide (pounds/day)	Reactive Organic Gases (pounds/day)	Nitrogen Oxides (pounds/day)	Particulate Matter Less Than 10 Microns in Diameter (pounds/day)	Particulate Matter Less Than 2.5 Microns in Diameter (pounds/day)
Existing (2020)	186	4.3	44	4.9	3.4
Opening Year (2025) under the No Build Alternative	137	2.4	23	5.2	3.6
<i>Change from Existing Condition</i>	-50	-1.8	-21	0.3	0.1
Opening Year (2025) under the Build Alternative	137	2.4	21	5.2	3.6
<i>Change from Existing Condition</i>	-50	-1.8	-23	0.3	0.1
<i>Change from No Build Condition</i>	<i>less than 1</i>	<i>less than 1</i>	-2	<i>less than 1</i>	<i>less than 1</i>
Interim Year (2042) under the No Build Alternative	183	2.0	24	11.7	7.5
<i>Change from Existing Condition</i>	-3	-2	-20	7	4

Condition	Carbon Monoxide (pounds/day)	Reactive Organic Gases (pounds/day)	Nitrogen Oxides (pounds/day)	Particulate Matter Less Than 10 Microns in Diameter (pounds/day)	Particulate Matter Less Than 2.5 Microns in Diameter (pounds/day)
Interim Year (2042) under the Build Alternative	183	2.0	24	11.7	7.5
<i>Change from Existing Condition</i>	-3	-2	-20	7	4
<i>Change from No Build Condition</i>	<i>less than 1</i>	<i>less than 1</i>	<i>less than 1</i>	<i>less than 1</i>	<i>less than 1</i>
Design Year (2045) under the No Build Alternative	105	1.1	11	6.1	4.0
<i>Change from Existing Condition</i>	-81	-3.2	-33	1.1	0.5
Design Year (2045) under the Build Alternative	105	1.1	11	6.1	4.0
<i>Change from Existing Condition</i>	-81	-3.2	-33	1.1	0.5
<i>Change from No Build Condition</i>	<i>less than 1</i>	<i>less than 1</i>	<i>less than 1</i>	<i>less than 1</i>	<i>less than 1</i>

Source: LSA Air Quality Report, Compiled by LSA (2025) using CT-EMFAC2017.

As indicated in Table 2.4, the project would not affect long-term emissions because the Build Alternative and No Build Alternative would result in fewer long-term emissions compared to the Existing Condition. Operational emissions would be reduced because the project would reduce congestion and enhance overall traffic operations of the Interstate 5 and Louise Avenue interchange.

Long term operation of the project would not expose sensitive receptors to pollutant concentrations because traffic flow would improve with the proposed new interchange configuration, and traffic congestion would be reduced. No

substantial pollutant concentrations are anticipated to occur with project implementation. Based on the analysis above, the project would result in a less than significant impact.

Carbon Monoxide Hot Spot Analysis

Areas of vehicle congestion have the potential to create pockets of carbon monoxide called hot spots. These pockets have the potential to exceed the State 1-hour standard of 20 parts per million or the 8-hour standard of 9 parts per million. The San Joaquin Valley has been in attainment for carbon monoxide since 1994. In accordance with federal transportation conformity regulations, the requirement to demonstrate transportation conformity for carbon monoxide in this area expired in June 2018. Based on the findings of the Air Quality Report, the project is exempt for carbon monoxide hot-spot analysis and would not result in a localized carbon monoxide impact. Please refer to Section 4.3.1 of the Air Quality Report for more detail related to the project being exempt from the carbon monoxide hot spot analysis.

Based on the analysis presented above regarding short term construction emissions, long term operational emissions, and carbon monoxide hot spot analysis, the project would have a less than significant impact relative to a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard. The project would not result in a cumulatively considerable net increase of any criteria pollutant but would result in an increase in short-term emissions due to construction, and reduction in long term emissions through operation of the project. Therefore, the project would result in a less than significant impact.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no additional avoidance, minimization, and/or mitigation measures are required.

2.1.4 Biological Resources

Considering the information in the Natural Environmental Study (Minimal Impacts) dated December 19, 2023, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Biological Resources
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, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration Fisheries?	Less Than Significant Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No Impact
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?	No Impact
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?	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	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?	No Impact

Affected Environment

Physical Environment

The biological study area consists of the project area, existing roadways, cut/fill slopes, and access and staging areas. The biological study area also

includes lands beyond the footprint that could potentially be affected by project construction and/or were determined necessary to inventory in order to perform an adequate analysis of project impacts. The biological study area is developed or highly disturbed in preparation for development. The Lathrop urban areas are predominantly to the east of Interstate 5, with some localized areas to the west. The remaining areas to the west were traditionally farmed 40 years ago and are in preparation for development via grading and scraping.

Natural Communities

The lands around the biological study area have a long history of agricultural crop and vineyard production. However, most of the undeveloped lands in the biological study area have been recently disturbed in preparation for commercial and residential development. As a result, natural communities have been largely displaced from the surrounding area, and no natural communities exist in the biological study area. The only vegetation community persisting in the biological study area is ruderal grassland. Remaining land uses are urban developed areas around the project vicinity. Additionally, due to the urban nature of the biological study area, there are no known or viable wildlife movement corridors within or in the vicinity of the biological study area. No aquatic or jurisdictional resources are present within the biological study area; therefore, wetlands and other waters are not discussed.

Plant Species

The California Native Plant Society database and California Natural Diversity Database listed occurrences of 29 special-status plant species within the biological study area. Four of the 29 species were listed as state or federally threatened or endangered and were also designated a California Rare Plant Rank of 1B – plants rare, threatened, or endangered in California and elsewhere. These four state or federally threatened or endangered species include the large flowered fiddleneck (*Amsinckia grandiflora*), palmate-bracted bird's beak (*Chloropyron palmatum*), delta button-celery (*Eryngium racemosum*), and Mason's lilaeopsis (*Lilaeopsis maonii*). The remaining 25 plant species were designated with a California Rare Plant Rank but no federal or state status. Please refer to Table 3 in the Natural Environmental Study (Minimal Impacts) for more detail.

There was no suitable habitat present for the four state or federally threatened or endangered species within the biological study area.

Animal Species

The majority of the biological study area consists of developed and ruderal areas, which typically do not provide high-quality habitat for wildlife species. However, a variety of species are known to occur in urbanized settings. In addition, trees associated with residences or businesses may provide nesting habitat for several bird species. Species that may occur in the biological study

area include, but are not limited to, coyote (*Canis latrans*), California ground squirrel (*Spermophilus beechyi*), common kingsnake (*Lampropeltis getula*), western scrub jay (*Aphelocoma coerulescens*), red-tailed hawk (*Buteo jamaicensis*), house finch (*Carpodacus mexicanus*), killdeer (*Charadrius vociferous*), Brewer's blackbird (*Euphagus cyanocephalus*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*).

Habitat capable of supporting six special-status wildlife species, as well as nesting habitat for migratory birds protected under the Migratory Bird Treaty Act and California Fish and Game Code occurs within the project area.

There are three special status-species of bats designated as California Species of Special Concern with the potential to occur in the biological study area based on the presence of day roost habitat under the existing Interstate 5 overcrossing: pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western mastiff bat (*Eumops perotis californicus*). The biological study area also supports suitable foraging and/or nesting habitat for burrowing owl (*Athene cunicularia*), a California Species of Special Concern; Swainson's hawk (*Buteo swainsoni*), a State threatened species; and white-tailed kite (*Elanus leucurus*), which is fully protected under the California Fish and Game Code. Other birds protected by the Migratory Bird Treaty Act and California Fish and Game Code may also nest within the biological study area.

Bats

The pallid bat, Townsend's big-eared bat, and western mastiff bat are currently listed as California Species of Special Concern. There were no records of occurrence of these species within a 10-mile radius of the biological study area. During field surveys conducted in October 2023, no bats or sign of the presence of any bat species were observed anywhere within the biological study area. However, the weep holes on the underside of the Interstate 5 overcrossing could provide potential day-roost habitat for bats.

Burrowing Owl

Burrowing owl is currently listed as a California Species of Special Concern. There are 46 records of burrowing owls within a 10-mile radius of the biological study area, with the closest occurrence dated 2000 and approximately 1.75 miles to the southeast. During field surveys, no suitable nesting habitat was identified in the biological study area. Additionally, ongoing local vicinity development and recent grading in the vicinity of the biological study area have eliminated much of the agricultural and grassland habitat suitable for this species. However, the ruderal grassland community in the biological study area still provides marginally suitable foraging habitat. Based on the records history and the marginally suitable habitat that remains

in the vicinity of the biological study area, there is potential for burrowing owls to migrate and utilize the remaining habitat in the area.

White-Tailed Kite

White-tailed kite is fully protected under the California Fish and Game Code. There is one occurrence of white-tailed kite within a 10-mile radius of the biological study area, approximately 7.75 miles north. There are numerous trees within and in the vicinity of the biological study area that are potential nest trees for white-tailed kites and the ruderal grassland areas in the biological study area provide potential foraging habitat for the species. Since the biological study area includes suitable foraging and nesting habitat is present and is within the known range of the species, white-tailed kites have the potential to occur in the area.

Threatened and Endangered Species

Swainson's Hawk

Swainson's hawk is a State threatened listed species under the California Endangered Species Act. There are 164 records of Swainson's hawk within a 10-mile radius of the biological study area, with the closest occurrence dated 2012, approximately 500 feet east of the biological study area in an empty field located at 500 East Louise Avenue. Within the biological study area, there are mature trees that provide suitable nesting habitat and ruderal grassland which provides marginally suitable foraging habitat. No Swainson's hawks or suitable nests were observed during the field survey, however, since suitable nesting and foraging habitat is present and there are numerous records of Swainson's hawks nesting nearby, this species is highly likely to occur in the biological study area.

Invasive Species

The California Department of Fish and Wildlife Invasive Species Program Website was reviewed for invasive animal species, and no species were identified that are expected to occur in the project limits.

Environmental Consequences

Natural Communities

No formally designated habitats or natural communities of special concern occur in the biological study area; therefore, no impacts are expected to occur to habitats or natural communities of special concern.

Plant Species

The California Native Plant Society database and California Natural Diversity Database listed occurrences of 29 plant species within the biological study area. Four of the 29 species were listed as state or federally threatened or endangered and were also designated a California Rare Plant Rank of 1B – plants that are rare, threatened, or endangered in California and elsewhere.

However, no special-status plant species were observed during the field survey, and none are anticipated to occur because of the absence of habitat that could support these species. No impacts to special-status plant species are anticipated to occur as a result of the project.

Animal Species

The project could affect the following special-status species: pallid bat, Townsend's big eared bat, western mastiff bat, burrowing owl, Swainson's hawk, and white-tailed kite.

Bats

The project would permanently remove 2.92 acres and temporarily impact 10.15 acres of ruderal grasslands that provide potential foraging habitat for bat species within the biological study area. Permanent habitat impacts would result from cut-and-fill activities associated with construction of the new interchange, while temporary habitat impacts would occur within access routes and construction staging areas of the project. Although no bats or evidence of bat use were observed during field surveys, potential day-roost habitat is present within weep holes beneath the existing Interstate 5 overcrossing. With implementation of avoidance and minimization measure (AMM) BIO-1, direct impacts to bats, including take, are not anticipated.

White-Tailed Kite

The project would permanently impact 2.92 acres and temporarily impact 10.15 acres of ruderal grasslands that provide potential foraging habitat for white-tailed kite. Permanent habitat impacts would occur as a result of project cut and fill activities associated with construction of the new interchange. Temporary impacts would occur as a result of construction access routes and staging during construction. Suitable nesting trees occur in and adjacent to the biological study area; however, implementation of AMM BIO-4 would avoid impacts to active nests and take of the species.

Burrowing Owl

The project would permanently remove 2.92 acres and temporarily impact 10.15 acres of ruderal grasslands that provide potential habitat for burrowing owl within the Biological Study Area. Permanent impacts would result from cut-and-fill activities associated with construction of the new interchange, while temporary impacts would occur within construction access and staging areas. No suitable nesting habitat or occupied burrows were identified during field surveys. Implementation of AMM BIO-2, including preconstruction surveys and avoidance measures if burrowing owls are detected, would avoid take of the species.

Migratory Birds

Construction activities, including vegetation removal, grading, and tree removal, have the potential to disturb or remove active nests of migratory

birds protected under the Migratory Bird Treaty Act and Sections 3503 and 3503.5 of the California Fish and Game Code. If vegetation removal or ground-disturbing activities occur during the nesting season (generally February 1 through August 31), active nests could be adversely affected. Implementation of standard measure BIO-1 identified in Section 1.8 would include preconstruction nesting bird surveys and establishment of avoidance buffers around active nests. This would reduce impacts to nesting migratory birds within the project area.

Threatened and Endangered Species

Swainson's Hawk

The project would permanently impact 2.92 acres and temporarily impact 10.15 acres of ruderal grasslands that provide foraging habitat for Swainson's hawk within the biological study area. Permanent habitat impacts would result from cut-and-fill activities associated with construction of the new interchange, while temporary impacts would occur within access and staging areas. Although suitable nesting trees occur within the biological study area, no active nests were observed during field surveys. Implementation of AMM BIO-3 would avoid disturbance of active nests and take of the species.

Potential impacts to bats, burrowing owl, white-tailed kite, and Swainson's hawk would be minimized with implementation of the AMMs listed below. The project is not anticipated to result in take of these species and is not likely to adversely affect critical habitat for these species. Considering the amount of habitat available in the region relative to the amount of habitat in the biological study area, and the implementation of the standard measures listed in Section 1.8, the project would result in a less than significant impact to biological resources.

Invasive Species

Construction activities have the potential to introduce or spread invasive plant species through movement of equipment, imported materials, and disturbance of existing vegetation. Implementation of the standard measure BIO-2 identified in Section 1.8, including equipment cleaning, use of weed-free materials where appropriate, and revegetation with approved native seed mixes, would minimize the potential for introduction or spread of invasive species. Therefore, impacts related to invasive species would be reduced.

