DRAFT ENVIRONMENTAL IMPACT REPORT

(SCH # 2015102062)

FOR THE

LATHROP PILOT FLYING J

Volume I: Environmental Analysis

FEBRUARY 19, 2016

Prepared for:

Community Development Department
City of Lathrop
390 Towne Centre Dr.
Lathrop, CA 95330

Prepared by:

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A Land Use Planning, Design, and Environmental Firm

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INTRODUCTION

The City of Lathrop has determined that the Pilot Flying J Travel Center (the proposed project) is a "Project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

REQUESTED LAND USE APPROVALS

ANNEXATION

The project site is currently within San Joaquin County, and within the City of Lathrop's Sphere of Influence (SOI). The proposed project would result in the annexation of APN 193-330-30 (which includes the project site) into the City of Lathrop.

The proposed annexation area is contiguous with the existing City boundary located along the southern boundary of the project site. Annexation of the project site would be City-initiated. In addition, land to the northwest and west of the project site may also be annexed along with the project site to provide for a logical development and annexation pattern within the area. Additional land proposed to be annexed includes the 1.97 acre parcel (APN 193-330-31) located adjacent to the northwest portion of the project site, and the 1.18 acre parcel (APN 193-330-17) located west of the project site across Harlan Road. Other than development of the Pilot Flying J Travel Center on the 9.17-acre portion of a larger site, all other uses in the Annexation Area would remain unchanged; no development of these areas has been proposed as a part of this project. The project site APN and surrounding APN's are shown on Figure 2-3.

PREZONING

The proposed annexation area is currently in the jurisdiction of San Joaquin County, and zoned for General Industrial uses by the County. The San Joaquin County Local Agency Formation Commission (LAFCO) will require the project area be pre-zoned by the City of Lathrop in conjunction with the proposed annexation. The City's pre-zoning will follow the land use

designation intent of General Plan Land Use Map (Freeway Commercial), as such the site will be zoned Highway Commercial (CH). The pre-zoning would go into effect upon annexation into the City of Lathrop.

SITE PLAN REVIEW

The proposed project includes a Site Plan Review. The purpose of the Site Plan Review process is to enable the Planning Commission to make a finding that a proposed development is in conformity with the intent and provisions of the City Code (primarily the zoning ordinance) and to guide the Building Official in the issuance of building permits for that development.

ZONING CODE AMENDMENT – PENDING MUNICIPAL CODE TEXT AMENDMENT TA-16-18

The pre-zoned Highway Commercial (CH) Zoning District (Section 17.44.050) would require a Zoning Code Text Amendment to include Travel Plaza and/or Truck Stop as a Conditional Use under the existing zoning requirements. Additionally, the current Zoning Code (Section 17.84.100 Master Signage Program) would require a Zoning Code Text Amendment to allow the two detached signs up to 110 feet high on the project site. However, the City of Lathrop is currently processing Municipal Code Text Amendment No. TA-16-18. The intent of this effort by the City is to adopt various amendments to the Lathrop Municipal Code (LMC) to modernize, simplify, and streamline the Zoning, Title 17 of the LMC. This update includes integration of current City policies, State and Federal law, and best practices within the planning profession. The two relevant amendments are as follows:

- Section 17.44.050 (Highway Commercial): To modify, add, delete certain uses related to assembly uses, recycling center, massage establishment and travel plaza or truck stop.
- Section 17.84.100 (Master Signage Plans): To clarify and update the requirements of the Master Sign Plan process.

The Municipal Code Text Amendment No. TA-16-18 is anticipated to be approved prior to this EIR being presented to the City Council for their consideration. As such, at this time it is anticipated that the City initiated Municipal Code Text Amendment No. TA-16-18 would negate any need to process zoning text amendments for the proposed project.

CONDITIONAL USE PERMIT

If the Municipal Code Text Amendment No. TA-16-18 is approved as anticipated; a Travel Plaza and/or Truck Stop in the Highway Commercial (CH) Zoning District will require a Conditional Use. As such, the Pilot Flying J project would require the approval of a Conditional Use Permit (CUP) prior to project approval.

The granting of a conditional use permit is required when a project has unusual characteristics that require special consideration so that they may be located properly with respect to the objectives of the zoning ordinance and their effects on surrounding properties. In order to achieve these purposes, the Planning Commission is empowered to grant or to deny applications for conditional

use permits and to impose reasonable conditions of approval. The City Council then affirms, modifies, or reverses the decision on the conditional use permit.

PROJECT IMPROVEMENTS

CIRCULATION

The project would attract automobiles and truck traffic from I-5 to the project site via the Roth Road exit. The proposed project includes two points of entry into the project site along Roth Road. The first entrance is intended for general automobile traffic access, and the second access point is intended for use by truck traffic. Figure 2-7 displays the proposed site plan layout.

UTILITIES

Electricity, gas and telephone services are located immediately adjacent to the project site along Roth Road. Development of the proposed project would not require the expansion of these facilities or any off-site improvements other than the connection to the project site. Water and sewer connections would need to be extended onsite to serve the project. Storm water retention basins are located on the easterly portion of the subject property and extend north of the project site onto adjacent property outside of the Lathrop city limits and Sphere of Influence. The subject property drains to both retention basins. The use of these existing drains for storm drainage on the project site would require a deed restriction over the basins to ensure that they are retained for such use. Additionally, the use of the existing drains for the proposed project would require approval from the County of San Joaquin.

PLANNED INFRASTRUCTURE IMPROVEMENTS

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the proposed project, as described below.

Potable Water:

Water services for the proposed project would be extended from existing water main located in Roth Road adjacent to the project site.

Sewer:

Sewer would be extended from the project site west along Roth Road to Harland Road, then south along Harlan Road. The sanitary sewer line would be constructed within the existing right-of-way (ROW) and no additional off-site ROW would be required for project implementation. The Lathrop Municipal Code Title 13 Chapter 13.16.190 provides standards for sewer reimbursement for construction of sewers. A sewer reimbursement agreement could be required by the proposed project if the City deems it necessary to construct oversized sewer infrastructure. Chapter 13.16.190 of the Lathrop Municipal Code states:

> *"Where an applicant for sewer service is so located that it is necessary to construct or cause to be constructed a new main, service line, pump, lift station or other sewer facilities, or to expand or replace such facilities, the applicant shall be responsible for*

such work. The city may require that such work be oversized in order to provide for future use by others of such work, and, in the event the city so requires, the cost of such oversizing shall be determined, and the city may require future users of such facilities to reimburse the original builder for a proportionate share of the cost of such oversizing. Such proportionate share shall be based on frontage of the land or lands of the future user, will be collected at the time of connection to the works, and reimbursed to the original builder within thirty (30) days of collection. In no event shall the city be liable for reimbursement to the original builder unless and until such reimbursement is collected from the new users. In no event shall the city be liable for failure to make such collection. No such collection or reimbursement will be made after ten (10) years from the date of completion of the original work or works."

The proposed sewer line extension would be a gravity line that ends at the pump station currently being constructed on Harlan Road, approximately 2,200 feet south of Roth Road. The size of the line is expected to be 15" in diameter from the pump station to Roth Road, and 12" in diameter from Roth to the project site. Ultimately, the pipeline along Roth Road would be extended to serve other sites on Roth Road, to the limit of Lathrop's General Plan boundaries.

The project's sewer connection point on Harlan Road includes a private pump station and force main that is currently under construction. As part of the project's improvements, these facilities will be upgraded to a public pump station, and public force main.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed project that are known to the City of Lathrop, were raised during the Notice of Preparation (NOP) process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and population, noise, public services and recreation, transportation and circulation, and utilities.

During the NOP process, comments were received from the following: San Joaquin Council of Governments (SJCOG) (October 28, 2015), San Joaquin Valley Air Pollution Control District (November 10, 2015), Central Valley Regional Water Quality Control Board (CVRWQCB) (November 13, 2015), Caltrans (November 17, 2015), San Joaquin County Public Works Department (November 25, 2015), San Joaquin Council of Governments (SJCOG) (December 4, 2015), and San Joaquin Airport Land Use Commission (December 10, 2015). These comments are addressed in the Draft EIR.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed project. Three alternatives to the proposed project were developed based on input from City staff, the public during the NOP review

period, and the technical analysis performed to identify the environmental effects of the proposed project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed project.

- **No Project Alternative**: Under this alternative, development of the project would not occur, and the project site would remain in its current condition.
- **Reduced Project Alternative:** Under this alternative, the project site would be developed with the same components as described in the Project Description, but the area utilized and the building footprint would be reduced by one third.
- **Alternative Location:** Under this alternative, the proposed project would be developed at an alternate location near to I-5, off of Harlan Road, south of East Louise Avenue.

Alternatives are described in detail in Chapter 5. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each alternative relative to the other proposed project. As shown in the table, the No Project Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Project ranks higher than the proposed project. Comparatively, the Alternative Location would result in an impact roughly equivalent to the proposed project, with a slightly greater increase in aesthetics and visual resources impacts, but a slightly reduced impact to utilities impacts. From a Land Use Planning perspective, the Alternative Location is not as desirable for a travel plaza because the surrounding uses are not as supportive. For instance, the proposed project is located along a major truck route and adjacent to several truck repair and sales facilities which are more conducive to truck travel. It should be noted that the Reduced Project Alternative does not meet all of the project objectives.

TABLE ES-1: COMPARISON SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	NO PROJECT ALTERNATIVE	REDUCED PROJECT ALTERNATIVE	ALTERNATIVE LOCATION
Aesthetics and Visual Resources	Less	Slightly Less	Slightly Greater
Air Quality	Less	Less	Equal
Biological Resources	Less	Less	Equal
Cultural Resources	Less	Less	Equal
Geology and Soils	Less	Less	Equal
Greenhouse Gases and Climate Change	Less	Less	Equal
Hazards and Hazardous Materials	Less	Less	Equal
Hydrology and Water Quality	Less	Less	Equal
Land Use	Less	Equal	Equal
Noise	Less	Less	Equal
Public Services	Less	Less	Equal
Transportation and Circulation	Less	Less	Equal
Utilities	Less	Less	Slightly Less

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS			
Impact 3.1-1: Project implementation may have a substantial adverse effect on a scenic vista	LS		--
Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway	LS		--
Impact 3.1-3: Project implementation may substantially degrade the existing visual character or quality of the Plan Area and its surroundings	LS		--
Impact 3.1-4: Project implementation may result in light and glare impacts	LS		--
AIR QUALITY			
Impact 3.2-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation	LS		--
Impact 3.2-2: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation	LS		--
Impact 3.2-3: The proposed project has the	LS		--

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PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
potential to have carbon monoxide hotspot impacts			
Impact 3.2-4: The proposed project has the potential for public exposure to toxic air contaminants	LS		--
Impact 3.2-5: The proposed project has the potential for exposure to odors	PS		SU
BIOLOGICAL RESOURCES			
Impact 3.3-1: The proposed project has the potential to have a direct or indirect effect on special-status invertebrate species	LS		--
Impact 3.3-2: The proposed project has the potential to have direct or indirect effects on special-status reptile and amphibian species	PS	***Mitigation Measure 3.3-1****: Prior to commencement of any grading activities, the project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. There are a wide variety of incidental take avoidance and minimization measures contained in the SJMSCP that were developed in consultation with the USFWS, CDFW, and local agencies. The applicability of incidental takes avoidance and minimization measures are determined by SJCOG on a project basis. The process of obtaining coverage for a project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a) and California Fish and Game Code Section 2081. The Section 10(a) permit also serves as a special-purpose permit for the incidental take of those species that are also protected under the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. The SJMSCP includes the implementation of an ongoing Monitoring Plan to ensure success in mitigating the habitat impacts that are covered.*	LS

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		The SJMSCP Monitoring Plan includes an Annual Report process, Biological Monitoring Plan, SJMSCP Compliance Monitoring Program, and the SJMSCP Adaptive Management Plan SJCOG.	
Impact 3.3-3: The proposed project has the potential to have direct or indirect effects on special-status bird species	PS	***Mitigation Measure 3.3-2****: If construction activities occur during the avian breeding season (March 1 – August 31) then the project proponent shall conduct pre-construction surveys to prevent impacts to nesting birds. No more than 15 days prior to the start of construction a bird survey shall be conducted by a qualified biologist to identify any active nests within the Project site or Offsite Infrastructure Corridor. If construction stops for a period of 15 days or more during the avian breeding season than an additional bird survey shall be conducted. The biologist will conduct a survey in the Project site or Offsite Infrastructure Corridor, for all special-status birds protected by the federal and state ESA, MBTA and CFGC, including but not limited to those that are documented within a ten-mile radius of the Project site and are known to nest in the region. The biologist shall map all nests that are within, and visible from, the Project site or Offsite Infrastructure Corridor. If nests are identified, the biologist shall develop buffer zones around active nests as deemed appropriate in coordination with the CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored at least twice per week and a report submitted to the City and CDFW monthly.*	LS
Impact 3.3-4: The proposed project has the potential to result in direct or indirect effects on special-status mammal species	LS		--
Impact 3.3-5: The proposed project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species	LS		--
Impact 3.3-6: Effects on Protected Wetlands and Jurisdictional Waters	LS		--

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Impact 3.3-7: Adverse Effects on Riparian Habitat or Sensitive Natural Community	LS		--
Impact 3.3-8: Interference with the Movement of Native Fish or Wildlife Species or with Established Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites	PS	***Mitigation Measure 3.3-5****: The project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:* • *Pollution Prevention/Good Housekeeping* o *A spill response and prevention plan shall be developed as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES general Industrial Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities.* o *Streets and parking lots shall be swept at least once every two weeks.* • *Operation and Maintenance (O&M) of Treatment Controls* o *An Operation and Maintenance (O&M) Plan shall be developed for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.* ***Mitigation Measure 3.3-6****: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Lathrop:* • *Grassed Swales: A swale is a vegetated, open channel management practice*	LS

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		designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the proposed project area where feasible in the landscape design to treat parking lot runoff. • *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*	
Impact 3.3-9: Conflict with an Adopted Habitat Conservation Plan	LS		--
Impact 3.3-10: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS		--
CULTURAL RESOURCES			
Impact 3.4-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as Defined in CEQA Guidelines §15064.5	PS	**Mitigation Measure 3.4-1**: If *any cultural resources, including prehistoric or historic artifact, or other indications of archaeological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).* *Work cannot continue at the discovery site until the archaeologist conducts sufficient*	LS

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		research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR. *If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency as verification that the provisions in CEQA for managing unanticipated discoveries have been met.* *If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the Applicant's expense.*	
Impact 3.4-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as Defined in CEQA Guidelines §15064.5	PS	*Implement* ***Mitigation Measure 3.4-1***	LS
Impact 3.4-3: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource	PS	***Mitigation Measure 3.4-2:*** *If paleontological resources are discovered during the course of construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Lathrop shall be notified, and a qualified paleontologist shall be retained to determine the significance of the discovery. If the paleontological resource is considered significant, it shall be excavated by a qualified paleontologist and given to a local agency, State University, or other applicable institution, where it could be curated and displayed for public education purposes.*	LS
Impact 3.4-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries	PS	***Mitigation Measure 3.4-3:*** *If human remains are discovered during the course of construction, work shall be halted at the site and any nearby area reasonably suspected to overlie adjacent human remains, until the San Joaquin County Coroner has been*	LS

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		informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken: • *The coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.* • *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:* o *The Native American Heritage Commission is unable to identify a descendent.* o *The descendant identified fails to make a recommendation.* o *The City of Lathrop or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*	
GEOLOGY AND SOILS			
Impact 3.5-1: The proposed project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure	LS		--
Impact 3.5-2: Implementation and construction	LS	***Mitigation Measure 3.5-1****: Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent*	--

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of the proposed project may result in substantial soil erosion or the loss of topsoil		*(NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Lathrop and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*	
Impact 3.5-3: The proposed project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse	PS	***Mitigation Measure 3.5-2****: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils, liquefaction and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage outfall and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*	LS
Impact 3.5-4: Potential for expansive soils to create substantial risks to life or property	PS	***Mitigation Measure 3.5-3****: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the recommendations contained in the Preliminary Geotechnical Report (Engeo 2004) and the requirements of the California*	LS

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		Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage outfall and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.	
GREENHOUSE GASES AND CLIMATE CHANGE			
Impact 3.6-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS	***Mitigation Measure 3.6-1****: Ensure that the pedestrian network within the proposed annexation area connects to offsite pedestrian networks. Project frontage improvements shall be included to ensure the project is consistent with citywide street design standards and planed nearby circulation improvements.*	SU
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.7-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	PS	***Mitigation Measure 3.7-1****: A Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.* ***Mitigation Measure 3.7-2****: Prior to the issuance of grading permits, the project proponent shall have a qualified hazardous waste specialist assess the site for surface*	LS

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PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		staining and if staining is found to be present, perform soil sampling to 1) test for concentrations of commercial or industrial chemicals that may be present as a result of storage activities on the project site and 2) test for residual concentrations of agrichemicals that may be present in soil as a result of historic agricultural application and storage. The results of the soil sampling shall be submitted to the City's Community Development Department and San Joaquin County Department of Environmental Health. If evidence of contaminated soils at levels that pose a risk to construction personnel or future users of the project site are encountered during the assessment ,any contaminated areas shall be remediated by the project applicant to reduce potential exposure to construction personnel and future users of the site to acceptable levels in accordance with recommendations made by San Joaquin County Department of Environmental Health, Regional Water Quality Control Board, Department of Toxic Substances Control, or other appropriate federal, state, or local regulatory agencies. ***Mitigation Measure 3.7-3****: Prior to the commencement of a business operation that involves the transport, storage, use, or disposal of a significant quantity hazardous material within the project site, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the San Joaquin County Department of Environmental Health. The HMBP shall establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The areas shall be designed with spillage catchments such that any accidental spillage is prevented from entering waterways. The business owner shall also consult with the San Joaquin County Department of Environmental Health to ensure that the particular business operations are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.7-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LS		--
Impact 3.7-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS		--
Impact 3.7-4: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area	PS	***Mitigation Measure 3.7-4:*** *Prior to design and site plan approval for the proposed project, the applicant shall provide the Community Development Director with FAA and ALUC determinations. If the height of any structure (signage, lighting, etc.) is determined to result in airspace obstructions, the maximum height shall be limited as recommended by the reviewing agencies.*	LS
Impact 3.7-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	PS		LS
Impact 3.7-6: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands	LS		--
HYDROLOGY AND WATER QUALITY			
Impact 3.8-1: The proposed project has the	LS	*Implement* ***Mitigation Measure 3.5-1****.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
potential to violate water quality standards or waste discharge requirements during construction			
Impact 3.8-2: The proposed project has the potential to violate water quality standards or waste discharge requirements during operation	LS		--
Impact 3.8.3: The proposed project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge	LS		--
Impact 3.8-4: The proposed project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff	LS		--
Impact 3.8.5 The proposed project has the potential to otherwise substantially degrade water quality	LS	*Implement* ***Mitigation Measure 3.5-1, Mitigation Measure 3.3-5 and 3.3-6***	--
Impact 3.8.6 Place housing or structures that would impede/redirect flows within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map	LS		--
Impact 3.8.7 The proposed project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
result of the failure of a levee or dam, seiche, tsunami, or mudflow			
LAND USE AND PLANNING			
Impact 3.9-1: The proposed project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect	LS		--
Impact 3.9-2: The proposed project has the potential to conflict with an applicable habitat conservation plan or natural community conservation plan	LS		--
NOISE			
Impact 3.10-1: The proposed project has the potential to increase traffic noise levels at existing receptors	PS		SU
Impact 3.10-2: The proposed project has the potential to increase noise levels associated with construction activities	LS		--
Impact 3.10-3: The proposed project has the potential to increase noise vibration association with construction activities	LS		--
Impact 3.10-4: The proposed project has the potential to increase stationary noise at sensitive receptors	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
PUBLIC SERVICES			
Impact 3.11-1: The project would not result in substantial adverse physical impacts associated with the provision of fire protection services or require the need for new facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives	LS		--
Impact 3.11-2: The project would not result in substantial adverse physical impacts associated with the provision of police protection services or require the need for new facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives	LS		--
Impact 3.11-3: The proposed project has the potential to have effects on other public facilities	LS		--
TRANSPORTATION AND CIRCULATION			
Impact 3.14-1: The proposed project would not cause significant impacts at intersections	LS		--
Impact 3.14-2: The proposed project would not result in a significant impact to freeway	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
facilities			
Impact 3.14-3: The proposed project would not adversely affect pedestrian and bicycle facilities	PS	***Mitigation Measure 3.12-1****: The project applicant shall coordinate with the City to determine a potential need for new and/or upgraded bicycle lanes along Roth Road.*	LS
Impact 3.14-4: The proposed project would not adversely affect transit services or facilities	LS		--
Impact 3.14-5: The proposed project would not cause potentially significant impacts to at-grade rail crossings	LS		--
UTILITIES			
Impact 3.13-1: The proposed project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	LS		--
Impact 3.13-2: The proposed project has the potential to result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that is does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	PS	***Mitigation Measure 3.13-1:*** *Prior to occupancy of any building that would require wastewater treatment services, the project proponent shall secure adequate wastewater treatment allocation through the City's allocation process. Additionally, the project proponent would be required to install/connect the necessary collection/transmission infrastructure to ensure the appropriate treatment of all wastewater (per Chapter 13.16.190 of the Lathrop Municipal Code), as determined by the City of Lathrop.*	LS
Impact 3.13-3: The proposed project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
facilities, the construction of which could cause significant environmental effects			
Impact 3.13-4: The proposed project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS		--
Impact 3.13-5: The proposed project has the potential to have insufficient water supplies available to serve the project from existing entitlements and resources	LS		--
Impact 3.13-6: The proposed project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS		--
Impact 3.13-7: The proposed project has the potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste	LS		--
CUMULATIVE IMPACTS			
Impact 4.1: project implementation may substantially damage scenic resources within a State Scenic Highway	LS and LCC		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region	PS		CC and SU
Impact 4.3: project implementation may result in light and glare impacts	LS and LCC		--
Impact 4.4: Cumulative Impact on the Region's Air Quality	LS and LCC		--
Impact 4.5: Cumulative Loss of Biological Resources Including Habitats and Special Status Species	LS and LCC		--
Impact 4.6: Cumulative Impacts on Known and Undiscovered Cultural Resources	LS and LCC		--
Impact 4.7: Cumulative Impact on Geologic and Soils Resources	LS and LCC		--
Impact 4.8: Cumulative Impact on Climate Change from Increased project-Related Greenhouse Gas Emissions (Less than Cumulatively Considerable)	PS		CC and SU
Impact 4.9: Cumulative Impact Related to Hazards and Hazardous Materials	LS and LCC		--
Impact 4.10: Cumulative Increases in Peak Stormwater Runoff from the Project Site	LS and LCC		--
Impact 4.11: Cumulative Impacts Related to Degradation of Water Quality	LS and LCC		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.12: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge	LS and LCC		--
Impact 4.13: Cumulative Impacts Related to Flooding	LS and LCC		--
Impact 4.14: Cumulative Impact on Communities and Local Land Uses	LS and LCC		--
Impact 4.15: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	PS		CC and SU
Impact 4.16: Cumulative Impacts on Public Services	LS and LCC		--
Impact 4.17: Under Cumulative Conditions, Project Implementation Would Exacerbate Levels Of Service at the McKinley Avenue / Roth Road Intersection	PS	***Mitigation Measure 4.17-1****: The project applicant shall pay its fair share toward improvements to the McKinley Avenue / Roth Road intersection. The project's fair share traffic contribution to these improvements is projected to be eight (8) percent[1] of the total cost of signalizing this current side-street stop controlled (SSSC) intersection. As an alternative, the Lathrop traffic mitigation fees may be amended to include a traffic signal at the McKinley Avenue/Roth Road intersection, and payment of the mitigation fee would mitigate this impact. The following mitigation measures would be necessary to provide acceptable operations under cumulative conditions:* • *Install traffic signal control at the intersection. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion,*	CC and SU

[1] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:
Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing County Volume)]
Fair Share Percentage = [199 / (3,269 – 863)] = 8 %

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		approach conditions, driver confusion) should be considered before the decision to install a signal is made.	
Impact 4.18: Under Cumulative Conditions, Project Implementation Would Result In Unacceptable Levels Of Service At The Project Driveways	PS	***Mitigation Measure 4.18-1:*** *The project applicant shall pay its fair share toward the widening of Roth Road. This project includes the addition of a two-way left turn median in the center of Roth Road for vehicles entering and exiting the project site. This improvement is in the 2014 SJCOG RTP.*	CC and SU
Impact 4.19: Under Cumulative Conditions, Project Implementation Would Exacerbate Cumulatively Unacceptable Levels of Service on I-5	PS	***Mitigation Measure 4.19-1:*** *The project applicant shall pay appropriate San Joaquin County Regional Traffic Impact Fee (RTIF), which is collecting fees from new development to help fund regional improvements to I-5.*	CC and SU
Impact 4.20: Cumulative Impact on Wastewater Utilities	LS and LCC		--
Impact 4.21: Cumulative Impact on Water Utilities	LS and LCC		--
Impact 4.22: Cumulative Impact on Stormwater Facilities	LS and LCC		--
Impact 4.23: Cumulative Impact on Solid Waste Facilities	LS and LCC		--

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1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Lathrop, as lead agency, determined that the proposed Lathrop Pilot Flying J Travel Center is a "project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development, and an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

The City of Lathrop, as the lead agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the Pilot Flying J Travel Center. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the proposed project. This EIR will be used by the City of Lathrop to determine whether to approve, modify, or deny the proposed project and associated approvals in light of the project's environmental effects. The EIR will be used as the primary environmental document to evaluate full development, all associated infrastructure improvements, and permitting actions associated with the proposed project. All of the actions and components of the proposed project are described in detail in Chapter 2.0, Project Description.