Avoidance, Minimization, and/or Mitigation Measures

Implementation of the standard measures outlined in Section 1.8 would reduce impacts related to birds and invasive species.

Implementation of **AMM BIO-1**, identified below, would reduce impacts to the following special-status species: pallid bat, Townsend's big-eared bat, and western mastiff bat.

AMM BIO-1: The following would be implemented by a qualified biologist retained by the City of Lathrop prior to construction to reduce the potential for impacts to pallid bat, Townsend's big-eared bat, and western mastiff bat:

- Focused bat surveys shall be conducted in the Biological Study Area by a qualified bat biologist prior to construction to determine if nursery or roost sites are present. Focused surveys would be the responsibility of the City. If bats are roosting in the Biological Study Area, the following measures shall be implemented:
 - Prior to the nursery season (April through September), sites would be sealed or otherwise rendered unusable to bats (for example, grating would be installed).
 - Prior to the hibernation season (November through March), sites would be sealed or otherwise rendered unusable to bats (for example, grating would be installed) when hibernation sites are identified in the Biological Study Area.
 - When colonial roosting sites are located in trees or structures that must be removed as part of the project, removal shall take place outside of the nursery and/or hibernation seasons and shall take place during dusk and/or evening hours after bats have left the roosting site.

Implementation of **AMM BIO-2**, identified below, would reduce impacts to burrowing owl.

AMM BIO-2: The following would be implemented by a qualified biologist retained by the City prior to construction to reduce potential impacts to burrowing owls:

- Preconstruction surveys for western burrowing owl would be conducted by a qualified biologist in accordance with the California Department of Fish and Wildlife's *2012 Staff Report on Burrowing Owl Mitigation*.
- If burrowing owls are identified during the preconstruction survey, passive exclusion would be implemented per the California Department of Fish and Wildlife's *2012 Staff Report on Burrowing Owl Mitigation* (including avoidance of occupied burrows during the breeding season).
- Worker environmental awareness training would be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize western burrowing owls and their habitat(s).
- Following construction, all fill slopes, temporarily impacted areas, and/or otherwise disturbed areas would be restored to preconstruction contours (if necessary) and revegetated with the native seed mix identified in the Visual Impact Memorandum (2023). Invasive species would be controlled

pursuant to the measures presented in Section 5.5 of the Natural Environmental Study (Minimal Impacts).

Implementation **AMM BIO-3**, identified below, would reduce impacts to Swainson's hawk:

AMM BIO-3: The following would be implemented by a qualified biologist retained by the City prior to construction to reduce the potential for impacts to Swainson's hawk:

- If work begins between February 1 and August 31, an early-season preconstruction survey for nesting Swainson's hawks would be conducted between January and March in the Biological Study Area and the immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist when tree foliage is relatively sparse and nests are easy to identify. A second preconstruction survey for nesting Swainson's hawks would be conducted in the Biological Study Area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist no more than 10 days prior to initiation of earthmoving activities.
- If nesting Swainson's hawks are found within the survey area, a qualified biologist would evaluate the potential for the project to disturb nesting activities. The California Department of Fish and Wildlife would be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. The California Department of Fish and Wildlife would also be consulted to establish protection measures such as buffers. Disturbance of active nests would be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist would be on site at the start of construction activities during the nesting season to monitor nesting activity. The monitor would have the authority to stop work if it is determined the project is adversely affecting nesting activities.
- Worker environmental awareness training would be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize Swainson's hawks and their habitat(s).
- Following construction, all fill slopes, temporarily impacted areas, and/or otherwise disturbed areas would be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified in the Visual Impact Memorandum (2023). Invasive species would be controlled pursuant to the measures presented in Section 5.5 of the Natural Environmental Study (Minimal Impacts).

Implementation **AMM BIO-4**, identified below, would reduce impacts to white-tailed kite.

AMM BIO-4: The following would be implemented by a qualified biologist retained by the City prior to the start of construction to reduce the potential impacts to white-tailed kite:

- If possible, all trees that would be impacted by project construction shall be removed between September 1 and January 31, outside of the nesting season, to avoid take of a nest or bird. If this is not possible, a survey for nesting white-tailed kites would be conducted in the Biological Study Area and within a 300-foot radius by a qualified biologist. The survey would be conducted a maximum of 10 days prior to the start of construction. The survey area may be decreased due to property access constraints, etc.
- If nesting white-tailed kites are found within the survey area, a qualified biologist would evaluate the potential for the project to disturb nesting activities. The California Department of Fish and Wildlife would be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. The California Department of Fish and Wildlife would also be consulted to establish protection measures such as buffers. Disturbance of active nests would be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist would be on site at the start of construction activities during the nesting season to monitor nesting activity. The monitor would have the authority to stop work if it is determined the project is adversely affecting nesting activities.
- Worker environmental awareness training would be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize white-tailed kites and their habitat(s).
- Following construction, all fill slopes, temporarily impacted areas, and/or otherwise disturbed areas would be restored to preconstruction contours (if necessary) and revegetated with the native species mix identified in the Visual Impact Memorandum (2023). Invasive species would be controlled pursuant to the measures presented in Section 5.5 of the Natural Environmental Study (Minimal Impacts).

2.1.5 Cultural Resources

Considering the information in the Supplemental Historic Property Survey Report dated August 19, 2024, the Historic Resources Evaluation Report dated August 19, 2024, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

2.1.6 Energy

Considering the information from the Traffic Operations Analysis Report dated November 2, 2022, and the Energy Analysis Memorandum dated March 27 2025, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Energy
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
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

Affected Environment

The existing vehicular usage within the Interstate 5 and Louise Avenue interchange consists of primarily light-duty cars and some heavy-duty trucks. The Interstate 5 and Louise Avenue interchange existing lighting consists of two light-emitting diode street poles at both the northbound off-ramp and the southbound off-ramp. Additionally, there is one light-emitting diode street pole at the southbound on-ramp merging into the Interstate 5 mainline segment. There are also existing traffic signals at the Interstate 5 and Louise Avenue ramp intersections for traffic control. Within the project study area, the existing pavement surface seems to be in moderate condition, with some signs of regular usage.

Environmental Consequences

Construction of the proposed project would consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. As identified in the Energy Memorandum, construction of the project would result in short-term consumption of approximately 83,011 gallons from diesel-powered equipment and approximately 16,781 gallons from gasoline-powered equipment over the span of 2 assumed construction years. This energy usage represents a small demand on local and regional fuel supplies and would eventually cease once construction is complete. Construction activities would be short-term, meaning that the increase of energy consumption within the project study area would also be short-term. Construction activities are not anticipated to result in inefficient use of energy because gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project as required in the standard measures AQ-1 through AQ-3 listed in Section 1.8. Standard measure TR-1, as identified in Section 1.8, would require implementation of a traffic management plan, which would reduce energy consumption through minimizing idling time for vehicles and maintaining smooth traffic flow. Considering the inclusion of energy conservation measures as identified in Standard Measure E-1, listed in Section 1.8, construction of the project is not anticipated to result in wasteful energy use.

Once operational, the Interstate 5 and Louise Avenue interchange would assist traffic flow through northbound and southbound Interstate 5 on-ramp metering and would operate new two-phase traffic signals at the northbound and southbound Interstate 5 ramp terminals. Moreover, Class II bicycle lanes and new sidewalks would be located along Louise Avenue, allowing for alternative modes of transportation. Annual energy consumption was estimated in the Energy Memorandum utilizing the CT-EMFAC. The study determined that there would be no change in operational energy usage (particularly diesel and gas consumption) between the build and no build scenarios. With implementation of the Build Alternative, the new interchange configuration would improve operational efficiency and traffic flow, which would reduce vehicle or truck idling that the existing interchange is experiencing. This reduction in vehicle or truck idling would result in a decrease in energy usage. Additionally, once it is fully constructed, the project is anticipated to decrease energy usage due to fleet turnover, as diesel and gas consumption are expected to decrease in the future given the adoption of electric vehicles on the roadway. Long-term maintenance of the new interchange is expected to be lower than the maintenance needs associated with the existing interchange. These lower maintenance needs would equate to lower energy consumption as well. Operational energy usage would not exceed existing levels of energy usage of the previous interchange. Therefore, construction and operational energy impacts would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no avoidance, minimization, and/or mitigation measures are required.

2.1.7 Geology and Soils

Considering the information in the California Department of Conservation Earthquake Zone Map, the Preliminary Foundation Report dated August 4, 2023, the Preliminary Materials Report dated September 29, 2023, the Paleontological Identification Report/Paleontological Evaluation Report dated July 6, 2024, and the Water Quality Memorandum dated March 11, 2024, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
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
ii) Strong seismic ground shaking?	No Impact
iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	No Impact

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
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?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less Than Significant Impact

Affected Environment

The project is located within the San Joaquin Valley and is in the southern portion of the Great Valley Geomorphic Province. Geologic mapping indicates the project area contains the Dos Palos Alluvium and Modesto Formation deposits, which are known to have high paleontological sensitivity within the project area. Although not mapped, artificial fill was also noted in portions of the project area and does not have the potential to contain scientifically significant paleontological resources. A paleontological resource locality search was completed through the University of California Museum of Paleontology and resulted in no known fossil localities within the project boundaries. However, there were records of 18 fossil localities and 29 specimens found near the project site from the Pleistocene-age sediments in San Joaquin County. A field survey was conducted on May 13, 2021, for the project. While there were few limited opportunities to review native sediments, no fossils were identified.

Within the project limits, the project site is in a topographically flat area and is not near any steep slopes that would present the risk of landslides. On average, the city's topography has an elevation of approximately 20 feet above sea level. No surface water is located near the project site according to the Preliminary Foundation Report, and groundwater was encountered at the project site at approximately 7.4 feet below ground surface. In addition, groundwater level monitoring well data from the California Department of Water Resources completed between 2009 to 2023 for Local Well PW20-500, about 0.33 mile southeast of the Interstate 5 and Louise Avenue interchange, indicates that groundwater elevations range from about 5 feet to 7.5 feet below ground surface. The potential of liquefaction exists due to soil conditions. Liquefaction is a geologic hazard that can occur when loose,

water-saturated sandy or silty soils are subjected to strong ground shaking during an earthquake. The shaking increases the pressure of groundwater within the soil, reducing the contact forces between soil particles and causing the soil to temporarily lose strength and stiffness. This loss of soil strength can reduce the support provided to foundations, potentially causing structures to settle, tilt, or be damaged during displacement. The level of groundwater in the area is relatively flat, with a gentle slope from east to west. The soils within the project area consists of Bisgani loamy coarse sand, Egbert silty clay loam, Manteca fine sandy loam, Scribner clay loam, Tinnin loamy coarse sand, and Veritas fine sandy loam. The closest known fault is the Greenville fault, which is approximately 20 miles west of the project site. At this distance, it is highly unlikely that fault rupture would occur within the project site.

Environmental Consequences

Soil conditions and levels of groundwater at the project site indicate that liquefaction potential exists and post-liquefaction settlement of the ground up to 1.15 feet could occur. Construction activities taking place on site may cause soil erosion, loss of topsoil, and alteration of topsoil; however, best management practices included in Standard Measures WQ-2 and WQ-5 in Section 1.8 require compliance with Caltrans standards for soil erosion control and would be incorporated into construction activities to reduce erosion. Implementation of standard measure GEO-1, provided in Section 1.8, would obtain site-specific data appropriate to design the project to reduce and avoid impacts related to potential liquefaction events. The project has a low potential to cause liquefaction but if liquefaction did occur, it would be to a level that is less than significant. During construction, it is anticipated that there would be no exposure of hazardous materials to workers given the low potential for liquefaction and earthquakes within the project site. Furthermore, once the project is constructed and operational, there would be no exposure of travelers to hazardous materials within the project area.

A field survey was conducted on May 13, 2021, for the project that resulted in observation of native sediments in few limited exposures. Native sediments were observed only in a few locations, such as cut slopes and other areas where underlying geologic deposits were visible. The majority of the project area was obscured by pavement, vegetation, or artificial fill. As a result, no paleontological resources were observed. Construction would require excavation that extends from 2 to 20 feet below the surface. These excavation activities would extend into the Dos Palos Alluvium and Modesto Formations, which have the potential to impact scientifically important, nonrenewable paleontological resources. Although no paleontological resources were identified during the field survey, the limited visibility of native deposits and the depth of proposed excavation indicate that previously undiscovered resources could be encountered during construction. Implementation of **AMM PAL-1**, listed below, would require the preparation and implementation of a Paleontological Mitigation Plan prior to ground-

disturbing activities. Implementation of this measure would ensure that any inadvertent discoveries are appropriately identified, evaluated, and managed in accordance with applicable regulatory requirements. Therefore, impacts to paleontological resources would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

The following measure is required to avoid or minimize potential impacts to geology and soils.

AMM PAL-1: A qualified paleontologist would prepare a Paleontological Mitigation Plan following the guidelines in the California Department of Transportation Standard Environmental Reference, Environmental Handbook, Volume 1, Chapter 8 – Paleontology and guidelines from the Society of Vertebrate Paleontology. The Paleontological Mitigation Plan would be prepared concurrently with final design plans during the Plans, Specifications, and Estimates phase.

2.1.8 Greenhouse Gas Emissions

Considering the information in the Air Quality Report dated July 28, 2026, and the Climate Change Study dated August 3, 2026, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Greenhouse Gas Emissions
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant Impact

Affected Environment

The project is located at the existing Interstate 5 and Louise Avenue interchange in the City of Lathrop, 1.7 miles north of the Interstate 5 and State Route 120 Interchange and 1.1 miles south of the Interstate 5 and Lathrop Road Interchange. The regional setting of the project site is an urban area of San Joaquin County with a well-developed road and street network. The project's surrounding land uses consist of office commercial, freeway commercial, low-density residential, and medium-density residential. The Interstate 5 and Louise Avenue interchange is used heavily during peak hours. The San Joaquin Council of Governments 2022 Regional Transportation Plan/Sustainable Communities Strategy guides transportation

development in the project area. The San Joaquin County General Plan includes greenhouse gas reduction policies to address greenhouse gas emissions in the greater project area, and the City of Lathrop General Plan has goals and policies related to greenhouse gas emissions that are applicable within the City.