1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Project-level EIR pursuant to CEQA Guidelines Section 15161. A Project-level EIR is described in State CEQA Guidelines § 15161 as: "The most common type of EIR (which) examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation. The project-level analysis considers the broad environmental effects of the proposed project.

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the proposed project or an aspect of the proposed project (CEQA Guidelines Section 15381). The following agencies are considered Responsible Agencies:

- Lathrop-Manteca Fire Protection District: Provision of Fire Protection Services
- Reclamation District 17: Levee permits
- San Joaquin Local Agency Formation Commission (LAFCo): Annexation
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits.
- San Joaquin Council of Governments (SJCOG): Compliance with ALUCP and SJCMSCP

For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). The following agencies are considered Trustee Agencies for the proposed project, and may be required to issue permits or approve certain aspects of the project:

- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities pursuant to the Clean Water Act,
- San Joaquin Council of Governments (SJCOG): Coverage/Incidental Take Authorization under the San Joaquin County Multi Species Habitat Conservation and Open Space Plan

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION

The City of Lathrop circulated a Notice of Preparation (NOP) of an EIR for the Pilot Flying J Travel Center on October 21, 2015 to responsible agencies, trustee agencies, the State Clearinghouse, the Native American Heritage Commission, and the public. A public scoping meeting was held on November 18, 2015 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and comments received on the NOP by interested parties are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed Pilot Flying J Travel Center, description of the environmental setting, identification of project impacts,

and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Lathrop will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period. Additionally, the City of Lathrop will file the Notice of Availability with the County Clerk and have it published in a newspaper of regional circulation to begin the local public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City of Lathrop will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Rebecca Willis, Community Development Director
City of Lathrop
390 Towne Centre Dr.
Lathrop, CA 95330
rwillis@ci.lathrop.ca.us

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Lathrop will review and consider the Final EIR. If the City of Lathrop finds that the Final EIR is "adequate and complete", the City of Lathrop will certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and

2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Following review and consideration of the Final EIR, the City of Lathrop may take action to approve, modify, or reject the proposed project. A Mitigation Monitoring Program, as described below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. This

Mitigation Monitoring Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the proposed project, environmental and planning documentation prepared for recent projects located within the City of Lathrop, applicable local and regional planning documents, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the proposed project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related infrastructure improvements, and a list of related agency action requirements.

CHAPTER 3.0 - ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the proposed project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics and Visual Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Public Services
- Transportation and Circulation
- Utilities and Service Systems

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

CHAPTER 5.0 - ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the proposed project, which could feasibly attain the basic objectives of the project and avoid and/or lessen any significant environmental effects of the project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the proposed project and the selected alternatives.

CHAPTER 6 - REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis.

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Lathrop received 8 written comment letters on the NOP for the proposed project. A copy of each letter is provided in Appendix A of this Draft EIR. A list of each commenting agency/citizen is provided below. The City also held a public scoping meeting on November 18, 2015.

- San Joaquin Council 0f Governments SJCOG, Inc. SJMSCP (October 28, 2015)
- San Joaquin Valley Air Pollution Control District (November 10, 2015)
- Central Valley Regional Water Quality Control Board (November 13, 2015)
- California Department of Transportation (November 17, 2015)
- San Joaquin County Environmental Public Works Department (November 25, 2015)
- San Joaquin Council of Governments (SJCOG) (December 1, 2015)
- San Joaquin Council 0f Governments SJCOG, Inc. (December 4, 2015)
- San Joaquin Airport Land Use Commission (December 10, 2015).

In addition, the City of Lathrop had received a letter from the Northern Valley Yokuts (August 25, 2015) indicating that they would like formal notification of CEQA documents when they are made available. The City of Lathrop provided a formal notification to the Northern Valley Yokuts on November 3, 2015. No formal comments were provided in response to the notification.

2.1 PROJECT LOCATION

The proposed project includes the annexation of an area located just to the north of the City of Lathrop (the "proposed annexation area"), and the development of a new Pilot Flying J Travel Center to be located at the far eastern portion of the proposed annexation area (the "Pilot Flying J project site" or "project site"). Figures 2-1 and 2-2 show the proposed project's regional location and vicinity. The proposed annexation area includes Assessors Partial Numbers (APNs) 193-330-30, 193-30-31, and 193-33-017, as shown in Figure 2-3. The project site is located within the eastern third of the parcel identified by APN 193-330-30 (APN 193-330-30 is hereafter identified as the "project parcel"). Figure 2-4 shows an aerial photo of the proposed annexation area and the project site. The project site is located north of Roth Road and approximately 1,000 feet east of Interstate 5 (I-5). The project site is bordered to the east by the existing Union Pacific Railroad (UPRR) tracks, and to the west by existing commercial area located within the central and western portions of the project parcel. Additionally, the project site occupies approximately 9 acres of land on the project parcel, which is an approximately 24-acre parcel.

2.2 PROJECT SETTING

EXISTING SITE USES

The 9 acre project site currently consists of undeveloped land that is used as a trailer storage area. The western portion of the 24-acre project parcel that includes the project site currently operates as a commercial truck repair storage and sales facility (Papé Kenworth). Figure 2-4 shows aerial imagery of the proposed annexation area and project site.

EXISTING SURROUNDING USES

Uses Immediately adjacent to the proposed annexation area include: truck sales storage and service establishments to the north and northwest, a service station, and truck tire sales and repair facility to the southwest, a pet food processing and distribution facility to the south, and the Union Pacific Rail lines to the east.

GENERAL PLAN AND ZONING DESIGNATIONS

The proposed annexation area is currently located within San Joaquin County. The project site is outside the Lathrop city limits, but within the City's Sphere Of Influence (SOI). The proposed project would require annexation into the city limits, which requires approval from the City of Lathrop and the San Joaquin County LAFCo.

City of Lathrop General Plan Land Use Designation

The proposed annexation area (including the project site) is currently designated Freeway Commercial (FC) by the City of Lathrop General Plan Land Use Map. The Freeway Commercial designation generally allows building densities of 1-2 stories and building intensity up to 60% site area coverage. This classification of commercial activity is somewhat of a hybrid in that it caters to uses which serve the regional market for specialized sales and service activities as well as uses which cater more strictly to the needs of the highway traveler. Specialized activities might include

factory store centers, discount centers for home furniture, appliances, home improvement and sports, and commercial recreation centers for activities such as bowling, skating, tennis, racquetball, water-oriented amusements and miniature golf. Uses which cater to the highway traveler include motels, restaurants, auto and truck sales and service, fuel stations, auto repair, RV sales and service, boat sales and service, sports equipment, bank service, truck stops and terminals, bus stops and facilities for overnight camping and RV parking. The City's General Plan Land Use Map illustrates the land use designations for the project site and surrounding area (Figure 2-5).

City of Lathrop Zoning Designation

The proposed annexation area is currently outside the city limits; therefore, the City of Lathrop has not zoned these lands, which include the project site. The proposed project includes a pre-zoning of the site to Highway Commercial (CH) to be consistent with the General Plan Land Use designation.

San Joaquin County General plan Land Use Designation

The San Joaquin County General Plan currently designates the proposed annexation area as General Industrial (I/G). This designation provides for a full range of industrial activities whose location and operation tend to have moderate to high nuisance characteristics and therefore require segregation from other land uses. Typical uses include manufacturing, distribution, storage, and wholesaling. The San Joaquin County General Plan Land Use Map illustrates the land use designations for the project site and surrounding area (Figure 2-6).

San Joaquin County Zoning Designation

The proposed annexation area is currently Zoned General Industrial (I-G) by the San Joaquin County Zoning Code. This zone provides for a wide range of manufacturing, distribution and storage uses which have moderate to high nuisance characteristics such as noise, heat, glare, odor, and vibration, and which require segregation from other land uses, and/or may require outside storage areas. New lots in this zone are a minimum of 10,000 square feet.

Surrounding Land Uses

Lands to the south and southwest of the proposed annexation area (within the city limits) consist of Limited Industrial (LI), and Freeway Commercial (FC) land use designations. Adjoining lands to the east and north of the proposed project consist of county designated General Industrial to the north, and Limited Industrial to the east. Approximately one-third of a mile northeast of the project site includes county designated residential uses including Very Low Density Residential (R/VL 1-2 dwelling units per acre), and Low Density Residential (R/L 2-6 dwelling units per acre).

2.3 PROJECT GOALS AND OBJECTIVES

The principal objective of the proposed project is the approval of the Pilot Flying J Travel Center that includes development of the approximately 9 acre site for travel serving uses. Implementation of the project would involve the development of fueling facilities, traveler amenities, and parking facilities for passing motorists and commercial truck operators. The site plan layout of the proposed project is shown of Figure 2-7.

The quantifiable objectives and operational characteristics of the proposed project include the development of travel support facilities on the 9 acre project site that would include:

- 9 diesel fueling lanes (including diesel, diesel exhaust fluid (DEF) and Bio diesel) with 10 fueling islands
- 12 gas fueling lanes with 6 fueling islands
- 106 truck parking spaces
- 64 passenger vehicle parking spaces
- 3 handicapped parking spaces
- 1 service island parking space
- CAT Certified Scales
- One 110 ft. tall pole sign with LED lights (advertising for interstate traffic)
- One 100 ft. tall monopole (site lighting)
- One 31 ft. tall goalpost sign located along Roth Road
- One 13,011 square foot building that will include:
    - A drivers lounge
    - Restroom facilities, that include showers and laundry facilities
    - 2,660 square feet of retail space for traveler serving amenities
    - One 1,260 square foot market/deli
    - One 1,445 square foot Subway restaurant
    - One Cinnabon kiosk
- The creation of 75 new jobs to the City of Lathrop and surrounding communities

2.4 PROJECT DESCRIPTION

REQUESTED LAND USE APPROVALS

ANNEXATION

The project site is currently within San Joaquin County, and within the City of Lathrop's Sphere of Influence (SOI). The proposed project would result in the annexation of APN 193-330-30 (which includes the project site) into the City of Lathrop.

The proposed annexation area is contiguous with the existing City boundary located along the southern boundary of the project parcel. Annexation of the project parcel would be City-initiated. In addition, land to the northwest and west of the project parcel may also be annexed along with the project parcel to provide for a logical development and annexation pattern within the area. Additional land proposed to be annexed includes the 1.97 acre parcel (APN 193-330-31) located adjacent to the northwest portion of the project site, and the 1.18 acre parcel (APN 193-330-17) located west of the project site across Harlan Road. Other than development of the Pilot Flying J Travel Center on the approximately 9 acre portion of the project parcel, all other uses in the proposed annexation area would remain unchanged; no development of these areas has been

proposed as a part of this project. The project site APN and surrounding APN's are shown on Figure 2-3.

PREZONING

The proposed annexation area is currently in the jurisdiction of San Joaquin County, and zoned for General Industrial uses by the County. The San Joaquin County Local Agency Formation Commission (LAFCO) will require the project area be pre-zoned by the City of Lathrop in conjunction with the proposed annexation. The City's pre-zoning will follow the land use designation intent of General Plan Land Use Map (Freeway Commercial), as such the site will be zoned Highway Commercial (CH). The pre-zoning would go into effect upon annexation into the City of Lathrop.

SITE PLAN REVIEW

The proposed project includes a Site Plan Review. The purpose of the Site Plan Review process is to enable the Planning Commission to make a finding that a proposed development is in conformity with the intent and provisions of the City Code (primarily the zoning ordinance) and to guide the Building Official in the issuance of building permits for that development.

ZONING CODE AMENDMENT – PENDING MUNICIPAL CODE TEXT AMENDMENT TA-16-18

The pre-zoned Highway Commercial (CH) Zoning District (Section 17.44.050) would require a Zoning Code Text Amendment to include Travel Plaza and/or Truck Stop as a Conditional Use under the existing zoning requirements. Additionally, the current Zoning Code (Section 17.84.100 Master Signage Program) would require a Zoning Code Text Amendment to allow the two detached signs up to 110 feet high on the project site. However, the City of Lathrop is currently processing Municipal Code Text Amendment No. TA-16-18. The intent of this effort by the City is to adopt various amendments to the Lathrop Municipal Code (LMC) to modernize, simplify, and streamline the Zoning, Title 17 of the LMC. This update includes integration of current City policies, State and Federal law, and best practices within the planning profession. The two relevant amendments are as follows:

- Section 17.44.050 (Highway Commercial): To modify, add, delete certain uses related to assembly uses, recycling center, massage establishment and travel plaza or truck stop.
- Section 17.84.100 (Master Signage Plans): To clarify and update the requirements of the Master Sign Plan process.