Regional Plans

As required by *The Sustainable Communities and Climate Protection Act of 2008*, Air Resources Board sets regional greenhouse gas reduction targets for California's 18 metropolitan planning organizations to achieve through planning future projects that will cumulatively achieve those goals, and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy. Targets are set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels.

The San Joaquin Council of Governments is the metropolitan planning organization for the project area, and the relevant planning document is the 2022 Regional Transportation Plan/Sustainable Communities Strategy for San Joaquin Council of Governments for the San Joaquin County, which generally guides regional growth through year 2046. In addition, the project is located within the planning area for the San Joaquin County General Plan 2035. The regional reduction target for San Joaquin Council of Governments is 10 percent by 2020 and 14 percent by 2035 (California Air Resources Board 2021).

Table 2.5 provides a summary of the regional and local greenhouse gas reduction plans that are relevant to the proposed project and identifies any relevant greenhouse gas reduction strategies therein.

Table 2.5: Regional and Local Greenhouse Gas Reduction Plans

Regional and Local Greenhouse Gas Reduction Plans	Green House Gas Reduction Policies or Strategies
<i>San Joaquin Council of Governments (SJCOG) 2022 Regional Transportation Plan/Sustainable Communities Strategy (adopted August 2022)</i>	• Strategy No. 4: Improve air quality by reducing transportation-related emissions. • Strategy No. 7: Provide transportation improvements to facilitate nonmotorized travel, including incorporation of

Regional and Local Greenhouse Gas Reduction Plans	Green House Gas Reduction Policies or Strategies
	complete street elements as appropriate. • Strategy No. 14: Promote electric power, alternative fuels and autonomous technologies for freight and agriculture. • Strategy No. 15: Manage the adoption of electric vehicles and private connected autonomous vehicles. • Strategy No. 16: Promote electric power, alternative fuels and autonomous technologies for freight and agriculture.
<i>San Joaquin County General Plan 2035 (adopted December 2016)</i>	• Land Use 1.9: Support for alternative transportation modes. • Land Use 3.4: Encourage adoption of walkable and bikeable streets. • Transportation and Mobility 1.3: Encourage development of multimodal systems. • Transportation and Mobility 1.7: Develop a transportation system that would conserve energy, reduce vehicle miles traveled, and minimize air pollution.
City of Lathrop General Plan (adopted September 2022)	• Land Use 4: Coordinate and integrate land use planning and transportation objectives.

Regional and Local Greenhouse Gas Reduction Plans	Green House Gas Reduction Policies or Strategies
	• Circulation 1: Develop and maintain a roadway system that accommodates all users. • Circulation 2: Create a system of pedestrian, bicycle, and transit facilities that enables non-automotive accessibility and increases the health and livability of the community. • Circulation 4: Plan for the future of transportation to ensure accessibility for all, reduce the environmental impacts of Transportation, and improve the quality of life.

Sources: San Joaquin Council of Governments 2022 RTP/SCS, San Joaquin County General Plan 2035, City of Lathrop 2022.

Environmental Consequences

Project Analysis

Construction Greenhouse Gas Emissions

Construction activities associated with the project would produce greenhouse gas emissions from material processing and transportation, on-site construction equipment, and traffic delays due to construction. Construction would emit greenhouse gas emissions through the operation of construction equipment and from worker and builder supply vendor vehicles for the duration of the construction period.

The San Joaquin Valley Air Pollution Control District is the regional agency responsible for monitoring the air quality and greenhouse gas emissions from San Joaquin County to Kern County. As such, this analysis follows the guidelines identified by the San Joaquin Valley Air Pollution Control District. The San Joaquin Valley Air Pollution Control District does not have an adopted threshold of significance for construction related greenhouse gas emissions. However, lead agencies are required to quantify and disclose greenhouse gas emissions that would occur during construction. As mentioned in the Air Quality Report (Table 4-4 of that document) and the Climate Change Study (Table 2 of that document), using California Emissions

Estimator Model, it is estimated that the project would generate 1,081.7 metric tons of carbon dioxide equivalents during the project's construction period. In 2023, statewide greenhouse gas emissions were approximately 360.4 million metric tons of carbon dioxide equivalents. Therefore, greenhouse gas emissions associated with construction of the proposed project would represent approximately 0.0003 percent of statewide greenhouse gas emissions and would be negligible in the context of statewide emissions.

Although not required to reduce an identified impact, implementation of standard measures AQ-1 through AQ-4 listed in Section 1.8 would help minimize greenhouse gas emissions by reducing the amount of construction vehicle idling, requiring the use of properly maintained equipment, and following air quality ordinances and procedures. Additionally, implementation of standard measure E-1 would require limits to vehicle and equipment idling, use of solar-powered equipment, and regular vehicle and equipment maintenance. Therefore, construction of the project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

Operational Greenhouse Gas Emissions

Following construction activities, the proposed interchange improvement project would not generate trips or otherwise result in operational greenhouse gas emissions by itself. Rather, the interchange would facilitate vehicle travel associated with other land uses in the region. Therefore, operations of the project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant. The Build Alternative would improve traffic flow through the interchange by reducing delays, stop-and-go conditions, and inefficient merging movements. Improved traffic operations would reduce unnecessary vehicle idling, acceleration, and deceleration, resulting in more efficient vehicle operations and lower fuel consumption than under the No Build Alternative. Under the Build Alternative, sidewalks and bicycle facilities would be provided which would enhance multimodal connectivity and provide opportunities for non-automobile travel for local trips. These alternative modes of travel may not substantially alter regional travel demand; however, they would support active transportation options that are consistent with statewide goals to reduce transportation-related greenhouse gas emissions. These improvements under the Build Alternative encourage a shift away from single-occupancy vehicle trips and towards alternative transportation modes that do not generate greenhouse gas emissions. The project is therefore expected to provide operational efficiencies that may reduce vehicle fuel consumption and associated greenhouse gas emissions compared to existing conditions.

The 2022 California Air Resources Board's Scoping Plan serves as California's primary statewide strategy for achieving its greenhouse gas emissions reduction targets established by Senate Bill 32 and Assembly Bill 1279. The proposed interchange improvements are consistent with the intent of the 2022 Scoping Plan because they are expected to improve traffic operations by reducing congestion, vehicle idling, and stop-and-go driving conditions. By facilitating smoother traffic flow and more efficient vehicle operation, the project would reduce unnecessary fuel consumption and associated greenhouse gas emissions relative to existing conditions, supporting the Scoping Plan's objective of improving transportation system efficiency while reducing emissions from the on-road vehicle sector. Therefore, the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases, and the impact would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no avoidance, minimization, and/or mitigation measures are required.

2.1.9 Hazards and Hazardous Materials

Considering the information in the Phase 1 Initial Site Assessment dated May 6, 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
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
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
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
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?	Less Than Significant Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact

Affected Environment

An Initial Site Assessment was conducted for the project site in May 2021, which involved the following:

- Reviewed historical aerial photographic coverage and topographic map coverage for the project area and surrounding properties for indications of potential sources of contamination,
- Performed federal, State, and county record review for indications of the use, misuse, or storage of hazardous or potentially hazardous materials on or near the project area,
- Conducted a site inspection on April 6, 2021, to observe current land use and indications of potential contamination, as well as hazardous and potentially hazardous waste issues for the project area,
- Performed State record review of the online regulatory databases GeoTracker and EnviroStor to determine if known site impacts and/or previous environmental work exist for the project area,
- Reviewed Initial Site Assessment, Interstate 5 and Louise Avenue Interchange Improvements (Blackburn, April 2005), and

Additionally, the Initial Site Assessment evaluated the project area for recognized environmental conditions, which are defined as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release into the environment; (2) under conditions indicative of a release to the environment; (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.” *De minimis* conditions for hazardous substances are those that generally do not pose a threat to human health or the environment. Recognized environmental conditions fall into the following three categories: existing recognized environmental conditions; historical recognized environmental conditions; or controlled recognized environmental conditions.

Further, the Initial Site Assessment identified general contamination issues within the project limits that consist of yellow traffic stripes, aerially deposited lead, asbestos-containing material and lead in building materials, and organochlorine pesticides.

Environmental Consequences

Yellow Traffic Stripes

Yellow traffic stripes were noted within the project area. This striping may contain heavy metals, such as lead and chromium, at concentrations more than the hazardous waste thresholds established by the California Code of Regulations. Toxic fumes may be produced when traffic stripes are heated for removal.

Aerially Deposited Lead

Aerially deposited lead may occur in soils adjacent to highways and high-use roadways. The lead is from the historical use of leaded gasoline and subsequent exhaust emissions. There is potential for encountering aerially deposited lead during construction within the entire project area.

Asbestos-Containing Material and Lead-Based Paint in Building Materials

Structures constructed before 1989 have the potential to contain asbestos-containing materials and lead-based paint materials. Historic aerial photographs were reviewed in the Initial Site Assessment and identify structures adjacent to the project site that were constructed prior to 1989. These structures include the existing bridge on Interstate 5 and Louise Avenue and two parcels (Assessor's Parcel Numbers No. 192-040-46 and 192-040-08) within the project area.

Organochlorine Pesticides

Historical aerial maps reviewed for the Initial Site Assessment depict two small orchards north of Louise Avenue and east of Interstate 5. Organochlorine pesticides and lead arsenate were commonly used in orchards prior to the 1970s. The former orchard has been developed. The

surface soil of the orchard was likely dispersed during site grading and development. Therefore, it is unlikely significant levels of organochlorine pesticides or lead arsenate remain within the project area.

During project construction, the use of these hazardous materials would be typical for construction activities and would be handled, stored, and disposed in accordance with existing regulations and would not pose a significant hazard to the public or environment. Upon completion of construction, no ongoing or routine transport of hazardous materials to the project site would be required. Additionally, during construction there is a limited risk of accidental release of hazardous materials such as gasoline, oil, or other fluids used in operation and maintenance of construction equipment. Any hazardous waste produced on site would be subject to requirements associated with accumulation time limits, proper storage locations and containers, proper labeling, and proper disposal. Compliance with applicable regulations would ensure impacts associated with the use, and/or disposal of hazardous material during construction would be less than significant. Project construction may require excavation near or adjacent to the two parcels listed in Table 2.6. The Initial Site Assessment identified several parcels with known or potential recognized environmental conditions. Table 2.6 contains the Assessor's Parcel Number, address, current and/or former land use, risk level, and parcel acquisition. The project would require permanent acquisition of parcels as identified in Section 1.6.1, Build Alternative. There are two parcels that have potential recognized environmental conditions. The permanent acquisition of these parcels is required to accommodate the Build Alternative's on- and off-ramps, sidewalk improvements, and diverging

Table 2.6: Parcels with Known and/or Potential Recognized Environmental Conditions

APN	Address	Land Use Current/Former	Hazardous Waste Risk	Summary and Project Parcel Acquisition
198-210-17	16500 Louise Ave. 16500 S. Harlan Rd.	Current: Shell Station Former: British Petroleum America, TOSCO Northwest, Phillips 66	High	British Petroleum America operated a service station in 1983. Groundwater and soil were impacted by petroleum hydrocarbons. Site remediation by ozone injection and soil vapor extraction took place between 2002 and 2012. No Further Action closure in 2014. The current land use now has two 12,000-gallon underground storage tanks for gasoline. The project would require permanent partial acquisition of this property.
196-270-10	16349 S. Harlan Rd. 85 E. Louise Ave.	Current: Arco Station, AM/PM Mini Market Former: British Petroleum America	High	British Petroleum America operated a service station in 1985. In 1985, a total petroleum hydrocarbons release was identified. Soil remediation occurred in 1998. Groundwater monitoring indicated impacts of petroleum hydrocarbons; benzene, toluene, ethylbenzene, and xylene; and methyl tertiary butyl ether. No Further Action closure in 2007. The current use includes an aboveground diesel storage tank of unknown quantity. The project would require permanent partial acquisition of this property.
196-270-23	45 E. Louise Ave.	Current: Louise Plaza, Hilton Lathrop Former: Lathrop Cleaners, Plaza Cleaners, Texaco Gas Station	High	This site is identified as a historic service station and dry-cleaning service. The site is identified with three petroleum underground storage tanks with no additional information on their status. No parcel acquisition would occur on this property.

APN	Address	Land Use Current/Former	Hazardous Waste Risk	Summary and Project Parcel Acquisition
196-270-28	103 E. Louise Ave.	Current: Hampton Inn & Suites Former: British Petroleum America, Marshall Studios	Medium	Historically, this site is identified as a service station. No parcel acquisition would occur on this property.
Not applicable	Louise Ave. (0.25 mile west of Interstate 5)	Orphan Site	Low	This site was identified in 2004 as a location where illegal drug lab waste or equipment were abandoned. No parcel acquisition would occur on this property.
196-200-79-80	15600 S. Harlan Rd. 16588 Harlan Rd. 15600 S. Highway 50	Current: Joe's Travel Plaza Former: Joe's Texaco, Joes Place Truck Stop, Tokyo Joes	High	Contamination of soil and groundwater with methyl tertiary butyl ether was identified during removal of underground storage tanks in 1998. Site remediation was not cost effective, and methyl tertiary butyl ether concentrations reportedly declined through natural attenuation. No Further Action Closure in 2010. The current use includes 4,000-gallon, 8,000-gallon, and 12,000-gallon tanks. No parcel acquisition would occur on this property.
196-200-81	15688 Harlan Rd.	Current: Holiday Inn Former: City of Lathrop, Joes Travel Plaza	Medium	In 2007, two underground storage tanks were discovered during development of the property. Groundwater monitoring wells installed on the site identified low levels of total petroleum hydrocarbons. No Further Action Closure in 2009. Destruction of the monitoring wells is pending. No parcel acquisition would occur on this property.
196-270-01-91	Thomsen Rd.	Current: Urgent Care Facility Former: Quaresma Property	Medium	Unauthorized release (leak) from an underground storage tank in 1991. 360 cubic yards of soil was excavated, and the case was closed in 1992. No parcel acquisition would occur on this property.