The Municipal Code Text Amendment No. TA-16-18 is anticipated to be approved prior to this EIR being presented to the City Council for their consideration. As such, at this time it is anticipated that the City initiated Municipal Code Text Amendment No. TA-16-18 would negate any need to process zoning text amendments for the proposed project.

CONDITIONAL USE PERMIT

If the Municipal Code Text Amendment No. TA-16-18 is approved as anticipated; a Travel Plaza and/or Truck Stop in the Highway Commercial (CH) Zoning District will require a Conditional Use. As such, the Pilot Flying J project would require the approval of a Conditional Use Permit (CUP) prior to project approval.

The granting of a conditional use permit is required when a project has unusual characteristics that require special consideration so that they may be located properly with respect to the objectives of the zoning ordinance and their effects on surrounding properties. In order to achieve these purposes, the Planning Commission is empowered to grant or to deny applications for conditional use permits and to impose reasonable conditions of approval. The City Council then affirms, modifies, or reverses the decision on the conditional use permit.

PROJECT IMPROVEMENTS

CIRCULATION

The proposed project would attract automobiles and truck traffic from I-5 to the project site via the Roth Road exit. The proposed project includes two points of entry into the project site along Roth Road. The first entrance is intended for general automobile traffic access, and the second access point is intended for use by truck traffic. Figure 2-7 displays the proposed site plan layout.

UTILITIES

Electricity, gas and telephone services are located immediately adjacent to the project site along Roth Road. Development of the proposed project would not require the expansion of these facilities or any off-site improvements other than the connection to the project site. Water and sewer connections would need to be extended onsite to serve the project. Storm water retention basins are located on the easterly portion of the subject property and extend north of the proposed annexation area onto adjacent property outside of the Lathrop city limits and Sphere of Influence. The subject property drains to both retention basins. The use of these existing drains for storm drainage on the project site would require a deed restriction over the basins to ensure that they are retained for such use. Additionally, the use of the existing drains for the proposed project would require approval from the County of San Joaquin.

PLANNED INFRASTRUCTURE IMPROVEMENTS

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the proposed Pilot Flying J project, as described below.

Potable Water:

Water services for the proposed Pilot Flying J project would be extended from existing services located along Roth Road to the Pilot Flying J project site.

Sewer:

Sewer would be extended from the project site south along Harlan Road. The sanitary sewer line would be constructed within the existing right-of-way (ROW) and no additional off-site ROW would

be required for project implementation. The Lathrop Municipal Code Title 13 Chapter 13.16.190 provides standards for sewer reimbursement for construction of sewers. A sewer reimbursement agreement could be required by the proposed project if the City deems it necessary to construct oversized sewer infrastructure. Chapter 13.16.190 of the Lathrop Municipal Code states:

> *"Where an applicant for sewer service is so located that it is necessary to construct or cause to be constructed a new main, service line, pump, lift station or other sewer facilities, or to expand or replace such facilities, the applicant shall be responsible for such work. The city may require that such work be oversized in order to provide for future use by others of such work, and, in the event the city so requires, the cost of such oversizing shall be determined, and the city may require future users of such facilities to reimburse the original builder for a proportionate share of the cost of such oversizing. Such proportionate share shall be based on frontage of the land or lands of the future user, will be collected at the time of connection to the works, and reimbursed to the original builder within thirty (30) days of collection. In no event shall the city be liable for reimbursement to the original builder unless and until such reimbursement is collected from the new users. In no event shall the city be liable for failure to make such collection. No such collection or reimbursement will be made after ten (10) years from the date of completion of the original work or works."*

The proposed sewer line extension would be a gravity line that ends at the pump station currently being constructed on Harlan Road, approximately 2200 feet south of Roth Road. The size of the line is expected to be 15" in diameter from the pump station to Roth Road, and 12" in diameter from Roth to the project site. Ultimately, the pipeline along Roth Road would be extended to serve other sites on Roth Road, to the limit of Lathrop's General Plan boundaries.

The project site includes a private pump station and force main that is currently under construction and will be upgraded to a public pump station, and public force main.

2.5 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

The City of Lathrop will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Certification of the EIR
- Adoption of the Mitigation Monitoring and Reporting Program
- Approval of the Annexation request
- Approval for the Prezoning of the annexation area
- Approval of the Conditional Use Permit (CUP)
- Approval of the Site Plan Review
- Approval of grading plans
- Approval of building permits

The following agencies may be required to issue permits or approve certain aspects of the proposed project. Other governmental agencies that may require approval include, but are not limited to, the following:

- San Joaquin Local Agency Formation Commission (LAFCo): Annexation
- San Joaquin Council of Governments (SJCOG): Compliance with ALUCP
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities.
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits.
- San Joaquin County: Storm water maintenance agreement for a Joint Drainage Easement

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PILOT FLYING J TRAVEL CENTER

Figure 2-1: Regional Location Map

N

0 10 20

Miles

1:1,500,000

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Data source: California Spatial Information Library. Map date: September 10, 2015.

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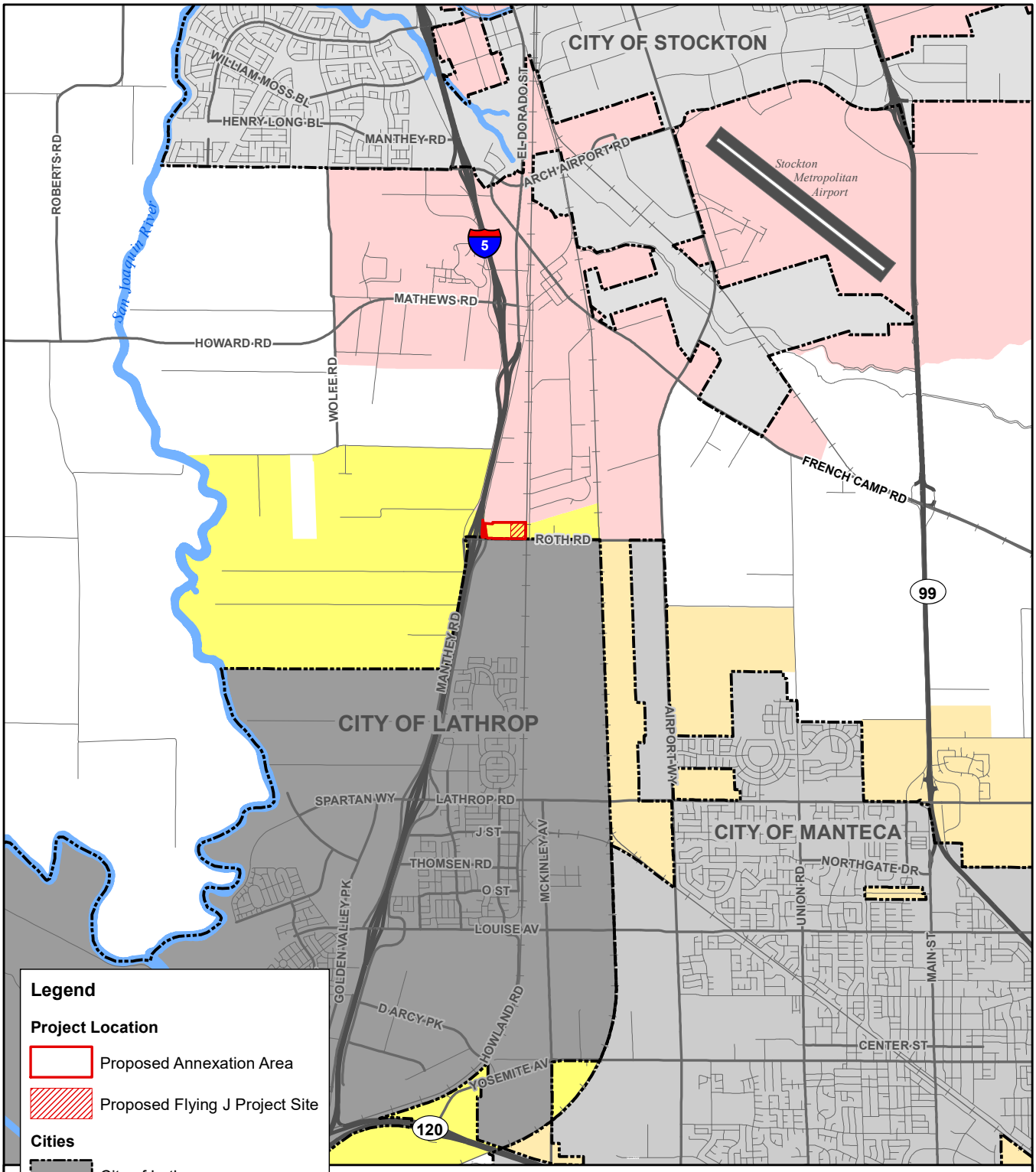

PILOT FLYING J TRAVEL CENTER

Figure 2-2: Project Vicinity

Sources: San Joaquin County GIS. Map date: January 17, 2016.

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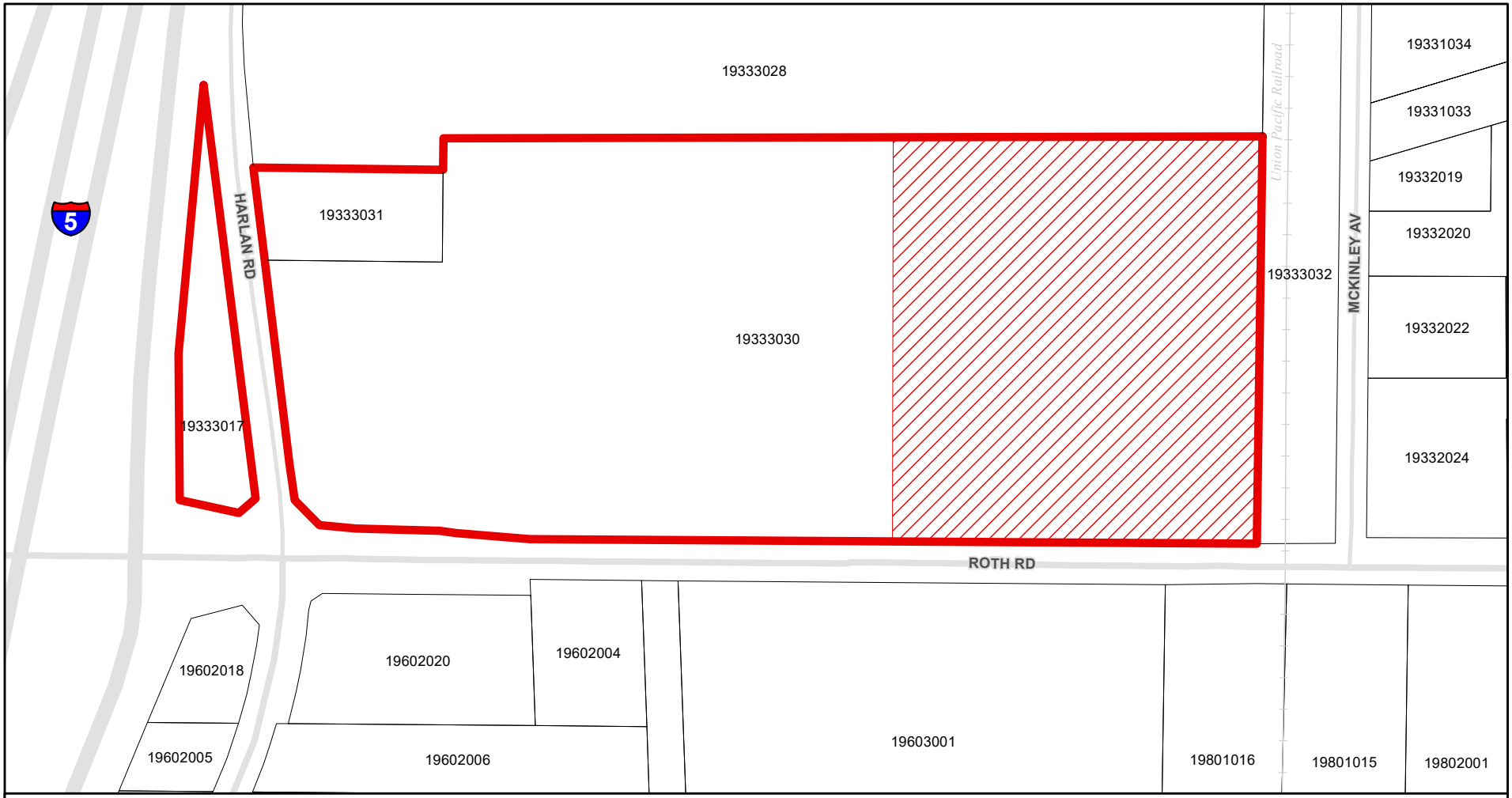

PILOT FLYING J TRAVEL CENTER

Figure 2-3: Assessor's Parcel Map

Legend

- Proposed Annexation Area
- Proposed Flying J Project Site

N

0 100 200

Feet

Sources: San Joaquin County GIS. Map date: January 15, 2016.

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PILOT FLYING J TRAVEL CENTER

Figure 2-4: Aerial Photo

Legend

- Proposed Annexation Area
- Proposed Flying J Project Site

N

0 250 500

Feet

Sources: San Joaquin County GIS. ArcGIS Online BING Aerial Imagery map service. Map date: January 13, 2016.

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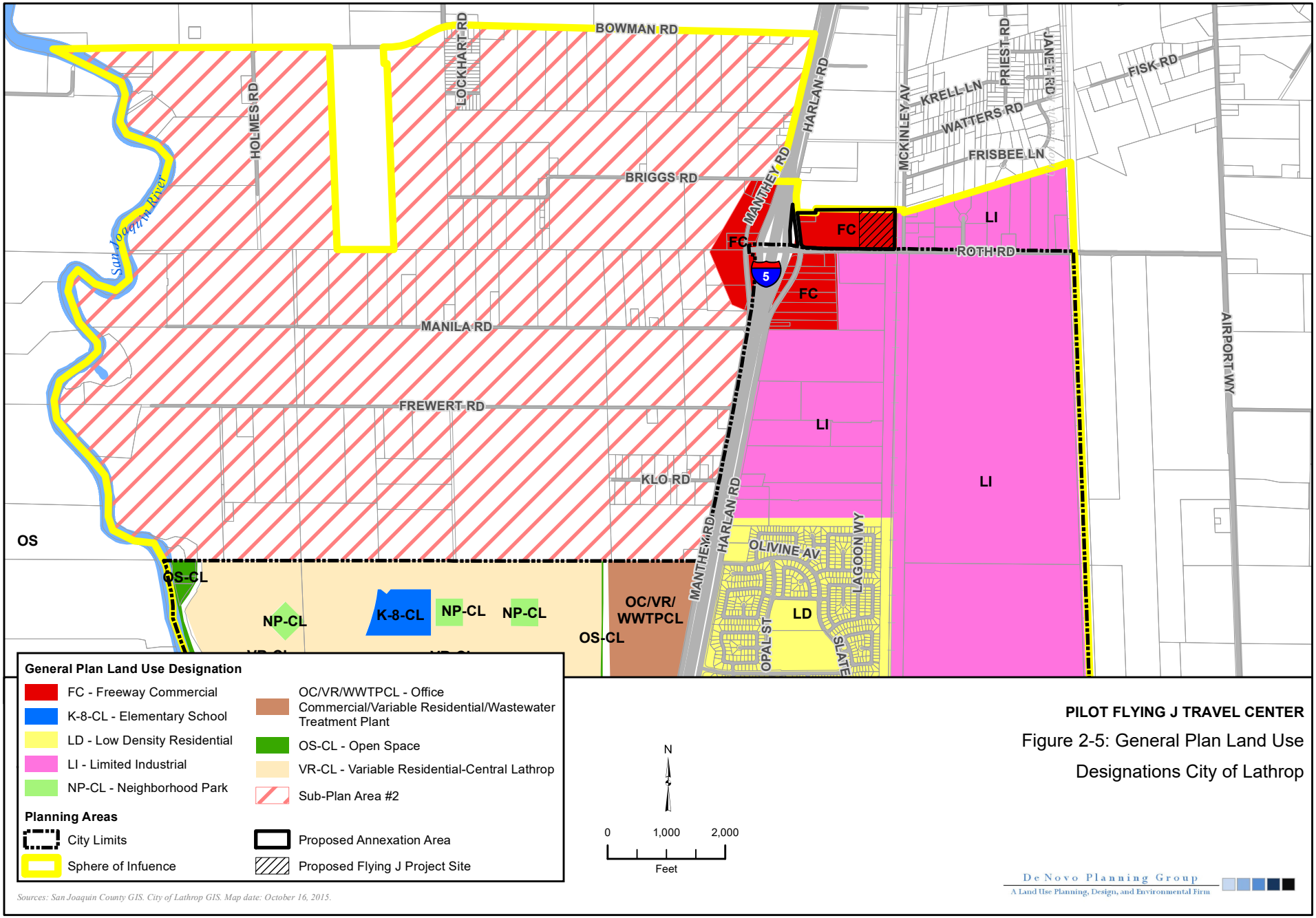

Sources: San Joaquin County GIS. City of Lathrop GIS. Map date: October 16, 2015.

PILOT FLYING J TRAVEL CENTER

Figure 2-5: General Plan Land Use Designations City of Lathrop

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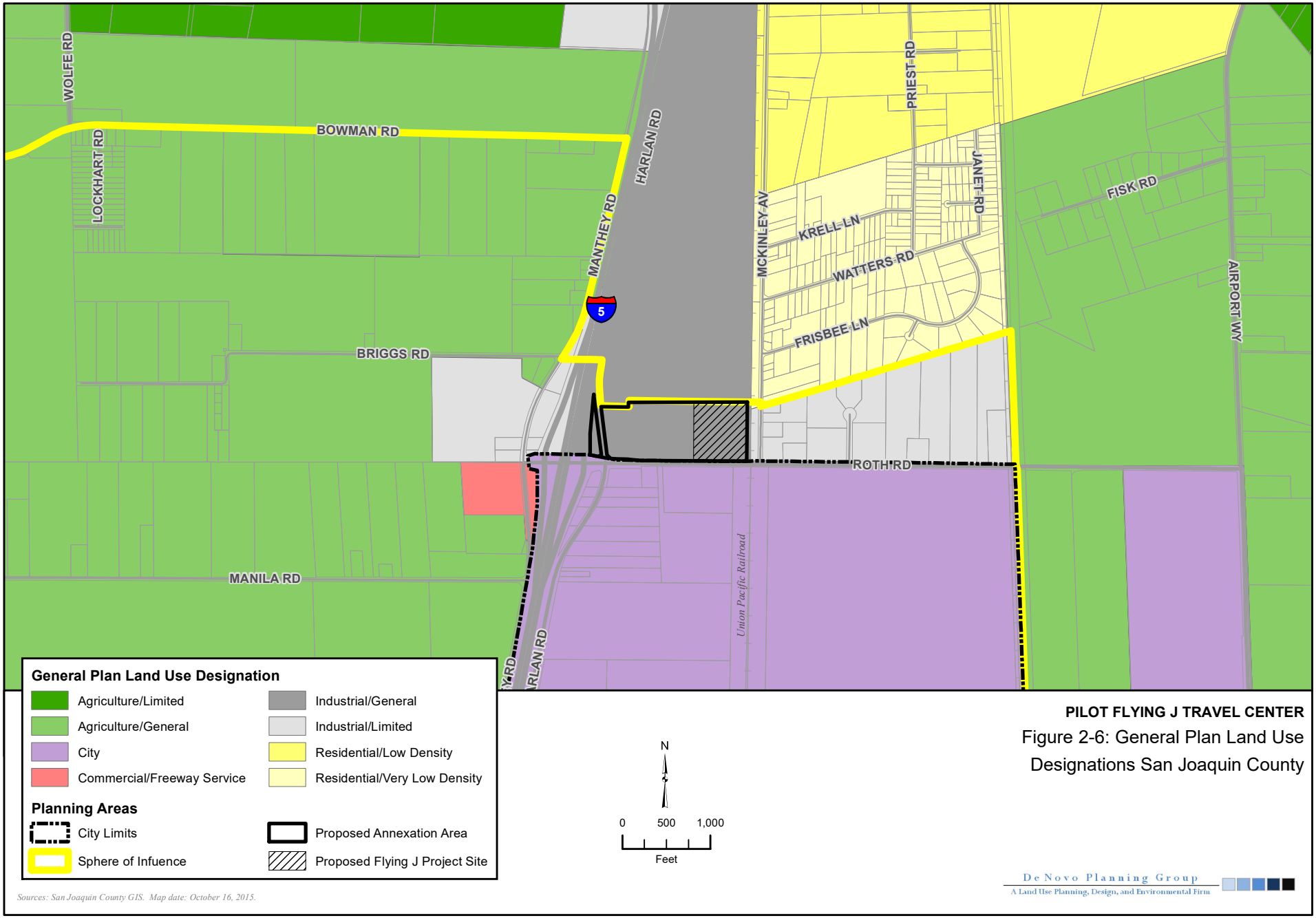

Sources: San Joaquin County GIS. Map date: October 16, 2015.

PILOT FLYING J TRAVEL CENTER

Figure 2-6: General Plan Land Use Designations San Joaquin County

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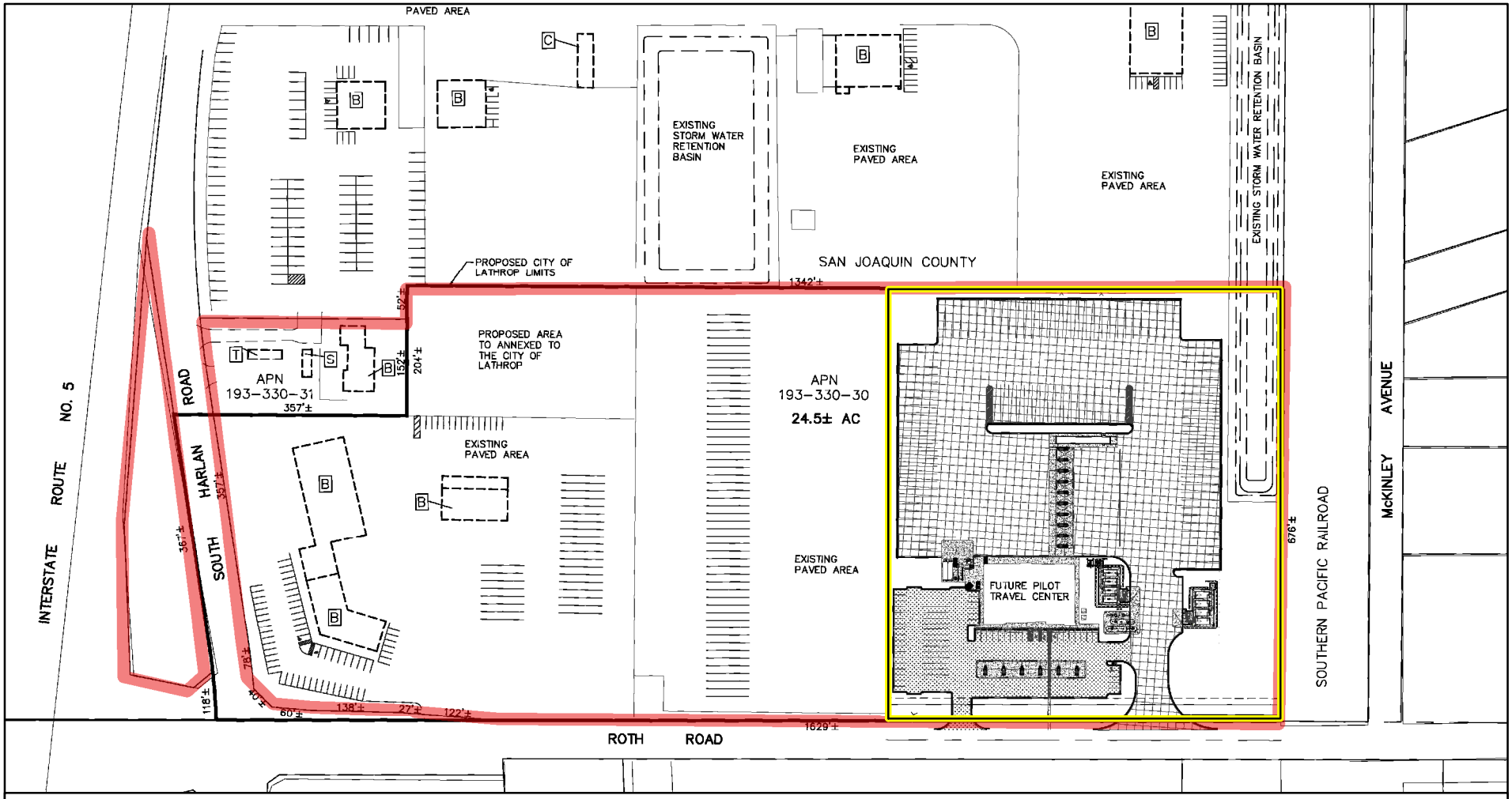

Existing Features

- B Existing Building
- C Existing Card Holder Facility
- S Existing Storage
- T Existing Mobile Home

Area to be Developed

Project Parcel

N

0 100 200

Feet

PILOT FLYING J TRAVEL CENTER

Figure 2-7: Site Plan

Sources: Pilot Flying J Design Department; San Joaquin County GIS. Map date: October 16, 2015.

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This section provides an overview of the visual character, scenic resources, views, scenic highways, and sources of light and glare that are encountered in the proposed annexation area and the vicinity. This section concludes with an evaluation of the impacts and recommendations for mitigating impacts. There were no comments received during the NOP scoping process related to this environmental topic.

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

SCENIC HIGHWAYS AND CORRIDORS

Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically-pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive one and, consequently, provides support for the tourist-related activities of the region's economy.