Source: Black Burn Consulting Phase 1 Initial Site Assessment (May 2021).

diamond interchange footprint. A Phase II screening would be required to investigate the area to the maximum depth construction is anticipated to disturb to avoid any impacts associated with hazardous soils. The Phase II screening is listed as standard measure HAZ-1 in Section 1.8. Additionally, standard measures HAZ-2 through HAZ-4, listed in Section 1.8, would require removal of yellow traffic or pavement marking with hazardous waste residue, aerially deposited lead testing, and asbestos surveys.

Historical uses of the project site and existing structures indicate the potential presence of site contamination by aerially deposited lead, asbestos-containing material, lead-based paint, and yellow traffic striping known to contain heavy metals. Historically, the project site was a highway with adjacent agricultural uses, so soils adjacent to the project site are likely impacted with hazardous levels of pesticides, herbicides, and arsenic. The project area may have soil affected by deposition of aerially deposited lead, pesticides, herbicides, and arsenic (from past agricultural uses); they may have surface markings and signs that contain asbestos-containing materials and lead-based paint. The Initial Site Assessment indicated that if surface soils are disturbed, testing should be done to determine the levels of these hazardous materials and work plan should be prepared in the event testing determines levels exceed standards. With implementation of standard measures HAZ-1 through HAZ-4 listed in Section 1.8, any impacts related to the routine transport, use, or disposal of hazardous materials would be minimized. The project would result in a less than significant impact.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no avoidance, minimization, and/or mitigation measures are required.

2.1.10 Hydrology and Water Quality

Considering the information in the Preliminary Materials Report dated September 29, 2023, the Preliminary Foundation Report dated August 4, 2023, Preliminary Drainage Memorandum dated November 2023, Stormwater Data Report dated November 2023, and Water Quality Memorandum dated March 11, 2024, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?	Less Than Significant Impact
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 Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation onsite or offsite;	Less Than Significant Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	Less Than Significant Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Less Than Significant Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less Than Significant Impact

Affected Environment

The State Water Resources Control Board and nine Regional Water Quality Control Boards regulate the quality of surface water and groundwater bodies throughout California. In the City and at the project site, the Central Valley Regional Water Quality Control Board is responsible for implementation of the Water Quality Control Plan (Basin Plan). The Basin Plan establishes beneficial water uses and water quality objectives for waterways and water bodies within the region. Section 303(d) of the federal Clean Water Act requires that states identify water bodies, including bays, rivers, streams,

creeks, and coastal areas, that do not meet water quality standards and the pollutants that are causing the impairment. Total maximum daily load describes the maximum amount of a pollutant that a water body can receive while still meeting established water quality standards. A total maximum daily load establishes limits for pollutant discharges into impaired water bodies.

The project does not cross any water bodies and has existing Design Pollution Prevention infiltration structures. Stormwater runoff that falls within the State's right-of-way is contained within the State's right-of-way limits. Currently, stormwater along Interstate 5 and the Interstate 5 ramps is channeled using dikes and scuppers or sheet flows into the grassy median in the center or to the outside road shoulders, where it is conveyed towards drainage inlets and into the existing drainage systems underneath Interstate 5 and outfalls along the outside embankment and into stormwater basins within Caltrans' right-of-way. On Louise Avenue, storm runoff is captured through drainage inlets along the curb and gutters and is discharged into existing drainage systems. The San Joaquin River, which runs 1.12 miles from the project boundary and to the west of the City, is the closest indirect receiving water to the project.

The project does not encroach into an existing 100-year floodplain and would, therefore, not have any effects on a floodplain.

Environmental Consequences

Construction Impacts

Construction of the project would result in a net increase of approximately 4.1 acres of new impervious surface areas, including 3.4 acres of replaced impervious surface areas, and 7.5 acres of new impervious surface area. Construction activities involve roadway excavation and widening on the ramps and Louise Avenue and the construction of a diverging diamond interchange, including new pavement for ramp widening, widening of Louise Avenue, construction of new curb and gutter, new sidewalk, and construction of retaining walls. Construction activities would result in a total disturbed area of 11.94 acres.

Pollutants of concern during construction of the project would include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, soil would be disturbed, and there would be an increased potential for soil erosion compared to existing conditions. Further, during a storm event, soil erosion could occur at an accelerated rate. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during project construction and have the potential to be transported via stormwater runoff into drainage areas adjacent to the project area.

Because construction of the project would disturb greater than 1 acre of soils, as stipulated in standard measures WQ-1 and WQ-2 listed in Section 1.8, the project is subject to the requirements of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Order Number 2022-0057-DWQ, National Pollutant Discharge Elimination System Number CAS000002, which requires the preparation and implementation of a Stormwater Pollution Prevention Plan. The Stormwater Pollution Prevention Plan would be developed by the contractor and submitted to the Caltrans resident engineer for review and acceptance prior to the start of construction. The Stormwater Pollution Prevention Plan would incorporate the applicable temporary construction site best management practices for the project intended to reduce or eliminate pollutants in construction site stormwater runoff. Construction best management practices would include, but not be limited to, Erosion Control and Sediment Control best management practices designed to minimize erosion and retain sediment on site, and good housekeeping best management practices to prevent spills, leaks, and discharge of construction debris and waste. Additional construction best management practices can be determined during construction, if needed. Compliance with the Construction General Permit, including preparation of a Stormwater Pollution Prevention Plan, would also meet the requirements of Chapter 13.28, Stormwater Management and Discharge Control, of the City's Municipal Code, which is intended to protect and enhance water quality watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Clean Water Act (33 U.S. Code Sections 1251 et seq.) by reducing pollutants in stormwater discharges to the maximum extent practicable.

According to the Preliminary Foundation Report, groundwater was encountered at the Project site at approximately 7.4 feet below ground surface during test borings taken on October 5, 1966. In addition, groundwater level monitoring well data from the California Department of Water Resources completed between 2009 to 2023 for Local Well PW20-500 about 0.33 mile southeast of the Interstate 5 and Louise Avenue interchange indicates that groundwater elevations range from about 5 feet to 7.5 feet below ground surface. Due to the relatively shallow depth to groundwater, groundwater dewatering may be required during project construction. Therefore, the project would be required to comply with the Central Valley Regional Water Quality Control Board National Pollution Discharge Elimination System CAG995002 Order R5-2022-0006-02 for Waste Discharge Requirements Limited Threat Discharges to Surface Water (Construction Dewatering Permit), as detailed in standard measure WQ-3 listed in Section 1.8. In compliance with the requirements of the Construction Dewatering Permit, groundwater would be tested and treated (if necessary) prior to discharge to surface water. The project may potentially result in decreasing groundwater supplies or interfering substantially with groundwater

recharge, substantial erosion on or off site, or increasing or contributing to runoff water, and may provide additional sources of polluted runoff.

With implementation of standard measures WQ-1, WQ-2, and WQ-3 listed in Section 1.8 which require compliance with the Construction General Permit, preparation of a Stormwater Pollution Prevention Plan, and compliance with the Construction Dewatering Permit, and compliance with Chapter 13.28 of the City's Municipal Code, construction impacts related to surface water quality standards, waste discharge requirements, and surface water quality would be less than significant.

Long Term Operational Impacts

Pollutants of concern during operation of transportation facilities include suspended solids/sediments, nutrients, pesticides, heavy metals, oil and grease, toxic organic compounds, and trash and debris. The proposed project involves improvements to an existing transportation facility; therefore, the types of pollutants of concern would not change from existing conditions.

Following the completion of construction, the area disturbed by construction activities would be restored to preconstruction conditions. The project would maintain existing drainage patterns and would connect to existing drainage systems, and the project changes would allow the existing drainage patterns to outfall into the same storm drain systems and water quality basins as existing conditions. Specifically, the existing drainage systems along the Interstate 5 embankment slopes would be extended to the new grading limits to allow for similar outfall patterns as in the existing conditions. Drainage inlets along Louise Avenue would be relocated to the new curb and gutter limits, and the drainage pipes would be extended to those locations to maintain the existing flow patterns. Therefore, although project improvements would increase the amount of impervious area and the volume of stormwater runoff, the project would maintain the existing drainage patterns and the design of the new drainage systems would capture and treat the increased stormwater flow. In addition, as stipulated in standard measures WQ-4, WQ-5, and WQ-6 outlined in Section 1.8, the project would implement Caltrans' Municipal Separate Storm Sewer System Permit requirements and Caltrans approved Design Pollution Prevention, Treatment, and Maintenance best management practices to reduce the discharge of pollutants of concern to the maximum extent practicable.

The project would be required to follow the guidelines and procedures outlined in the latest Storm Water Management Plan to address stormwater runoff.

As detailed in standard measure WQ-5, Design Pollution Prevention best management practices would be implemented to preserve existing vegetation, slope/surface protection systems (permanent soil stabilization), concentrated flow conveyance systems such as ditches, berms, dikes, and

swales; over side drains; flared end sections; and outlet protection/velocity dissipation devices when appropriate. In addition, as detailed in standard measure WQ-6, treatment best management practices would be implemented and may include biofiltration strips, biofiltration swales, infiltration basins, detention devices, design pollution prevention infiltration areas, dry-weather flow diversion, gross solids removal devices, media filters, bioretention, open-graded friction course, wet basins, and other best management practices.

Considering the inclusion of the water quality standard measures listed in Section 1.8, which require compliance with National Pollution Discharge Elimination System Construction General Permit requirements, Stormwater Pollution Prevention Plan requirements, construction dewatering permit requirements, Caltrans' Municipal Separate Storm Sewer System Permit requirements, and Caltrans approved Design Pollution Prevention, Treatment, and Maintenance best management practices to reduce the discharge of pollutants of concern to the maximum extent practicable, operation impacts related to a violation of any water quality standards or waste discharge requirements would be less than significant.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act, which was enacted in September 2014, requires governments and water agencies of high- and medium-priority basins to halt overdraft of groundwater basins. The Sustainable Groundwater Management Act requires the formation of local Groundwater Sustainability Agencies, which are required to adopt Groundwater Sustainability Plans to manage the sustainability of the groundwater basins. As previously discussed, the project is within the San Joaquin Valley Groundwater Basin and within the Tracy Groundwater Subbasin. The Tracy Subbasin is not adjudicated and has not been designated by the California Department of Water Resources as being in a condition of critical overdraft. However, the Tracy Subbasin was designated by Department of Water Resources as a "medium priority" subbasin and is therefore required to comply with Sustainable Groundwater Management Act.

The Central Valley Regional Water Quality Control Board adopted a Water Quality Control Plan (Basin Plan) that designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. The project would implement construction and post-construction requirements of the Construction General Permit, Construction Dewatering Permit, and requirements of the Caltrans Municipal Separate Storm Sewer System Permit, including Caltrans-approved Design Pollution Prevention and Treatment best management practices to reduce the discharge of pollutants of concern to the maximum extent practicable, as detailed in standard measures WQ-1 through WQ-6 listed in Section 1.8. Compliance with these regulatory requirements would ensure that the project would not degrade or alter water quality, causing the receiving waters to violate applicable water

quality objectives, or impair the beneficial use of receiving waters. Therefore, the project would not result in water quality impacts that would conflict with the Basin Plan. No impact would occur.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no avoidance, minimization, and/or mitigation measures are required.

2.1.11 Land Use and Planning

Considering the information in the Community Impact Assessment Memorandum dated November 2023, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Land Use and Planning
a) Physically divide an established community?	No Impact
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?	No Impact

2.1.12 Mineral Resources

Considering the information by the California Geological Survey (January 2018) and the City of Lathrop Existing Conditions Report (2019), the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Mineral Resources
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?	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact

2.1.13 Noise

Considering the information in the Traffic Operations Analysis Report dated November 2, 2022, the Noise Study Report dated May 16, 2024, and the

Noise Abatement Decision Report dated August 9, 2024, the following significance determinations have been made:

Question—Would the project result in:	CEQA Significance Determinations for Noise
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?	Less Than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

Affected Environment

The project area and surrounding properties are occupied by a variety of urban uses, agricultural uses, and some vacant land. The following land uses were identified in the project area:

- Land uses located southeast of the project area include a church, a hotel, restaurants, and commercial and industrial land uses.
- Land uses located northeast of the project area include single-family residences, a mobile home park, hotels, and commercial uses.
- Land uses located southwest of the project area include restaurants, vacant land, and office and commercial uses.
- Land uses located northwest of the project area include single-family residences and commercial uses.

These land uses were identified through land use maps, aerial photography, and site inspection. Within each land use category, existing sensitive receptors were identified. The land uses and 57 sensitive receptors in the project area that have been analyzed for potential noise impacts have been grouped by proximity to the project. The 57 sensitive noise receptors are primarily along Louise Avenue. For more information, please refer to the

Noise Study Report, which demonstrates the modeled receptors and the short-term and long-term noise monitoring locations.

Environmental Consequences

The Noise Study Report identified the project to be a Type 1 Project because it would add an additional northbound and southbound off-ramp lane and add auxiliary lanes in each direction to the existing Interstate 5.

Temporary Noise Impacts

Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site, which would incrementally raise noise levels on access roads leading to the site. The pieces of heavy equipment for grading and construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volumes in the project vicinity. A high single-event noise exposure potential at a maximum level of 84 maximum instantaneous noise level (dBA L_{max}) from trucks passing at 50 feet would exist. However, the projected construction traffic volume will be minimal when compared to existing traffic volumes on Interstate 5, Louise Avenue, and other adjacent roadways, and the associated long term noise level change will not be perceptible. Therefore, short term construction related worker commutes and equipment transport noise impacts would be less than substantial.