Scenic Highways

A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

Scenic Corridors

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

San Joaquin County Scenic Highways/Corridors

Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of State Route 580 from Interstate 5 to State Route 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Lathrop and the proposed annexation area are not visible from this roadway segment.

As identified in the Open Space Element of the San Joaquin County General Plan, designated scenic routes in the county include Interstate 5 from the Sacramento County line south to Stockton. However, the proposed project is located south of Stockton, and therefore is not located adjacent to a scenic route.

SCENIC WATER RESOURCES AND WILD AND SCENIC RIVERS

Water resources are important visual resources that draw tourists to the area for recreational opportunities. The most visually significant water body in the region is the San Joaquin River.

Wild and Scenic Rivers

Federal agencies have jurisdiction, under the Wild and Scenic Rivers Act, to designate rivers or river sections to "be preserved in free-flowing condition and…protected for the benefit and enjoyment of present and future generations."

The San Joaquin River, located approximately 2 miles west of the proposed annexation area, is not designated as Wild and Scenic River under the Federal Wild and Scenic Rivers Act.

PROJECT AREA

The proposed annexation area is located in San Joaquin County, east of Interstate 5 (I-5) and the San Joaquin River, and west of the nearby UPRR rail lines. The proposed annexation area, located just to the north of the City of Lathrop, is within the City's Sphere of Influence and General Plan area, and is identified as the northern portion of the City's Sub-Plan Area 1.

The proposed annexation area is currently designated Freeway Commercial (FC) by the City of Lathrop General Plan Land Use Map and General Industrial by the San Joaquin County General Plan Land Use Map. The current uses in the immediate vicinity of the proposed annexation area consists of a mixture of commercial, industrial, and residential uses. The existing access to the proposed annexation area is from Roth Road. The proposed annexation area is relatively flat and ranges in elevation from approximately 16 to 32 feet above sea level. The UPRR rail lines are slightly elevated along the eastern boundary of the proposed annexation area, between elevation 23 and 27 feet. I-5 runs along the western edge of the proposed annexation area and is elevated along the northern boundary between elevation 29 and 38 feet.

The proposed annexation area includes a parcel (the project parcel) that is currently occupied by several existing buildings and large parking areas in the western and central portions of the parcel. The easternmost portion of the parcel is unpaved, currently used as a parking lot for large trucks. The unpaved portion of the parcel is the proposed location for the Pilot Flying J Travel Center facility (the project site).

There are no scenic resources nearby. The key exception is the San Joaquin River and its associated environs, which is located approximately two miles west of the proposed annexation area and is considered the most significant visual resource in the vicinity. However, the San Joaquin River is not visible from anywhere within the proposed annexation area.

There are no Officially Designated Scenic Highways located through or adjacent to the proposed annexation area. The only Officially Designated Scenic Highway in San Joaquin County is I-580 from I-5 to SR 205 located approximately 16 miles southwest of the proposed annexation area. This scenic highway is not visible from the proposed annexation area.

There are some existing light sources in the vicinity of the proposed annexation area. There are existing nighttime lighting associated with the nearby commercial and industrial land uses, and streetlights and vehicle lights from nearby roadways including I-5. However, the proposed annexation area is largely sheltered from vehicle lights associated with lighting from I-5, since it is elevated approximately 10 feet above the proposed annexation area.

3.1.2 REGULATORY SETTING

STATE

California Scenic Highway Program

The intent of the California Scenic Highway Program is "to protect and enhance California's natural scenic beauty and to protect the social and economic values provided by the State's scenic resources." Caltrans administers the program, which was established in 1963 and is governed by the California Streets and Highways Code §260 et seq. The goal of the program is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of the adjacent land. Caltrans has compiled a list of state highways that are designated as scenic and county highways that are officially designated or eligible for designation as scenic. Scenic highway designation can provide several types of benefits to the region. Scenic areas are protected from encroachment of inappropriate land uses, free of billboards, and are generally required to maintain existing contours and preserve important vegetative features. Only low density development is allowed on steep slopes and along ridgelines on scenic highways, and noise setbacks are required for residential development.

LOCAL

The City of Lathrop General Plan identifies visual and scenic resources within the city and recommends measures to protect these resources.

City of Lathrop General Plan

The City of Lathrop General Plan identifies the following scenic resources in the Lathrop area; a) views of agricultural lands to the west and south; and b) views of the Coast Ranges to the west. The City of Lathrop General Plan recognizes that views of the San Joaquin River also could be considered a scenic resource. However, views of the river are obscured by the surrounding levee system. Thus, the San Joaquin River can be viewed only from the tops of levees, inside the levees at water level and bridge crossings. In addition to these scenic resources, the City of Lathrop General Plan suggests that the current "degree of darkness" in the City, especially in residential neighborhoods, is an important visual resource. The current degree of darkness allows clear views of the nighttime sky (stars, constellations) as weather permits.

Goal 4: Quality in the Form, Design, and Functions of the Urban Area

The following City of Lathrop General Plan policies, which are intended to achieve visual and scenic quality in new developments, apply to the proposed project:

- An architectural design review shall be required of all planned developments and of all multifamily, office, commercial, institutional, and industrial uses.
- All outdoor storage areas shall be visually screened with ornamental fencing or walls and with landscaping.
- All gas, electrical, telephone, and cable distribution lines should be placed underground; if overhead transmission line rights-of-way are required, they should be incorporated into open space corridors so as to minimize their visual impacts on the urban environment.

- The visual interface between commercial/industrial areas and residential areas shall be designed and developed so as to avoid obtrusive visual impacts of commercial or industrial activities on nearby residential areas.

- Street trees and frontage landscaping, with automatic irrigation, shall be provided for all commercial sites outside of the CBD. Shade trees shall be provided within off-street parking areas as determined under site plan review.

City of Lathrop Zoning Ordinance

Chapter 17.92, Landscaping and Screening Standards, of the City Zoning Ordinance contains several sections that regulate aesthetic or visual standards for development in the City. These include standards for landscaping of commercial and industrial developments; requirements for the contents of landscape plans; street, road, and parkway landscaping standards; requirements for a tree and shrub schedule; and planting and maintenance standards. Some of these standards would be applicable to the proposed project, including the following:

- A landscape plan is required for all new residential, commercial, and industrial developments. These plans would include landscape materials, trees, shrubs, groundcover, turf, etc.

- Parking lots located on the proposed project site shall include a landscape strip buffer installed continuously along the property line.

- All outside storage areas shall be screened so as not to be visible from adjacent properties and public rights-of-way. Screening shall be a minimum of six feet in height, and consist of a solid material. Outside storage is not permitted in front or street side yards, or in front of structures.

- Roof mounted mechanical equipment, tanks, ventilating fans and similar equipment shall be screened from the view of adjacent properties and public rights-of-way at grade. The required screens shall be architecturally compatible with the building or structure on which they are used.

All streets, roads, and parkways within the City shall meet the following standards:

- In residential, commercial and industrial zones, trees shall be planted in accordance with the landscape and screening standards. In addition, the following requirements shall apply:

    - Trees shall be planted between four feet and ten feet from a public right-of-way. Trees should also be a minimum of ten feet from any driveway.

    - Trees planted on street frontages where noise attenuation is required shall be planted in a minimum five-foot landscape strip or in tree wells. Each tree shall be spaced no farther than 20 feet apart.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project implementation may have a substantial adverse effect on a scenic vista (Less than Significant)

A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. Scenic vistas that have been identified in the General Plan that could potentially be impacted by proposed development within the proposed annexation area include views of agricultural lands, views of the San Joaquin River to the west, and views of the Coast Ranges.

The project area is located at the northern edge of the City of Lathrop, adjacent to I-5. Nearby buildings, vegetation, and the I-5 freeway block views between the proposed annexation area and the land to the west of I-5. Therefore, the San Joaquin River and regional agricultural lands farther to the west of the proposed annexation area are not generally visible from the proposed annexation area.

Distant views of the Coast Ranges are visible from portions of the proposed annexation area. Construction of the new Pilot Flying J Travel Center building at the project site could limit views of the Coast Ranges from a few points of view directly east of the structure. However, the new structure would not be anticipated to obstruct views of the Coast Ranges from adjacent properties that are not already obstructed by existing buildings, trucks, and vegetation. The area surrounding the proposed annexation area is a built-up industrial and commercial area. The proposed annexation area is not a designated scenic vista. Implementation of the proposed project would have a ***less than significant*** impact on a scenic vista, and no mitigation is required.

Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway (Less than Significant)

There are no designated State Scenic Highways in the vicinity of the proposed annexation area. Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 580 from Interstate 5 to State Route 205. This Designated Scenic Highway is located approximately 16 miles southwest of the proposed annexation area and is not visible from the proposed annexation area. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The proposed annexation area is not visible from this roadway segment. As identified in the Open Space Element of the San Joaquin County General Plan, designated scenic routes in the county include I-5 from the Sacramento County line south to Stockton. The City of Lathrop is located south of Stockton, and neither the City nor the proposed annexation area is visible from this segment of I-5. Additionally, there are no "eligible" highway segments in the project vicinity that may be included in the State Scenic Highway system. As such, this is a ***less than significant*** impact, and no mitigation is required.

Impact 3.1-3: Project implementation may substantially degrade the existing visual character or quality of the site and its surroundings (Less than Significant)

Implementation of the proposed project would change the existing visual character of the project area. Impacts related to a change in visual character are largely subjective and very difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered "attractive" to one viewer may be considered "unattractive" to other viewers.

The project area currently includes existing commercial development and impervious surface. Large trailer trucks are currently parked at the site, including the undeveloped portion of the site (the project site), where the proposed project would be built. Furthermore, the majority of the proposed annexation area has already been intensively disturbed through urban development.

Most of the surrounding area is already developed, and the area in the immediate vicinity between I-5 and the UPRR rail lines consist of exclusively commercial and industrial uses, north of Roth Road. Adjacent land uses include commercial and industrial uses, with residential uses located to the east of the proposed annexation area, beyond the UPRR rail lines. The natural scenic resources that do exist are typically scattered and of nominal quality. As a result, limited natural scenic areas can be found within the vicinity of the proposed annexation area.

Project implementation would develop the eastern portion of the proposed annexation area, from an undeveloped lot to a Pilot Flying J Travel Center, consisting of a new travel center with multiples facilities, gasoline and diesel refueling stations, and parking lots. The project would also install a 110 foot tall pole sign with LED lights (advertising for interstate traffic), a 100 foot tall monopole for site lighting, and a 31 foot tall goalpost sign located along Roth Road. The buildings and new impervious surface, in and of itself, would not substantially degrade the existing visual character or quality of the proposed annexation area and its surroundings, since uses would be similar to

current uses on and near the proposed annexation area. However, the new signs and sign lighting would be visible from miles away, which is its intent to attract highway travelers. The signage and lighting would be visible from adjacent residences and businesses in the City of Lathrop and portions of unincorporated San Joaquin County. From the perspective of some residents, the addition of these signs could degrade the existing visual character and/or quality of the site and its surroundings; however, absent significant scenic visual qualities in the vicinity, there would not be a significant impact. As such, this is a ***less than significant*** impact, and no mitigation is required.

Impact 3.1-4: Project implementation may result in light and glare impacts (Less than Significant)

Implementation of the proposed project could introduce new sources of light and glare to the project vicinity. Existing lighting near the proposed annexation area includes roadway lighting from I-5 and adjacent commercial and residential streetlight and facility lighting. Under current conditions, the proposed annexation area has nighttime lighting associated with the existing commercial uses to the north, west, and south, residential uses to the east, roadway lighting from I-5 (including from motorist vehicles), and miscellaneous lighting associated with various nearby streets.

Development of the proposed project would require lighting of parking areas and the exterior of the Pilot Flying J Travel Center building. The proposed project would also include the installation of a 110 foot tall pole sign with LED lights (advertising for interstate traffic) and a 100 foot tall monopole for site lighting. An increase in the amount of nighttime lighting would result from the development of the proposed project, potentially obscuring views of stars and other features of the night sky. Although there is already nighttime lighting in the project vicinity that currently affects nighttime views, the proposed project would add additional lighting. The proposed project would be subject to lighting and design guidelines that would reduce potential adverse impacts associated with light and glare to the extent feasible. The lighting guidelines require the use of cut-off type fixtures for on-site lighting to minimize visibility from adjacent areas and specifies that light fixtures will be the appropriate size and height given the activities for which they are designed, and proposed lighting would be arranged as to deflect light away from adjoining properties. Furthermore, all public improvements (such as landscape plantings, street and entry signs, lighting, or special paving) are subject to Site Plan and Architectural Design Review. All Design Review procedures will be conducted in compliance with 17.100 and 17.104 of the Lathrop Municipal Code, ensuring that the increase in nighttime lighting would be minimized to the extent feasible.

While development of the proposed project could also cause an increase in daytime glare, vehicles on nearby streets (i.e. Roth Road and Harlan Road) are unlikely to cause noticeable glare to drivers travelling on I-5 or residents in the area. Additionally, excessive reflective building materials would not be used on any buildings/structures/facilities associated with the proposed project. Therefore, the proposed project is not expected to introduce significant glare that would negatively affect nearby pedestrians or motorists.

Implementation of all applicable lighting and design standards would ensure that project lighting features do not result in light spillage onto adjacent properties and minimize impacts on the views of the night sky. Additionally, design review of the proposed 110 foot sign would focus on minimizing excessive light impacts to nearby residents, motorists, or pedestrians. Design review would also ensure that excessively reflective building materials are not used, and that the proposed project would not result in significant impacts related to daytime glare. Impacts related to nighttime lighting and daytime glare would be minimized through the design review process, the increase in nighttime lighting which specifically includes lighting/signage aimed at capturing traffic on I-5 would be ***less than significant***.

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from implementation of the proposed project. Following this discussion is an assessment of consistency of the proposed project with applicable policies and local plans. The Greenhouse Gases and Climate Change analysis is located in Section 3.6. This section is based in part on the following technical studies: *Air Quality and Land Use Handbook: A Community Health Perspective (California Air Resources Board 2007), Guidance for Assessing and Mitigation Air Quality Impacts* (SJAVPCD 2015), CalEEMod *(v.2013.2.2)* (California Air Resources Board 2015). An NOP comment was provided by the San Joaquin Valley Air Pollution Control District.

3.2.1 EXISTING SETTING

SAN JOAQUIN VALLEY AIR BASIN

The San Joaquin Valley Air Basin (SJVAB) consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of pollutants from the basin. Inversion layers are formed in the SJVAB throughout the year (An inversion layer is created when a mass of warm dry air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below). During the summer, the San Joaquin Valley experiences daytime temperature inversions at elevations from 2,000 to 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor.

The pollution potential of the San Joaquin Valley is very high. Surrounding elevated terrain in conjunction with temperature inversions frequently restrict lateral and vertical dilution of pollutants. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical oxidant, and the Valley is a frequent scene of photochemical pollution.

Climate

The SJVAB has an inland Mediterranean climate with warm, dry summers and cooler winters. The average daily maximum temperature in the Basin is 65° F, with temperature highs of 95° F in July. Average daily minimum temperature is 48° F, with temperature lows of 45° F in January. Normal rainfall level is approximately nine inches per year, and occurs mainly in the winter months from November to April. Thunderstorms occur on approximately 3 to 4 days in the spring, on average.

The Stockton area has warm, dry days and relatively cool nights, with clear skies and limited rainfall. Winters are mild with light rains and frequent heavy fog from December to January. The average daily temperature in Stockton is 74° F. Annual rainfall is 13 inches in Stockton, 8 inches in Tracy and 16 inches in Lodi.

Air Movement

Marine air comes into the basin from the Sacramento River–San Joaquin River Delta, although most air movement is restricted by the surrounding mountains. Winds from the Bay Area flow northeasterly into the Sacramento Valley and southward into San Joaquin County. This results in weak winds from the north and northeast, with an average speed of seven miles per hour.

Wind speed and direction determine the dispersion of air pollutants. During the summer, wind from the north flows south and southeasterly through the Valley, through the Tehachapi Pass and into the Southeast Desert Air Basin. Thus, emissions from the San Francisco Bay Area and the Broader Sacramento air basins are transported into San Joaquin County and the Valley. Emissions in the San Joaquin Valley are then transported to the Southeast Desert and Great Basin Valley Air Basins. In late fall and winter, cold air from the mountains flows into the Valley. This results in winds from the south that flow north and northwesterly. Some emissions from San Joaquin County are transported to the Broader Sacramento air basin during these times. But the winds are relatively light, limiting the dispersion of CO and other pollutants. Thus, high concentrations of CO remain in the Valley.

Seasonal Pollution Variations

Carbon monoxide, oxides of nitrogen, particulate matter, and lead particulate concentrations in the late fall and winter are highest when there is little interchange of air between the valley and the coast and when humidity is high following winter rains. This type of weather is associated with radiation fog, known as tule fog, when temperature inversions at ground level persist over the entire valley for several weeks and air movement is virtually absent.

Pollution potential in the San Joaquin County area is relatively high due to the combination of air pollutant emissions sources, transport of pollutants into the area and meteorological conditions that are conducive to high levels of air pollution. Elevated levels of particulate matter (primarily very small particulates or PM_{10}) and ground-level ozone are of most concern to regional air quality officials.

Local carbon monoxide “hot spots” are important to a lesser extent. Ground-level ozone, the principal component of smog, is not directly emitted into the atmosphere but is formed by the reaction of reactive organic gases (ROG) and nitrogen oxides (NOx) (known as ozone precursor pollutants) in the presence of strong sunlight. Ozone levels are highest in San Joaquin County during late spring through early fall, when weather conditions are conducive and emissions of the precursor pollutants are highest.

Surface-based inversions that form during late fall and winter nights cause localized air pollution problems (PM_{10} and carbon monoxide) near the emission sources because of poor dispersion conditions. Emission sources are primarily from automobiles. Conditions are exacerbated during drought-year winters.

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original or "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources. Because of the prevailing daytime winds and time delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of the San Joaquin Valley.

Temperature Inversions

A temperature inversion is a reversal in the normal decrease of temperature as altitude increases. In most parts of the country, air near ground level is warmer than the air above it. Semi-permanent systems of high barometric pressure fronts establish themselves over the basin, deflecting low-pressure systems that might otherwise bring cleansing rain and winds. The height of the base of the inversion is known as the "mixing height" and controls the volume of air available for the mixing and dispersion of air pollutants.

The interrelationship of air pollutants and climatic factors are most critical on days of greatly reduced atmospheric ventilation. On days such as these, air pollutants accumulate because of the simultaneous occurrence of three favorable factors: low inversions, low maximum mixing heights and low wind speeds. Although these conditions may occur throughout the year, the months of July, August and September generally account for more than 40 percent of these occurrences.

The potential for high contaminant levels varies seasonally for many contaminants. During late spring, summer and early fall, light winds, low mixing heights and sunshine combine to produce conditions favorable for the maximum production of oxidants, mainly ozone. When strong surface inversions are formed on winter nights, especially during the hours before sunrise, coupled with near-calm winds, carbon monoxide from automobile exhausts becomes highly concentrated. The highest yearly concentrations of carbon monoxide and oxides of nitrogen and measured during November, December and January.

CRITERIA POLLUTANTS

The United States Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). Each criteria pollutant is described below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O3 at ground level are a major health and environmental concern. O3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3

levels occur typically during the warmer times of the year. Both VOCs and NOx are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability and performance of complex tasks.

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain, and may affect both terrestrial and aquatic ecosystems. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NOx). NOx plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NOx forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter.

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms,

aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural uses (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter ($PM_{2.5}$) consists of small particles, which are less than 2.5 microns in size. Similar to PM10, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also soils and damages materials, and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

ODORS

Typically odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue,

in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools.

AMBIENT AIR QUALITY

Both the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and California state ambient air quality standards are summarized in Table 3.2-1 for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and particulate matter between 2.5 and 10 microns in diameter (PM_{10}).

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The 1-hour ozone standard was phased out and replaced by an 8-hour standard of 0.075 PPM. Implementation of the 8-hour standard was delayed by litigation, but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued in February of 2001.

TABLE 3.2-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.075 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	-- 0.53 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm --	-- 0.04 ppm 0.25 ppm
PM10	Annual 24-Hour	-- 150 ug/m3	20 ug/m3 50 ug/m3
PM2.5	Annual 24-Hour	35 ug/m3 15 ug/m3	12 ug/m3 --
Lead	30-Day Avg. 3-Month Avg.	-- 1.5 ug/m3	1.5 ug/m3 --

Notes: ppm = parts per million, ug/m3 = Micrograms per Cubic Meter

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2013

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The current PM_{10} standards were to be retained, but the method and form for determining compliance with the standards were revised.

The State of California regularly reviews scientific literature regarding the health effects and exposure to PM and other pollutants. On May 3, 2002, CARB staff recommended lowering the level of the annual standard for PM_{10} and establishing a new annual standard for $PM_{2.5}$. The new standards became effective on July 5, 2003, with another revision on November 29, 2005.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within San Joaquin County and the entire SJVAB are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant

concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone (O_3), carbon monoxide (CO), and nitrogen dioxide (NO_2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (SO_2), areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

San Joaquin County has a state designation of Nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.2-2 presents the state and nation attainment status for San Joaquin County.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	
Lead	Attainment	
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCES: CALIFORNIA AIR RESOURCES BOARD (2013).

San Joaquin Valley Air Basin Monitoring

The SJVAB consists of eight counties, from San Joaquin County in the north to Kern County in the south. SJVAPCD and CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, $PM_{2.5}$, and PM_{10}. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites throughout the SJVAB between 2010 and 2012 is summarized in **Tables 3.2-3** through **3.2-5**.

TABLE 3.2-3 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - OZONE

Year	Days > Standard				1-Hour Observations			8-Hour Averages				Year Coverage	
	State		National			State	Nat'l	State		National			
	1-Hr	8-Hr	1-Hr	'08 8-Hr	Max.	D.V.[1]	D.V.[2]	Max.	D.V.[1]	Max.	'08 D.V.[2]	Min	Max
2012	72	134	3	105	0.135	0.14	0.130	0.116	0.116	0.116	0.098	0	100
2011	71	131	3	109	0.134	0.13	0.130	0.105	0.114	0.105	0.099	78	100
2010	59	115	7	93	0.140	0.14	0.140	0.115	0.122	0.114	0.104	70	100

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1] = STATE DESIGNATION VALUE . D.V. [2]= NATIONAL DESIGN VALUE.

SOURCES: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES

TABLE 3.2-4 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM 2.5

Year	Est. Days > Nat'l '06 Std.	Annual Average		Nat'l Ann. Std. D.V.[1]	State Annual D.V.[2]	Nat'l '06 Std. 98th Percentile	Nat'l '06 24-Hr Std. D.V.[1]	High 24-Hour Average		Year Coverage	
		Nat'l	State					Nat'l	State	Min.	Max.
2012	29.4	16.0	17.9	16.0	18	93.4	71	93.4	93.4	29	100
2011	39.3	20.4	18.1	18.2	21	69.5	62	80.3	82.8	34	100
2010	28.7	17.9	17.2	21.2	21	56.2	65	107.8	112.0	10	100

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1] = STATE DESIGNATION VALUE . D.V. [2]= NATIONAL DESIGN VALUE

SOURCES: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES

TABLE 3.2-5: SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM 10

Year	Est. Days > Std.		Annual Average		3-Year Average		High 24-Hr Average		Year Coverage
	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State	
2012	0.0	89.4	45.1	41.4	38	44	138.6	125.8	100
2011	0.0	116.4	44.8	44.2	41	47	151.8	154.0	100
2010	1.0	67.4	43.5	35.0	46	56	235.6	238.0	100

NOTES: THE NATIONAL ANNUAL AVERAGE PM10 STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA.

SOURCES: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES

San Joaquin County Air Quality Monitoring

SJVAPCD and CARB maintain two air quality monitoring sites in San Joaquin County that collect data for ozone, PM_{10}, and $PM_{2.5}$. These include the Stockton - Hazelton Street and Tracy – Airport monitoring sites. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites between 2010 and 2012 is shown in **Tables 3.2-6** and **3.2-7**.

TABLE 3.2-6: AMBIENT AIR QUALITY MONITORING DATA (STOCKTON – HAZELTON STREET)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2012 2011 2010	0.097 0.089 0.120	1 / (N/A) 0 / (N/A) 2 / (N/A)
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2012 2011 2010	0.083 0.068 0.095	8 / 2 0 / 0 3 / 2
Particulate Matter (PM10)	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2012 2011 2010	70.0 70.1 55.4	17.9 / 0 24.4 / 0 6.1 / 0
Fine Particulate Matter (PM2.5)	No 24 hour State Standard	35 ug/m3 for 24 hours	2012 2011 2010	60.4 60.0 41.0	(N/A) / 6.0 (N/A) / 11.0 (N/A) / 5.3

SOURCES: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES

TABLE 3.2-7: AMBIENT AIR QUALITY MONITORING DATA (TRACY – AIRPORT)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2012 2011 2010	0.109 0.107 0.113	8 / (N/A) 3 / (N/A) 1 / (N/A)
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2012 2011 2010	0.098 0.088 0.092	36 / 16 21 / 8 8 / 3
Particulate Matter (PM10)	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2012 2011 2010	73.4 110.8 28.5	* / * * / * * / *
Fine Particulate Matter (PM2.5)	No 24 hour State Standard	35 ug/m3 for 24 hours	2012 2011 2010	26.8 35.1 42.3	* / * * / * * / *

SOURCES: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES

3.2.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control

effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. CARB is the state agency that is responsible for preparing the California SIP.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. CARB is the agency

responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards. The San Joaquin Valley Air Pollution Control District is one of 35 air quality management districts that have prepared air quality management plans to accomplish a five percent annual reduction in emissions documenting progress toward the state ambient air quality standards.