The second type of short-term noise impact is related to noise generated during roadway construction. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels in the project area as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 2.7 lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor.

Table 2.7: Typical Construction Equipment Noise Levels

Type of Equipment	Actual Maximum Sound Levels at 50 feet (A-weighted decibels)
Backhoe	78
Crane	81
Dozer	82
Drill Rig Truck	79
Dump Truck	76
Excavator	81
Flat Bed Truck	74
Front End Loader	79
Generator	81
Impact Pile Driver	101
Jackhammer	89
Pickup Truck	75
Pneumatic Tools	85
Pumps	81
Roller	80
Scraper	84

Source: LSA Noise Study Report (May 2024)

Typical noise levels at 50 feet from an active construction area range up to 86 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery (e.g., backfillers, bulldozers, and front loaders). Earthmoving and compacting equipment includes compactors, scrapers, and graders.

The construction of the project is expected to require the use of earthmovers, bulldozers, water trucks, and pickup trucks. Noise associated with the use of construction equipment is estimated to be between 75 and 84 dBA L_{max} at a distance of 50 feet from the active construction area for the grading phase. As seen in Table 2.7, the maximum noise level generated by each scraper is assumed to be approximately 84 dBA L_{max} at 50 feet from the scraper in operation. Each bulldozer would generate approximately 82 dBA L_{max} at 50 feet. The maximum noise level generated by water trucks and pickup

trucks is approximately 75 dBA $L_{\max}$ at 50 feet from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 86 dBA $L_{\max}$ (at a distance of 50 feet from an active construction area).

The closest residence is within 50 feet of project construction areas and may be subject to short-term noise higher than 86 dBA $L_{\max}$ generated by construction activities in the project area. Standard measure N-1 listed in Section 1.8 would be implemented to ensure that the short-term noise impacts as a result of the project remain compliant with Caltrans Standard Specifications Section 14-8.02 (Caltrans 2023) and Caltrans Standard Special Provisions Section 14-8.02 (Caltrans 2022).

Operational Noise Impacts

The FHWA Traffic Noise Model version 2.5 [2004] was used to model existing traffic noise levels and predict future traffic noise levels in the project study area. Key inputs to the traffic noise model included the locations of roadways, shielding features (e.g., topography and buildings), sound barriers, ground type, and receptors. Three-dimensional representations of these inputs were developed using computer-aided design drawings, aerials, and topographic contours.

The No Build and Build Alternative traffic noise levels were modeled using either the worst-case traffic operations (prior to speed degradation) or peak-hour traffic volumes, whichever is lower. The worst-case traffic condition is assumed to be level of service C and is generally loudest when vehicles on a given roadway travel at free-flowing traffic conditions. Accordingly, the worst-case traffic volume assumptions are based on the maximum number of vehicles that can typically travel in a given lane while still resulting in free-flowing traffic conditions. The worst-case traffic condition is assumed to be 1,950 vehicles per lane per hour on the freeway mainline, 1,500 vehicles per lane per hour on freeway high-occupancy vehicle lanes and auxiliary lanes, 1,000 vehicles per lane per hour on freeway ramps, and 750 vehicles per lane per hour on local roadways. The higher (a.m. or p.m.) peak-hour traffic volume was selected when the higher peak-hour traffic volume is lower than the worst-case traffic volume. The peak-hour traffic volumes were obtained from the Interstate 5 and Louise Avenue Interchange Improvement Project Traffic Operations Analysis Report (Fehr & Peers 2022).

Traffic Noise Model 2.5 is sensitive to the volume of trucks on the roadway because trucks contribute disproportionately to traffic noise. Vehicle distributions on all roadways in the project area were based on traffic counts collected during ambient noise level measurement. Table 2.8 shows the vehicle distribution and vehicle speeds for each vehicle category and roadway in the project area used to calculate existing and future traffic noise levels.

Table 2.8: Vehicle Distribution

Roadway	Vehicle Distribution (percent) – Autos	Vehicle Distribution (percent) – Medium Trucks	Vehicle Distribution (percent) – Heavy Trucks	Vehicle Speed (miles per hour) – Autos	Vehicle Speed (miles per hour) – Medium Trucks	Vehicle Speed (miles per hour) – Heavy Trucks
Interstate 5 Mainline	79	1	20	65	65	55
Interstate 5 High- Occupancy Vehicle	99	1	0	65	65	--
Interstate 5 On-Ramps	88	1	11	65	65	55
Interstate 5 Off-Ramps	88	1	11	45	45	40
Louise Avenue/ River Islands Parkway	96	1	3	45	45	45
Golden Valley Parkway (North of Louise Avenue)	96	1	3	50	50	50
Golden Valley Parkway (South of Louise Avenue)	96	1	3	45	45	45
Harlan Road	96	1	3	40	40	40

Source: LSA Noise Study Report (May 2024)

A total of 57 modeled receptors in the project study area were evaluated. These receptors represent various land uses adjacent to the project, which include single-family residences, a mobile home park, a church, vacant land, restaurants, hotels, office, commercial, and industrial uses. Please refer to the

Noise Study Report and Noise Abatement Decision Report for locations of the modeled receptors.

Table 2.9 shows the results of the existing and predicted future 2045 traffic No Build and Build Alternative noise modeling at all 57 receptors. The predicted future 2045 with project (Build Alternative) traffic noise levels were compared to the Noise Abatement Criteria to determine whether a traffic noise impact would occur. Traffic noise impacts occur when the predicted future with project traffic noise level at a receptor location would “approach or exceed” the Noise Abatement Criteria. Also, the predicted future 2045 with project (Build Alternative) traffic noise levels were compared to the modeled existing noise levels to determine whether a substantial noise increase would occur. Of the 57 modeled receptors evaluated, 9 receptors would approach or exceed the Noise Abatement Criteria, as indicated in Table 2.9, below. However, none of the 57 modeled receptors would experience a substantial noise increase of 12 dBA or more over their corresponding existing noise levels.

Noise Abatement

Additionally, the Noise Abatement Decision Report determined the overall reasonableness of noise abatement by considering factors such as the noise reduction design goal and the construction cost of the barrier. For a noise barrier to be considered reasonable, the noise level reduction design goal of 7 dBA must be achieved at one or more of the benefited receptors, and from a cost perspective, the estimated construction cost of the noise barrier would need to be equal to or less than the total cost allowance calculated for the barrier. The total reasonable allowance was determined based on the number of benefited receptors multiplied by the reasonable allowance per residence.

Table 2.9 lists all the feasible noise barriers along with their locations, heights, approximate lengths, maximum noise attenuation, number of benefited receptors or units, total reasonable allowance, and estimated construction cost, as well as whether the barrier is reasonable based on cost. As shown in Table 2.9, all feasible noise barriers were determined to be not reasonable because the estimated construction cost exceeded the total reasonable allowance. For instance, Noise Barrier 2, at a height of 16 feet, has a total reasonable allowance of \$146,000 and an estimated construction cost of \$1,314,529. Table 2.10 provides a summary of abatement key information.

Table 2.9: Traffic Noise Levels

Receptor No.	Land Use	Traffic Noise Level (dBA L_{eq}) – Existing	Traffic Noise Level (dBA L_{eq}) – 2045 No Build	Traffic Noise Level (dBA L_{eq}) – 2045 Build Alternative	Building Alternative Minus No Build	Build Alternative Minus Existing	Noise Abatement Criteria	Impact
R-1	Industrial	68	68	68	0	0	F	--
R-2	Church	68	68	68	0	0	C(67)/D(52)/E ¹	--
R-3	Industrial	70	70	70	0	0	F	--
R-4	Commercial	70	70	71	1	1	F	--
R-5	Restaurant	72	72	73	1	1	E	--
R-6	Restaurant	70	70	71	1	1	E	--
R-7	Commercial	71	72	71	-1	0	F	--
R-8	Hotel	52	53	53	0	1	E(72)	--
R-9	Restaurant	69	71	70	-1	1	E	--
R-10	Restaurant	69	70	70	0	1	E	--
R-11	Restaurant	69	70	70	0	1	E	--
R-12	Restaurant	61	62	62	0	1	E	--
R-13	Commercial	73	74	74	0	1	F	--
R-14	Hotel	67	68	68	0	1	E(72)	--
R-15	Hotel	70	72	71	-1	1	E	--
R-16	Commercial	71	73	73	0	2	F	--
R-17	Commercial	74	74	76	2	2	F	--

Receptor No.	Land Use	Traffic Noise Level (dBA L _{eq}) – Existing	Traffic Noise Level (dBA L _{eq}) – 2045 No Build	Traffic Noise Level (dBA L _{eq}) – 2045 Build Alternative	Building Alternative Minus No Build	Build Alternative Minus Existing	Noise Abatement Criteria	Impact
R-18	Residential	62	63	63	0	1	B(67)	--
R-19	Residential	59	60	60	0	1	B(67)	--
R-20	Residential	65	66²	66	0	1	B(67)	Yes ³
R-21	Residential	66	67	67	0	1	B(67)	Yes
R-22	Residential	60	61	61	0	1	B(67)	--
R-23	Residential	58	59	59	0	1	B(67)	--
R-24	Residential	62	62	62	0	0	B(67)	--
R-25	Residential	57	58	58	0	1	B(67)	--
R-26	Residential	67	68	68	0	1	B(67)	Yes
R-27	Residential	64	65	65	0	1	B(67)	--
R-28	Residential	64	65	65	0	1	B(67)	--
R-29	Residential	67	68	68	0	1	B(67)	Yes
R-30	Residential	72	73	73	0	1	B(67)	Yes
R-31	Residential	62	63	63	0	1	B(67)	--
R-32	Residential	70	71	71	0	1	B(67)	Yes
R-33	Residential	62	63	63	0	1	B(67)	--
R-34	Residential	68	69	69	0	1	B(67)	Yes
R-35	Commercial	75	75	75	0	0	F	--

Receptor No.	Land Use	Traffic Noise Level (dBA L _{eq}) – Existing	Traffic Noise Level (dBA L _{eq}) – 2045 No Build	Traffic Noise Level (dBA L _{eq}) – 2045 Build Alternative	Building Alternative Minus No Build	Build Alternative Minus Existing	Noise Abatement Criteria	Impact
R-36	Residential	65	65	65	0	0	B(67)	--
R-37	Hotel	74	74	74	0	0	E	--
R-38	Restaurant/Commercial	73	74	74	0	1	E/F	--
R-39	Residential	60	61	61	0	1	B(67)	--
R-40	Residential	60	60	60	0	0	B(67)	--
R-41	Residential	60	61	61	0	1	B(67)	--
R-42	Residential	58	59	59	0	1	B(67)	--
R-43	Commercial	73	74	74	0	1	F	--
R-44	Office	71	72	72	0	1	E	--
R-45	Vacant	72	73	73	0	1	G	--
R-46	Commercial	71	72	72	0	1	F	--
R-47	Restaurant	65	68	68	0	3	E(72)	--
R-48	Restaurant	64	68	68	0	4	E	--
R-49	Commercial	68	69	69	0	1	F	--
R-50	Residential	68²	69²	69²	0	1	B(67)	Yes
R-51	Commercial	63	66	66	0	3	F	--
R-52	Commercial	63	67	66	-1	3	F	--
R-53	Vacant	64	65	65	0	1	F	--

Receptor No.	Land Use	Traffic Noise Level (dBA L_{eq}) – Existing	Traffic Noise Level (dBA L_{eq}) – 2045 No Build	Traffic Noise Level (dBA L_{eq}) – 2045 Build Alternative	Building Alternative Minus No Build	Build Alternative Minus Existing	Noise Abatement Criteria	Impact
R-54	Commercial	76	77	75	-2	-1	F	--
R-55	Residential	71²	71²	71²	0	0	B(67)	Yes
R-56	Residential	64	65	65	0	1	B(67)	--
R-57	Commercial	71	72	72	0	1	F	--

Source: LSA Noise Study Report (May 2024).

¹ Activity Categories without outdoor frequent human use areas were not evaluated against the Noise Abatement Criteria.

² Numbers in bold represent noise levels that approach or exceed the Noise Abatement Criteria.

³ If the Impact column is marked “Yes”, that noise receptor is approaching and or exceeding the Noise Abatement Criteria.

Table 2.10: Summary of Abatement Key Information

Noise Barrier No.	Noise Barrier Location	Height (feet)	Approximate Length (feet)	Maximum Noise Attenuation (A-weighted decibels)	Number of Benefited Receptors/Units ¹	Total Reasonable Allowance	Estimated Construction Cost ²	Reasonable?
1	Edge of Shoulder	14	2,761	6	25	\$3,650,000	-- ³	--
1	Edge of Shoulder	16	2,761	6	39	\$5,694,000	--	--
2	Edge of Shoulder	12	670	5	1	\$146,000	--	--
2	Edge of Shoulder	14	670	6	1	\$146,000	--	--
2	Edge of Shoulder	16	670	7	1	\$146,000	\$1,314,529	No
3	Edge of Shoulder	12	1,495	7	1	\$146,000	\$2,133,250	No
3	Edge of Shoulder	14	1,495	7	1	\$146,000	\$2,392,000	No
3	Edge of Shoulder	16	1,495	8	1	\$146,000	\$2,650,750	No

Source: LSA Noise Abatement Decision Report (August 2024).

¹ Number of receptors/units that are attenuated 5 A-weighted decibels or more by the modeled barrier.

² The estimated noise barrier construction cost information was provided by Mark Thomas (May 2024).

³ The shaded area represents barrier heights that have been determined to be not reasonable because the barrier would not reduce noise levels by 7 A-weighted decibels or more.

As mentioned previously, construction noise impacts are anticipated through implementation of the project. Standard Measure N-1 as listed in Section 1.8 would be implemented to remain compliant with Caltrans Standard Specifications Section 14-8.02 (Caltrans 2023) and Caltrans Standard Special Provisions Section 14-8.02 (Caltrans 2022). For operational noise, based on the analysis above, the Build Alternative would not generate a substantial permanent increase in ambient noise levels in the vicinity of the project area in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Traffic noise impacts would be less than significant. No mitigation would be required.

Vibration

Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings on soil near an active construction area respond to these vibrations, which range from imperceptible to slight damage at the highest vibration levels. Typically, construction-related vibration does not reach vibration levels that would result in damage to nearby structures or generate ground-borne noise levels that would be perceptible to humans.

The Caltrans Transportation and Construction Vibration Guidance Manual (2020) shows that the vibration damage threshold for continuous or frequent intermittent sources is 0.25 peak-particle velocity (inches per second) for historic and old buildings, 0.3 peak-particle velocity (inches per second) for older residential structures, and 0.5 peak-particle velocity (inches per second) for new residential structures and modern industrial or commercial buildings. The manual shows the vibration annoyance potential criteria to be barely perceptible at 0.01 peak-particle velocity (inches per second), distinctly perceptible at 0.04 peak-particle velocity (inches per second), strongly perceptible at 0.10 peak-particle velocity (inches per second), and severe at 0.40 peak-particle velocity (inches per second) for continuous or frequent intermittent sources. These thresholds were used to evaluate the potential for short-term construction-related ground-borne vibration during construction of the Build Alternative.

Vibration Construction Impacts

Bulldozers and loaded trucks used for construction of the Build Alternative would generate the highest ground-borne vibration levels. Based on the Caltrans Transportation and Construction Vibration Guidance Manual (2020), a large bulldozer and loaded trucks would generate vibration levels of 0.089 peak-particle velocity (inches per second) and 0.076 peak-particle velocity (inches per second), respectively, when measured at 25 feet. Building structures adjacent to the project consist of older residential structures, newer residential structures, and modern industrial or commercial buildings. The

closest building structure from project construction activities would be approximately 20 feet. At this distance, building structures would experience a vibration level of up to 0.124 peak-particle velocity (inches per second). This vibration level would be strongly perceptible but would stop once the construction equipment is no longer in use or when construction is completed. In addition, this vibration level would not exceed the damage thresholds of 0.3 peak-particle velocity (inches per second) for old residential structures and peak-particle velocity (inches per second) for new residential structures and modern industrial or commercial buildings. Therefore, short-term construction impacts related to ground-borne vibration would be less than significant. No mitigation would be required.

Vibration Operational Impacts

Once operational, the Build Alternative would not generate any additional traffic, and regional traffic trips are expected to remain the same. Roads are not typically major sources of ground-borne noise or vibration. Ground-borne vibration is mostly associated with passenger vehicles and trucks traveling on roads with poor conditions (for example, potholes, bumps, expansion joints, or other discontinuities in the road surface). Vibration effects of passenger vehicles and trucks (for example, rattling of windows) are almost always a result of airborne noise. The Build Alternative would include new asphalt pavement that would be subject to proper maintenance. As a result, there would be no potholes, bumps, or other discontinuities in the road surface that would generate ground-borne vibration or noise impacts from vehicular traffic traveling on Interstate 5, Louise Avenue, and other roadways in the project area. Therefore, ground-borne vibration and noise impacts generated by vehicles traveling through the project area would be less than significant. No mitigation would be required.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no avoidance, minimization, and/or mitigation measures are required.

2.1.14 Population and Housing

Considering the information in the Community Impact Assessment Memorandum dated November 30, 2023, following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Population and Housing
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

2.1.15 Public Services

Considering the information in the Community Impact Assessment Memorandum dated November 2023, following significance determinations have been made:

Question:	CEQA Significance Determinations for Public Services
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	Less Than Significant Impact
Police protection?	Less Than Significant Impact
Schools?	Less Than Significant Impact
Parks?	Less Than Significant Impact
Other public facilities?	Less Than Significant Impact

Affected Environment

Temporary lane, road, and intersection closures are expected during construction within the project area. Such closures would result in delays, but the closures are not expected to disrupt emergency services, because the construction contractor would provide construction schedules and traffic

control information to the City of Lathrop and San Joaquin County emergency service providers.

Environmental Consequences

As mentioned above, temporary lane, road, and intersection closures are expected during construction and would result in delays, but the closures are not expected to disrupt emergency services, since the construction contractor would provide construction schedules and traffic control information to the City of Lathrop and San Joaquin County emergency-service providers. This would allow emergency service providers to plan for the use of alternate routes during project construction-related road closures. Once implemented, the project would improve the ability of emergency services to better serve the community. The project would reduce congestion in project area, which could reduce response times for fire, medical, and police services. There are no schools or parks or other public facilities in the project area. Standard measure TR-1 as listed in Section 1.8 would require a Traffic Management Plan to be prepared during final design and implemented during construction to ensure that emergency services have access to the project area during construction activities and minimize impacts associated with emergency services. The project would result in a less than significant impact to public services, and no mitigation would be required.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no avoidance, minimization, and/or mitigation measures are required.

2.1.16 Recreation

Considering the information in the Community Services and Utilities section of the City of Lathrop's Existing Conditions Report dated 2019, the City of Lathrop General Plan (specifically the land use map) dated August 2022, the project is not deemed to have a significant impact on recreation. Therefore, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Recreation
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact
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?	No Impact

2.1.17 Transportation

Considering the information in the Traffic Operations Analysis Report dated November 2, 2022, the Interstate 5 and Louise Avenue Interchange Improvement Mitigation Scoping Plan Memorandum dated March 20, 2023, the Interstate 5 and Louise Avenue Interchange Improvement Induced Travel Study and Mitigation Plan dated June 27, 2023, Interstate 5 and Louise Avenue Interchange Methodology and Mitigation Memorandum dated January 25, 2023 and the City of Lathrop’s Draft Active Transportation Plan dated February 2024, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Transportation
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Less Than Significant Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Less Than Significant Impact with Mitigation 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)?	No Impact
d) Result in inadequate emergency access?	Less Than Significant Impact

Affected Environment

Roadway

The existing Interstate 5 and Louise Avenue interchange is 1.1 miles north of the Interstate 5 and State Route 120 freeway-to-freeway interchange and 1.7 miles south of the Interstate 5 and Lathrop Road interchange. Interstate 5 provides three travel lanes in each direction within the project study area. Just east of the Interstate 5 and Louise Avenue northbound ramps, Louise Avenue is a four-lane local facility as it continues to Howland Road. Just west of the Interstate 5, Louise Avenue, and River Islands Parkway southbound ramps, River Islands Parkway has been improved and widened to provide access to Mossdale Landing, River Islands, and Central Lathrop developments. Manthey Road is a two-lane local frontage road approximately 200 feet west of the Interstate 5, Louise Avenue, and River Islands Parkway southbound ramp intersection and heads north until it dead ends just south of Lathrop Road. Golden Valley Parkway is a major arterial that parallels Interstate 5, connecting Spartan Way and Lathrop Road to the north and Sadler Oak to the south.

The Interstate 5 and Louise Avenue Interchange Improvement Project is listed in the San Joaquin Council of Governments 2022 Regional Transportation Plan and Sustainable Communities Strategy Plan Project List. The City of Lathrop is proceeding with the next step of the Project Approval and Environmental Document phase and is proposing this project to accommodate anticipated multi-modal travel demand due to growth included in the City of Lathrop General Plan.

Bicycle and Pedestrian Facilities

Within the project area, there is an existing pedestrian path with a crosswalk and sidewalk that is along the south side of Louise Avenue and allows for east to west pedestrian movement at both Interstate 5 and Louise Avenue intersections. No other pedestrian facilities exist. The City of Lathrop does not designate any existing or proposed bicycle lanes within the project area.

Transit

The City of Lathrop does not have its own transit system but is included in the San Joaquin Regional Transit District which is San Joaquin County's public transit system. San Joaquin Regional Transit District operates three transit routes serving the City of Lathrop, two of which land within the project area. The two San Joaquin Regional Transit District routes are Route 90 and 97, known as intercity routes that provide deviated fixed-route service, otherwise known as County Hopper routes. Route 90 is an intercity County Hopper deviated fixed route that connects Stockton to Lathrop via Interstate 5. Route 97 is also a County Hopper deviated fixed route that connects Tracy to Lathrop and Manteca. Both route 90 and 97 use the Interstate 5 and Louise Avenue interchange to provide their services.

Level of Service

Level of service is a qualitative measure that describes operational conditions in terms of travel speed (for arterials), density (for freeways and ramps), and delays (for intersections). Level of service ranges from A to F, with A representing best operating conditions and F representing the worst. Caltrans and the City of Lathrop both aim to maintain a level of service at the transition between level of service C and D, and level of service D is generally considered acceptable for facilities in urban areas. The Traffic Operations Analysis Report analyzed the Interstate 5 northbound and Interstate 5 southbound and the following intersections peak-hour demand volumes:

- Interstate 5 southbound ramps and Louise Avenue
- Interstate 5 northbound ramps and Louise Avenue
- Harlan Road and Louise Avenue
- Golden Valley Parkway and River Islands Parkway
- River Islands Parkway, Louise Avenue, and Manthey Road

Vehicle Miles Traveled

In December 2018, the State Office of Planning and Research completed an update to the CEQA Guidelines to implement the requirements of Senate Bill 743. The State CEQA Guidelines state that vehicle miles traveled must be the metric used to determine significant transportation impacts. The State CEQA Guidelines require all lead agencies in California to use vehicle miles traveled-based thresholds of significance in CEQA documents published after July 1, 2020.

The Caltrans Transportation Analysis Framework and Transportation Analysis under CEQA provides guidelines on transportation impact analysis for projects on the State Highway System as part of the CEQA process. Following guidance in the Transportation Analysis Framework and Transportation Analysis under CEQA, the previously mentioned Traffic Operations Analysis Report, Interstate 5 and Louise Avenue Interchange Improvement Project Approval and Environmental Document Phase Mitigation Scoping Plan and Induced Travel Study and Mitigation Plan have been prepared as part of the project.

Environmental Consequences

Roadway

The Build Alternative proposes to replace the existing tight-diamond (Type L-1) Interstate 5 and Louise Avenue interchange with a diverging diamond interchange configuration. The alternative also includes auxiliary lanes less than 1 mile in length, ramp metering, and other associated improvements.

During project construction, the project would require lane, ramp, and intersection closures. These closures would temporarily increase congestion. Implementation of standard measure TR-1, listed in Section 1.8, would require a Traffic Management Plan to be prepared during final design and implemented during construction. The Traffic Management Plan would require notification of fire, emergency, medical, and law enforcement providers about project construction activities. This would minimize impacts to emergency service response times during construction. Once constructed, the project would improve operational efficiency of the Interstate 5 and Louise Avenue interchange. This would benefit emergency service providers by reducing response times as compared to the No Project Alternative.

Bicycle and Pedestrian Facilities

The Build Alternative includes Class II bicycle lanes, sidewalks, and crosswalks at the intersections. These features support walking and biking as alternative modes of transportation in the project area.

Construction of the project may result in temporary closure of the existing sidewalk along Louise Avenue and crosswalks. However, any closures would

be temporary and a pedestrian detour would be provided per the traffic management plan (identified in Section 1.8 as standard condition TR-1).

Transit

The two San Joaquin Regional Transit District routes service the project area. Routes 90 and 97 are intercity routes that provide deviated fixed-route service, otherwise known as County Hopper routes. Both routes have stops within the Interstate 5 and Louise Avenue interchange. Construction activities may result in temporary traffic delays to these routes; however, impacts would be temporary in nature. Implementation of the project would not result in any direct impacts to public transit.

Implementation of standard measure TR-1 listed in Section 1.8 would require a Traffic Management Plan to be prepared during final design and implemented during construction. TR-1 would reduce impacts to the existing transit routes during general construction activities of the project. Once constructed, the project would improve operational efficiency of the Interstate 5 and Louise Avenue interchange. This would benefit existing transit services by reducing their travel times as compared to the No Project Alternative. The project would not conflict with a program, plan, ordinance, or policy addressing transit.

Level of Service

According to the Traffic Operations Analysis Report, the existing Interstate 5 northbound and southbound ramp intersections operate at level of service D or better during peak hours. The Traffic Operations Analysis Report concluded that the Opening Year (2025) under the No Build Alternative at both the Interstate 5 northbound ramps and Louise Avenue/Harlan Road intersections would operate at level of service F during peak hours. Implementation of the Build Alternative during Opening Year (2025) resulted in all five studied intersections operating at level of service D or better. Please refer to the Traffic Operations Analysis Report in Volume 2 for more information regarding the level of service standards for the opening year with and without project implementation.

The Traffic Operations Analysis Report evaluated an Interim 2042 condition scenario. This scenario provides the design condition in 2042 which would require Manthey Road, north of River Islands Parkway, to be closed to traffic. Additionally, the River Islands Parkway/Manthey Road intersection would not exist under any scenario, and Louise Avenue would be widened to include one high occupancy vehicle (HOV) lane in each direction within the project area. The Interim 2042 scenario under the No Build Alternative resulted in the four intersections to all operate at level of service F during peak hours. Implementation of the Build Alternative during the Interim 2042 scenario resulted in all intersections operating at level of service E or better during the peak hour, with the exception of the Louise Avenue/Harlan Road intersection.

That intersection would operate at level of service F during the PM peak hour. Overall, the Traffic Operations Analysis Report concluded that the No Build Alternative was unacceptable based on the Interim 2042 condition scenario. In comparison, the Build Alternative was determined to provide sufficient capacity to serve the projected peak-hour demand volumes and maintain an acceptable level of service per Caltrans standards. For more information related to this discussion, please refer to Volume 2 of this document, which contains the Traffic Operations Analysis Report.

Vehicle Miles Traveled

According to the Interstate 5 and Louise Avenue Interchange Improvement Mitigation Scoping Plan Memorandum, it was determined that the widening of Louise Avenue and travel time improvement at the project are anticipated to increase vehicle miles traveled. As such, the subsequent Interstate 5 and Louise Avenue Interchange Phase Induced Travel Study and Mitigation Plan document was prepared, and it determined that the Interstate 5 and Louise Avenue Interchange Improvement Project falls under the “Other Vehicle Miles Traveled Inducing Projects and Alternatives” category based on Caltrans guidelines regarding vehicle miles traveled.

The project does not include major capacity-increasing features such as freeway lane expansion, auxiliary lanes longer than one mile in length, or additional access points to the State Highway System. The project would replace the existing tight-diamond interchange with a diverging diamond interchange with the key features identified in Section 1.6.1.

The Interstate 5 and Louise Avenue Interchange Improvement Induced Travel Study and Mitigation Plan conducted a 2045 without project scenario and 2045 with project scenario to calculate the anticipated vehicle miles traveled that would occur as a result of the project. The metric used for comparison was the network wide passenger vehicle daily vehicle miles traveled, which is calculated by summing passenger vehicle volume multiplied by link distance for all links in the model network. As a result of the project, the study identified that, in 2045 with the project implementation, the net change in vehicle miles traveled would increase by 69 daily vehicle miles traveled, which represents 0.0004 percent of the vehicle miles traveled in the entire model network. See Table 2.11, below, for the scenario vehicle miles traveled estimates:

Table 2.11: Vehicle Miles Traveled Estimates

Scenario	Network-Wide Passenger Vehicle Daily Vehicle Miles Traveled
Design Year 2045 No Project	17,629,312
Design Year 2045 With Project	17,629,381
Vehicle Miles Traveled Net Change	+69 (0.0004%)

Source: I-5/Louise Avenue Interchange Improvement Projects PA&ED Phase Induced Travel Study & Mitigation Plan (Fehr & Peers, 2023).

Avoidance, Minimization, and/or Mitigation Measures

Vehicle miles traveled reduction strategies as recommended in the Caltrans Senate Bill 743 Program Mitigation Playbook were analyzed to identify feasible mitigation strategies within the project limit. Due to the fact that no feasible mitigation was identified within the project limit, the City of Lathrop proposes to implement a lane reduction project and a bike lane project near the project site as an off-site mitigation strategy to offset impacts to vehicle miles traveled. Lane reduction (also known as road diet) eliminates travel lanes and reallocates the space into areas that can be used for parking, bike lanes, or sidewalks to directly benefit pedestrian and bicyclist mobility and safety. The methodology and mitigation proposal was reviewed and approved by the Caltrans Office of Sustainability in January 2023.

The City has identified Harlan Road between Louise Avenue and D’Arcy Parkway as the location for lane reduction off-site mitigation that would be dedicated to the overall Interstate 5 and Louise Avenue Interchange Improvement Project. Note that these improvements were constructed in 2024, and are dedicated as off-site mitigation for the project. Harlan Road is between Louise Avenue and D’Arcy Parkway and is a local four-lane minor arterial street running parallel to Interstate 5. The lane reduction project reduced approximately 3,835 feet of lane miles on Harlan Road, of which approximately 1,505 feet was attributed to the Interstate 5 and Louise Avenue Interchange Project to fully offset the 1,504 linear feet of new through lane miles on Louise Avenue. The lane reduction project achieved a net reduction in vehicle miles traveled. Additionally, the City of Lathrop constructed 2.85 miles of Class II Bike lanes along the three following road segments:

- Harlan Road between Louise Avenue and D’Arcy Parkway (same segment as proposed lane reduction)
- D’Arcy Parkway between Harlan Road and Yosemite Avenue
- Yosemite Avenue between D’Arcy Parkway and the Lathrop/Manteca Altamont Corridor Express Station

See Table 2.12 for calculated VMT estimates with mitigation:

Table 2.12: Vehicle Miles Traveled Estimates with Mitigation

Scenario	Network-Wide Passenger Vehicle Daily Vehicle Miles Traveled
Design Year 2045 No Project	17,629,312
Design Year 2045 With Project	17,629,381
Vehicle Miles Traveled Net Change	+69 (0.0004%)
Vehicle Miles Traveled Mitigation Achieved by Harlan Road Lane Reduction	-408
Design Year 2045 Build with Lane Reduction	17,629,973
Net Change in Vehicle Miles Traveled with Lane Reduction	-339

Source: I-5/Louise Avenue Interchange Improvement Projects PA&ED Phase Induced Travel Study & Mitigation Plan (Fehr & Peers, 2023)

The following off-site mitigation measure is dedicated to the project to reduce vehicle miles traveled. Please note that the measure is not included as a component of this project's design.

MM TR-1: As part of off-site mitigation for the project, the City has implemented lane reductions at Harlan Road between Louise Avenue and D'Arcy Parkway as the designated location for the off-site lane reduction mitigation.

Additionally, the City of Lathrop has constructed 2.85 miles of Class II Bike lanes along the three following road segments that would be dedicated to the overall project as off-site mitigation:

- Harlan Road Between Louise Avenue and D'Arcy Parkway (same segment as proposed lane reduction)
- D'Arcy Parkway between Harlan Road and Yosemite Avenue
- Yosemite Avenue between D'Arcy Parkway and the Lathrop/Manteca Altamont Corridor Express Station

2.1.18 Tribal Cultural Resources

Considering the information in the Supplemental Historic Property Survey Report dated August 19, 2024, the following significance determinations have been made:

Question:	CEQA Significance Determinations for Tribal Cultural Resources
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	No Impact
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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No Impact

2.1.19 Utilities and Service Systems

The information found in the City of Lathrop Existing Conditions Report dated 2019 was considered to make the following significance determinations:

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
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?	No Impact
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

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
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?	No 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
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

Affected Environment

Electric and Telecommunications

There are existing electric and telecommunications lines within the project site located near the interchange.

Water

The City of Lathrop water provider is the Louise Avenue Water Treatment Facility, which has a current treatment capacity of 9 million gallons per day or 5,040 acre-feet per year. According to the Existing Conditions Report, the City of Lathrop projects a net surplus of 416 acre-feet per year in 2035.

Wastewater

The City of Lathrop wastewater system treatment provider is the Manteca Water Quality Control Facility and the Lathrop Consolidated Treatment Facility. There is an 18-foot wastewater pipeline that runs parallel along Louise Avenue that would be avoided during project construction. According to the Existing Conditions Report, with the Manteca Water Control Facility and the Lathrop Consolidated Treatment Facility, the City projects a net surplus of 2.07 million gallons per day of wastewater sewer treatment capacity in 2035.

Solid Waste

According to the City of Lathrop Existing Conditions Report, the City of Lathrop has an exclusive contract with the Republic Services to collect solid waste, recycling, and green waste and is served by the Forward Landfill. The Forward Landfill is a solid waste disposal site in Manteca and is anticipated to allow disposal until approximately 2036.

Environmental Consequences

Electric and Telecommunications

The project would require the protection in place of Pacific Gas and Electric Company gas and electric lines and Comcast telecommunication lines within the project site. These utilities would not be relocated, and no new gas, electric, and telecommunication lines would be installed.

Water

The project would require water usage for construction activities such as dust control and concrete washout in the short term but would not result in an overuse of existing water supplies available in the city of Lathrop. Water usage would be limited only to project construction and not project operation. Additionally, once the project is constructed, the project would not require extensive water supplies for uses other than landscape maintenance on adjacent slope embankments. The project is not anticipated to require extensive water usage in the short term that would significantly impact the existing water supply. Further, once the project is constructed, the project would not require significantly more water than its current existing condition. Therefore, the City of Lathrop would have sufficient water supply to support the project, and impacts related to water supply would be less than significant.

Wastewater

The project is an interchange replacement project and is not anticipated to exceed the existing capacity of the Lathrop Consolidated Treatment Facility. There would be no additional wastewater utility connections made during construction or any additional utility connections needed for project operation. The project would not result in a determination requiring significant addition of wastewater capacity than the existing capacity, and no impact would occur.

Solid Waste

The project is anticipated to create short-term waste during construction, these impacts would be temporary, and the waste created would be minimal and disposed of properly. During operation, the facility would be consistent with existing uses and therefore would not generate more solid waste than under existing conditions. The project is not anticipated to generate solid waste above State or local standards, or more than the capacity of Forward Landfill or other landfills used by the City of Lathrop. As such, there would be a less than significant impact, and no mitigation would be required.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of standard measures provided in Section 1.8, no avoidance, minimization, and/or mitigation measures are required.

2.1.20 Wildfire

Considering the information in the Climate Change Study dated August 3, 2026, and the California Department of Forestry and Fire Protection Fire Hazard Severity Zones Geographic Information System Maps and State Responsibility Area Viewer, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Wildfire
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact
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
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?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

2.1.21 Mandatory Findings of Significance

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	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.)	Less Than Significant Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact With Mitigation Incorporated

Affected Environment

The project has the potential to affect environmental resources in the vicinity of the project limits within Interstate 5 and Louise Avenue from post miles R15.85 to R17.33. Permanent partial parcel acquisition and temporary construction easements would be required on parcels within the project limits as listed in Section 2.1.11. The project consists of replacing the existing Type L-1 compact diamond configuration with a diverging diamond interchange to better accommodate forecasted vehicular levels within the city of Lathrop. Additionally, there would be permanent acquisition of four parcels as identified in Section 1.6.1, Build Alternative.

Environmental Consequences

The project has a low potential to adversely impact special-status animals, habitat, and previously undiscovered cultural or paleontological resources or human remains. Considering the inclusion of standard measures

recommended in Section 1.8 of this document and implementation of avoidance, minimization, and mitigation measures, compliance with the City of Lathrop and San Joaquin County Requirements, and application of standard practices, the project would not (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) substantially reduce the number or restrict the range of a rare or endangered plant or animal or (6) eliminate important examples of the major periods of California history or prehistory. However, as described in Section 2.1.17, the project would increase the vehicle miles traveled within the project area in the design year of 2045. This increase in vehicle miles travel has potential to cause localized traffic impacts to residents and travelers within the area. As such, **MM TR-1** would be implemented to offset this vehicle miles travel impact within the project area. In addition, as described in Section 2.1.7, the project has potential to impact paleontological resources and as such, **AMM PAL-1**, would be implemented to offset impacts to these resources. As described in Section 2.1.4, **AMM BIO-1** through **AMM BIO-4** would also be implemented to avoid and minimize impacts to special-status bats, western burrowing owl, Swainson's hawk, and white-tailed kite. After review of the City of Lathrop's General Plan and the San Joaquin Council of Governments Regional Transportation Plan and Sustainable Communities Strategy, the project, when viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, would not cumulatively contribute to impacts.

Avoidance, Minimization, and/or Mitigation Measures

Considering the inclusion of standard measures recommended in Section 1.8 of this document and the implementation of avoidance, minimization, and mitigation measures identified in Appendix B, the project would have a less than significant impact on the environment.

Chapter 3 Coordination

3.1 Interagency Consultation

An interagency conference call that included interagency partners and public agencies took place online on August 14, 2024. The interagency partners included in the conference call includes the Environmental Protection Agency, FHWA, Caltrans, the San Joaquin Council of Governments, and the City of Lathrop. There was a PowerPoint presentation that demonstrated the key components of the Interstate 5 and Louise Avenue Interchange Improvement Project. Caltrans and other agencies had questions pertaining to traffic, specifically about the auxiliary lane improvements, level of service performance at the project site, and project funding information before concluding a final determination. A follow-up meeting was scheduled to occur on October 15, 2025, to discuss these details briefly.

As a result of the follow-up meeting held on October 15, 2025, with the Interagency Consultation Partners, a final determination was made that the project is not a “Project of Air Quality Concern” and would not result in new violations of air quality standards.

3.2 Cultural and Native American Tribal Consultation

On April 6, 2021, LSA sent an electronic letter (e-mail) describing the project with maps depicting the revised Archaeological Area of Potential Effects to the Native American Heritage Commission in Sacramento and requesting a review of the Sacred Lands File for any Native American resources that may be present. In an email response dated May 3, 2021, Nancy Gonzalez-Lopez, Native American Heritage Commission Cultural Resources Analyst, informed LSA that the Sacred Lands File search was completed with negative results. A list of Native American contacts was also provided.

On October 10, 2023, LSA sent another email to the Native American Heritage Commission requesting an updated review of the Sacred Lands File for the revised Archaeological Area of Potential Effects. Pricilla Torres-Fuentes, Native American Heritage Commission Cultural Resources Analyst, replied in an email that the Sacred Lands File search was completed with negative results and provided a list of Native American contacts.

On June 2, 2021, Caltrans Professionally Qualified Staff: Principal Investigator – Prehistoric Archaeology David Lanner provided a list of tribal contacts to LSA. On June 3, 2021, on behalf of Mr. Lanner, LSA mailed hard-copy letters to all tribal contacts included on the contact list except for United Auburn Indian Community of the Auburn Rancheria; Mr. Lanner directed LSA to submit a consultation request via United Auburn Indian Community’s

webpage, which was done the same day. The following is a summary of the results of this outreach:

- **United Auburn Indian Community:** On June 3, 2021, Mr. Lanner received an email from UAIC Cultural Regulatory Assistant, Anna Cheng, stating that the project location falls outside of UAIC's consultation area and therefore the UAIC will not be commenting on the project.
- **California Valley Miwok Tribe:** No response was received within two weeks, so LSA made a follow-up telephone call on June 18, 2021. There was no answer and no voicemail set up to record messages.
- **California Valley Miwok Tribe/Sheep Rancheria of Me-Wuk Indians of California:** No response was received within two weeks, so LSA made a follow-up telephone call on June 18, 2021. The tribe informed LSA that they would reach out to David Lanner. There was no follow up from the tribes.
- **Ione Band of Miwok Indians:** A hard-copy letter was sent to both Chairperson Setchwaelo and Jereme Dutschke. No response was received within two weeks, so on June 18, 2021, LSA sent individual emails to each tribal representative requesting a response by July 2, 2021, if the tribe would like to consult on the project. No response was received.
- **North Valley Yokuts Tribe:** No response was received within two weeks, so LSA made a follow-up telephone call on June 18, 2021. There was no answer, so LSA left a voicemail.
- **Buena Vista Rancheria of Me-Wuk Indians:** No response was received within two weeks, so LSA made a follow-up telephone call on June 18, 2021. There was no answer, so LSA left a voicemail. On June 30, 2021, Tribal Historic Preservation Officer Ivan Senock sent an email to David Lanner stating the tribe had no objection to the project but should be notified if any tribal cultural resources are inadvertently encountered to ensure proper treatment.
- **Wilton Rancheria:** No response was received within two weeks, so on June 18, 2021, LSA sent an email requesting a response by July 2, 2021, if the tribe would like to consult on the project. No response was received.

Appendix A Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49 | SACRAMENTO, CA 94273-0001
(916) 654-6130 | FAX (916) 653-5776 TTY 711
www.dot.ca.gov



September 2025

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

It is the policy of the California Department of Transportation (Caltrans), in accordance with Title VI of the Civil Rights Act of 1964 and the assurances set forth in the Caltrans' Title VI Program Plan, to ensure that no person in the United States shall on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. Related non-discrimination authorities, remedies, and state law further those protections, including sex, disability, religion, sexual orientation, age, low income, and Limited English Proficiency (LEP).

Caltrans is committed to complying with 23 C.F.R. Part 200, 49 C.F.R. Part 21, 49 C.F.R. Part 303, and the Federal Transit Administration Circular 4702.1B. Caltrans will make every effort to ensure nondiscrimination in all of its services, programs, and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin (including LEP). In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

The overall responsibility for this policy is assigned to the Caltrans Director. The Caltrans Title VI Coordinator is assigned to the Caltrans Office of Civil Rights Deputy Director, who then delegates sufficient responsibility and authority to the Office of Civil Rights' managers, including the Title VI Branch Manager, to effectively implement the Caltrans Title VI Program. Individuals with questions or requiring additional information relating to the policy or the implementation of the Caltrans Title VI Program should contact the Title VI Branch Manager at title.vi@dot.ca.gov or at (916) 639-6392, or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

A handwritten signature in black ink, appearing to read 'Dina A. El-Tawansy'.

Dina A. El-Tawansy (Sep 12, 2025 16:52:12 PDT)

DINA A. EL-TAWANSY
Director

"Improving lives and communities through transportation."

Appendix B Avoidance, Minimization, and Mitigation Measures

Implementation of the avoidance and minimization measures (AMMs) would reduce impacts to the following special-status species: pallid bat, Townsend's big-eared bat, western mastiff bat, burrowing owl, Swainson's hawk, and white-tailed kite. No additional AMMs, and/or Mitigation Measures (MMs) are required.

AMM BIO-1: The following would be implemented by a qualified biologist retained by the City of Lathrop prior to construction to reduce the potential for impacts to pallid bat, Townsend's big-eared bat, and western mastiff bat:

- Focused bat surveys shall be conducted in the Biological Study Area by a qualified bat biologist prior to construction to determine if nursery or roost sites are present. Focused surveys would be the responsibility of the City. If bats are roosting in the Biological Study Area, the following measures shall be implemented:
 - Prior to the nursery season (April through September), sites would be sealed or otherwise rendered unusable to bats (for example, grating would be installed).
 - Prior to the hibernation season (November through March) sites would be sealed or otherwise rendered unusable to bats (for example, grating would be installed) when hibernation sites are identified in the Biological Study Area.
 - When colonial roosting sites are located in trees or structures that must be removed as part of the project, removal shall take place outside of the nursery and/or hibernation seasons and shall take place during dusk and/or evening hours after bats have left the roosting site.

AMM BIO-2: The following would be implemented by a qualified biologist retained by the City prior to construction to reduce potential impacts to burrowing owls:

- Preconstruction surveys for western burrowing owl would be conducted by a qualified biologist in accordance with the California Department of Fish and Wildlife's 2012 Staff Report on Burrowing Owl Mitigation.
- If burrowing owls are identified during the preconstruction survey, passive exclusion would be implemented per the California Department of Fish and Wildlife's 2012 Staff Report on Burrowing Owl Mitigation (including avoidance of occupied burrows during the breeding season).

- Worker environmental awareness training would be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize western burrowing owls and their habitat(s).
- Following construction, all fill slopes, temporarily impacted areas, and/or otherwise disturbed areas would be restored to preconstruction contours (if necessary) and revegetated with the native seed mix identified in the Visual Impact Memorandum (2023). Invasive species would be controlled pursuant to the measures presented in Section 5.5 of the Natural Environmental Study (Minimal Impacts).

AMM BIO-3: The following would be implemented by a qualified biologist retained by the City prior to construction to reduce the potential for impacts to Swainson's hawk:

- If work begins between February 1 and August 31, an early-season preconstruction survey for nesting Swainson's hawks would be conducted between January and March in the Biological Study Area and the immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist when tree foliage is relatively sparse and nests are easy to identify. A second preconstruction survey for nesting Swainson's hawks would be conducted in the Biological Study Area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist no more than 10 days prior to initiation of earthmoving activities.
- If nesting Swainson's hawks are found within the survey area, a qualified biologist would evaluate the potential for the project to disturb nesting activities. The California Department of Fish and Wildlife would be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. The California Department of Fish and Wildlife would also be consulted to establish protection measures such as buffers. Disturbance of active nests would be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist would be on site at the start of construction activities during the nesting season to monitor nesting activity. The monitor would have the authority to stop work if it is determined the project is adversely affecting nesting activities.
- Worker environmental awareness training would be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize Swainson's hawks and their habitat(s).
- Following construction, all fill slopes, temporarily impacted areas, and/or otherwise disturbed areas would be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified in the Visual Impact Memorandum (2023). Invasive species would be controlled

pursuant to the measures presented in Section 5.5 of the Natural Environmental Study (Minimal Impacts).

AMM BIO-4: The following would be implemented by a qualified biologist retained by the City prior to the start of construction to reduce the potential impacts to white-tailed kite:

- If possible, all trees that would be impacted by project construction shall be removed between September 1 and January 31, outside of the nesting season, to avoid take of a nest or bird. If this is not possible, a survey for nesting white-tailed kites would be conducted in the Biological Study Area and within a 300-foot radius by a qualified biologist. The survey would be conducted a maximum of 10 days prior to the start of construction. The survey area may be decreased due to property access constraints, etc.
- If nesting white-tailed kites are found within the survey area, a qualified biologist would evaluate the potential for the project to disturb nesting activities. The California Department of Fish and Wildlife would be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. The California Department of Fish and Wildlife would also be consulted to establish protection measures such as buffers. Disturbance of active nests would be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist would be on site at the start of construction activities during the nesting season to monitor nesting activity. The monitor would have the authority to stop work if it is determined the project is adversely affecting nesting activities.
- Worker environmental awareness training would be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize white-tailed kites and their habitat(s).
- Following construction, all fill slopes, temporarily impacted areas, and/or otherwise disturbed areas would be restored to preconstruction contours (if necessary) and revegetated with the native species mix identified in the Visual Impact Memorandum (2023). Invasive species would be controlled pursuant to the measures presented in Section 5.5 of the Natural Environmental Study (Minimal Impacts).

The following measure would avoid and minimize the project's potential impacts to paleontological resources as discussed in Section 2.1.7 of this document.

AMM PAL-1: A qualified paleontologist would prepare a Paleontological Mitigation Plan following the guidelines in the California Department of Transportation Standard Environmental Reference, Environmental Handbook,

Volume 1, Chapter 8 – Paleontology and guidelines from the Society of Vertebrate Paleontology. The Paleontological Mitigation Plan would be prepared concurrently with final design plans during the Plans, Specifications, and Estimates phase.

The following mitigation measure will mitigate the project's potential impacts to transportation, specifically vehicle miles traveled, as discussed in Section 2.1.17 of this document.

MM TR-1: As part of off-site mitigation for the project, the City has implemented lane reductions at Harlan Road between Louise Avenue and D'Arcy Parkway as the designated location for the off-site lane reduction mitigation.

Additionally, the City of Lathrop has constructed 2.85 miles of Class II Bike lanes along the three following road segments that would be dedicated to the overall project as off-site mitigation:

- Harlan Road Between Louise Avenue and D'Arcy Parkway (same segment as proposed lane reduction)
- D'Arcy Parkway between Harlan Road and Yosemite Avenue
- Yosemite Avenue between D'Arcy Parkway and the Lathrop/Manteca Altamont Corridor Express Station

Appendix C References

California Department of Conservation (DOC). 2022. California Williamson Act Enrollment Finder Data. Website: <https://maps.conservation.ca.gov/dlrp/WilliamsonAct/> (accessed March 8, 2024).

California Department of Conservation (DOC). 2022. California Important Farmland Finder Data. Website: <https://maps.conservation.ca.gov/dlrp/ciff/> (accessed March 8, 2024).

California Department of Forestry and Fire Protection (CAL Fire). California Fire State Responsibility Area (SRA) Viewer. Website: <https://hub-calfire-forestry.hub.arcgis.com/datasets/state-responsibility-area-sra-viewer> (accessed April 2, 2024).

California Department of Forestry and Fire Protection (CAL FIRE). California Fire Hazard Severity Zones in State Responsibility Area. Website: <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones> (accessed April 2, 2024).

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City of Lathrop. 2022. City of Lathrop General Plan. August. Website: <https://lathrop.generalplan.org/> (accessed March 8, 2024).

City of Lathrop. 2024. City of Lathrop Draft Active Transportation Plan. February. Website: https://ghd.mysocialpinpoint.com/lathrop_atp/home (accessed April 2, 2024).

County of San Joaquin. 2000. Multi-Species Habitat Conservation and Open Space Plan (SJMCP). November. Website: <https://www.sjcog.org/94/Habitat> (accessed March 2024).

San Joaquin Council of Governments. 2022. Regional Transportation Plan & Sustainable Communities Strategies. August. Website: <https://www.sjcog.org/608/Adopted-2022-RTPSCS-Plan> (accessed March 8, 2024).

San Joaquin Valley Air Pollution Control District (SJVAPCD). n.d. Ambient Air Quality Standards & Attainment Status.

United States Geological Survey (USGS). U.S. Quaternary Faults. Website: <https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf>.

List of Technical Studies Bound Separately (Volume 2)

Air Quality Report I-5/Louise Avenue/River Islands Parkway Interchange Improvement Project, prepared by LSA Associates, Inc., July 28, 2026

Climate Change Memo for the I-5/Louise Avenue Interchange Project, prepared by LSA Associates, Inc., August 5, 2026

Energy Analysis for the I-5/Louise Avenue Interchange Project, prepared by LSA Associates, Inc., March 25, 2025.

Community Impact Assessment Memorandum Interstate 5/Louise Avenue Interchange Improvement Project, prepared by LSA Associates, Inc., November 30, 2023

Natural Environmental Study (Minimal Impacts) Interstate 5/Louise Avenue Interchange Improvement Project, prepared by LSA Associates, Inc., December 19, 2023

Noise Abatement Decision Report, Interstate 5/Louise Avenue Interchange, prepared by LSA Associates, Inc., August 9, 2024

Noise Study Report, Interstate 5/Louise Avenue Interchange, prepared by LSA Associates, Inc., May 16, 2024

Paleontological Identification Report and Paleontological Evaluation Report Interstate 5/Louise Avenue Interchange Project, prepared by LSA Associates, Inc., July 6, 2024

Supplemental Historic Property Survey Report I-5/Louise Avenue Interchange Improvement Project, prepared by LSA Associates, Inc., August 19, 2024

Historical Resources Evaluation Report Interstate 5/Louise Avenue Interchange Improvement Project, prepared by LSA Associates, Inc., August 19, 2024

Water Quality Memorandum Interstate 5/Louise Avenue Interchange Improvement Project, prepared by LSA Associates, Inc., March 11, 2024

Visual Impact Memorandum Interstate 5/Louise Avenue Interchange Improvement Project, prepared by LSA Associates, Inc., November 9, 2023

Preliminary Foundation Report I-5/Louise Avenue Interchange Improvements, prepared by Mark Thomas, August 4, 2023

Draft Preliminary Materials Report I-5/Louise Avenue Interchange Improvements PA&ED, prepared by Mark Thomas, September 29, 2023

Traffic Operations Analysis Report I-5/Louise Avenue Interchange Project
PA&ED Phase, prepared by Fehr and Peers, November 2, 2022

SR 120/Yosemite Avenue and I-5/Louise Avenue Interchange Improvement
Projects PA&ED Phase Induced Travel Study & Mitigation Plan, prepared by
Fehr and Peers, February 2023

Interstate 5 and Louise Avenue Interchange Methodology and Mitigation
Memorandum, January 2023

I-5/Louise Avenue Interchange Improvement Project PA&ED Phase Mitigation
Scoping Plan, prepared by Fehr and Peers, March 20, 2023

SR 120/Yosemite Avenue and I-5/Louise Avenue Interchange Improvements
Projects PA&ED Phase Induced Travel Study & Mitigation Plan, prepared by
Fehr and Peers, June 27, 2023

To obtain a copy of one or more of these technical studies/reports or the
Initial Study, please send your request to:

Laura Cook, Senior Environmental Scientist
District 10 Environmental Division
California Department of Transportation
1976 E. Dr. MLK Jr. Blvd., Stockton, CA 95205

Or send your request via email to: laura.cook@dot.ca.gov.
Or call: 209-662-2261

Please provide the following information in your request:

Project title: Interstate 5 Louise Avenue Interchange Project

General location information: In the City of Lathrop at the Interstate 5/Louise
Avenue Interchange

District number-county code-route-post mile: 10-SJ-5-R15.85/R17.33

Project ID number: 10-0E550/1000000026