Air Quality Standards

NAAQS are determined by the EPA. The standards include both primary and secondary ambient air quality standards. Primary standards are established with a safety margin. Secondary standards are more stringent than primary standards and are intended to protect public health and welfare. States have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards.

Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM_{10}) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. The state and federal primary standards for major pollutants are shown in Table 3.2-1.

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the ARB list of TACs. Once a TAC is identified, ARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions.

The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. ARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, ARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Upcoming milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

LOCAL

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the local agency with primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The eight counties that comprise the SJVAPCD are divided into three regions. These include:

- Northern Region: Merced, San Joaquin, and Stanislaus Counties
- Central Region: Madera, Fresno, and Kings Counties
- Southern Region: Tulare and Valley portion of Kern Counties

Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the FCAA and CCAA.

The SJVAPCD has prepared the *2007 Ozone Plan* to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone. The *2007 Ozone Plan* provides a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. The 2007 Ozone Plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution. The *2007 Ozone Plan* calls for a 75-percent reduction in ozone-forming oxides of nitrogen emissions.

The SJVAPCD has also prepared the *2007 PM10 Maintenance Plan and Request for Redesignation* (2007 PM10 Plan). On April 24, 2006, the SJVAPCD submitted a Request for Determination of PM10 Attainment for the Basin to CARB. CARB concurred with the request and submitted the request to the EPA on May 8, 2006. On October 30, 2006, the EPA issued a Final Rule determining that the Basin had attained the NAAQS for PM10. However, the EPA noted that the Final Rule did not constitute a redesignation to attainment until all of the FCAA requirements under Section 107(d)(3) were met.

The SJVAPCD has prepared the *2008 PM.2.5 Plan* to achieve Federal and State standards for improved air quality in the San Joaquin Valley Air Basin. The *2008 PM.2.5 Plan* provides a comprehensive list of regulatory and incentive based measures to reduce PM2.5.

In addition to the *2007 Ozone Plan, the 2008 PM2.5 Plan,* and the *2007 PM10 Plan*, the SJVAPCD prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects

would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. An update of the GAMAQI was approved on January 10, 2002, and is used as a guidance document for this analysis. The SJVAPCD is currently in the process of updating the GAMAQI and has a 2012 Draft version available.

SJVAPCD RULES AND REGULATIONS

The SJVAPCD has adopted numerous rules and regulations to implement its air quality plans. Following, are significant rules that will apply to the proposed project.

Regulation VIII – Fugitive PM10 Prohibitions

Regulation VIII is comprised of District Rules 8011 through 8081 which are designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

Rule 4002

Rule 4002 applies in the event an existing building will be renovated, partially demolished or removed (National Emission Standards for Hazardous Air Pollutants); this rule applies to all sources of Hazardous Air Pollutants.

Rule 4102 (Nuisance)

Rule 4102 dictates that if a source operation emits or may emit air contaminants or other materials such that the emissions create a public nuisance, the owner/operator may be subject to APCD enforcement action.

Rule 4103 (Open Burning)

Rule 4103 prohibits the burning of agricultural material when the land is converting from agriculture to non-agricultural (i.e. urban) purposes.

Rule 4601 (Architectural Coatings)

Rule 4601 limits emissions of volatile organic compounds from architectural coatings by specifying storage, cleanup and labeling requirements.

Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

Rule 8021 – Construction, Demolition, Excavation, and Other Earthmoving Activities

District Rule 8021 requires owners or operators of construction projects to submit a Dust Control Plan to the District if at any time the project involves non-residential developments of five or more acres of disturbed surface area or moving, depositing, or relocating of more than 2,500 cubic yards per day of bulk materials on at least three days of the project. The proposed project will meet these criteria and will be required to submit a Dust Control Plan to the District in order to comply with this rule.

Rule 9510 (Indirect Source Review)

Rule 9510 indirectly limits the vehicular emissions contribution of new development to regional air pollution. Through an application and review process, the developer may incorporate emission-reduction features in the project or may pay the fee prescribed in the rule. Fees collected by the APCD are indexed to the cost of providing offsetting mitigation and are used for that purpose. The provisions of the rule are described in more detail in the analysis of environmental impacts and mitigation measures.

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to air quality emissions in the General Plan:

RESOURCES MANAGEMENT ELEMENT

Air Quality Policies:

Policy 1. Mitigation of air quality impacts is to be achieved in part through the design and construction of an efficient system of arterial and collector streets and interchange and freeway improvements that will assure high levels of traffic service and the avoidance of unmanageable levels of traffic congestion.

Policy 2. Mitigation of air quality impacts is to be achieved in part through the development of a regional rail transit service to be incorporated into early stages of development.

Policy 3. The City shall adopt standards, which require industrial process analysis before the fact of site and building permit approval to assure compliance with State air quality and water quality standards.

Standards shall provide for periodic monitoring of industrial processes, which could have an adverse impact on water or air quality. Industrial process review that may be required should be conducted as part of environmental assessment by an engineer licensed in California having demonstrated experience in the industrial processes involved.

Policy 4. The City shall require positive control of dust particles during project construction activities, including watering or use of emulsions, parking of heavy equipment on paved surfaces, prohibition of land grading operations during days of high wind (beginning at 10

mph, with gusts exceeding 20 mph), and prohibition of burning on vacant parcels. The City should seek the cooperation of agricultural operators to refrain from the plowing of fields on windy days, and to keep loose soils under control to the extent reasonable to avoid heavy wind erosion of soils.

Policy 5. The beneficial effects of open space and vegetation on the air resource are to be reflected in the arrangement of land uses depicted on the General Plan. Heavy plantings of trees are encouraged to assist in maintaining oxygen levels.

Policy 6. The need to protect and preserve the air resource within the planning area and to reduce levels of vehicle emissions of air pollutants imposes practical limitations on the extent to which the City can depend on the automobile as the principal source of transportation into the next Century.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Cause a violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Project operation has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation (less than significant)

The SJVAPCD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. Proposed projects that exceed applicable screening and or applicability thresholds would be subject to air emissions analysis. The proposed project would equal or exceed the SJVAPCD District Rule 9510 (Indirect Source Review) applicability threshold of 2,000 square feet of commercial space. Therefore, the proposed project is subject to District Rule 9510. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in their SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (2015). Projects with emissions below the

thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan".

The proposed Project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The operational mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of electricity, natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings.

California Emission Estimator Model (CalEEMod)™ (v.2013.2.2) was used to estimate emissions for Buildout of the proposed Project. Table 3.2-8 shows the emissions, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the proposed project.

TABLE 3.2-8: UNMITIGATED OPERATIONAL EMISSIONS

	ROG	***NOx***	***PM_{10}***	***$PM_{2.5}$***
Threshold	**≤ 10 tons/year**	**≤ 10 tons/year**	**≤ 15 tons/year**	**≤ 15 tons/year**
Area	1.33	<0.01	<0.01	<0.01
Energy	<0.01	<0.01	<0.01	<0.01
Mobile	6.75	9.45	2.45	0.72
Total	**8.08**	**9.46**	**2.45**	**0.72**
Threshold Exceeded?	**No**	**No**	**No**	**No**

NOTES: UM = UNMITIGATED, M = MITIGATED; THE AIR DISTRICT IS ATTAINMENT FOR CO, AND SO_2. CO SCREENING IS PERFORMED UNDER IMPACT 3.2-3.

SOURCES: CALEEMOD (V.2013.2.2)

The SJVAPCD has established their thresholds of significance by which the project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 15 tons per year particulate matter of 10 microns or less in size (PM_{10}), and 15 tons per year particulate matter of 2.5 microns or less in size ($PM_{2.5}$). If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible. As shown in Table 3.2-8 above, annual emissions of ROG, NOx, $PM_{2.5}$, and PM_{10}, do not exceed the SJVAPCD thresholds of significance.

Proposed project operational emissions would be below the applicable thresholds. Therefore, there is a ***less than significant*** impact relative to this topic.

Impact 3.2-2: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation (less than significant)

Construction Activities/Schedule: Construction activities will consist of multiple phases. These construction activities can be described as site improvements (grading and underground infrastructure) and vertical construction (building construction and architectural coatings).

Site Improvements: The site improvement phase of construction will begin with site preparation. This step will include the use of dozers, backhoes, and loaders to strip (clear and grub) all organic materials from the project site. The next step involves the installation of underground infrastructure. This step may involve the use of excavators to dig trenches, place pipe and conduit, bury pipe and conduit, and compact trench soil.

The last task is to install the topside improvements, which includes pouring concrete curbs, gutters, sidewalks, and access aprons and then paving of all streets and parking lots. This task will involve the use of pavers, paving equipment, and rollers.

Building Construction/Architectural Coatings: Building construction involves the vertical construction of structures and landscaping around the structures. This task may involve the use of forklifts, generator sets, welders and small tractors/loaders/backhoes. Architectural coatings involve the interior and exterior painting associated with the structures.

Construction Emissions: Quantification of the emissions of ROG, NOX, PM_{10}, and $PM_{2.5}$ that will be emitted by project construction has been performed. The California Emission Estimator Model (CalEEMod)^{TM} (v. 2013.2.2) was used to estimate construction emissions for the proposed project.

Table 3.2-9 shows the construction emissions for the construction years 2016 and 2017.

TABLE 3.2-9: CONSTRUCTION EMISSIONS (UNMITIGATED)

	ROG	***NOx***	***PM_{10} Total***	***$PM_{2.5}$ Total***
Thresholds	**≤ 10 tons/year**	**≤ 10 tons/year**	**≤ 15 tons/year**	**≤ 15 tons/year**
2016	0.58	4.57	0.64	0.40
2017	1.65	0.22	0.02	0.01
Total	**2.23**	**4.79**	**0.66**	**0.41**
Threshold Exceeded?	**No**	**No**	**No**	**No**

NOTES: THE AIR DISTRICT IS ATTAINMENT FOR CO, AND SO_2.

SOURCES: CALEEMOD (V.2013.2.2)

The SJVAPCD has established construction related emissions thresholds of significance as follows: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM_{10}). If the proposed project's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions. As shown in Table 3.2-9 above, annual emissions of ROG and NOx will not exceed the SJVAPCD thresholds of significance.

Therefore, the proposed project would have a ***less than significant*** impact related to construction emissions.

Impact 3.2-3: The proposed project has the potential to have carbon monoxide hotspot impacts (less than significant)

The proposed project is located in an attainment area for CO. Project traffic would increase concentrations of carbon monoxide along streets providing access to the project site. Carbon monoxide is a local pollutant (i.e., high concentrations are normally only found very near sources). The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations (i.e. hotspots), therefore, are usually only found near areas of high traffic volume and congestion.

The SJVAPCD recommends utilizing a screening approach for analyzing CO concentrations to determine if dispersion modeling is warranted. The methodology provides lead agencies with a conservative indication of whether project-generated vehicle trips will result in the generation of CO emissions that contribute to an exceedance of the thresholds of significance. The recommended screening criteria are divided into two tiers, as described below.

First Tier: The proposed project will result in a less-than-significant impact to air quality for local CO if:

- Traffic generated by the proposed project will not result in deterioration of intersection level of service (LOS) to LOS E or F; and
- The project will not contribute additional traffic to an intersection that already operates at LOS of E or F.

For the proposed project, the first tier is not met because the operations at the intersection at Roth Road and McKinley Avenue would operate at LOS E under Cumulative No Project conditions. Moreover, under Cumulative Plus Project conditions, the SB I-5 On Ramp/SB I-5 Off Ramp & Roth Road intersection and the Roth Road & Mickinley Avenue intersection would operate at LOS of E or F. The screening approach requires that if the first tier of screening criteria is not met then the second tier of screening criteria shall be examined.

Second Tier: If all of the following criteria are met, the proposed project will result in a less-than-significant impact to air quality for local CO.

- The project will not result in an affected intersection experiencing more than 31,600 vehicles per hour;
- The project will not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air will be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average (as identified by the EMFAC or CalEEMod models).

The proposed project screens out under the second tier because it meets all three criteria. First, the two intersections that will operate at LOS E or F under Cumulative Plus Project conditions (listed above) will experience a Peak Hour traffic of well below the 31,600 vehicles per hour

threshold (Fehr & Peers, 2015). Secondly, these intersections do not include a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air will be substantially limited. Lastly, the mix of vehicle types at these intersections is not anticipated to be substantially different from the County average (Fehr and Peers, 2015). As such, the proposed project screens out satisfactorily under tier 2.

Conclusion

The traffic study for the proposed project examined Level of Service (LOS) for both road segments and intersections affected by the proposed project. There is one intersection that would operate at an LOS E or F during Peak Hour for the Cumulative No Project conditions, and there are two intersections that would operate at an LOS E or F during the Peak Hour for Cumulative Plus Project conditions. The screening approach for analyzing CO concentrations was used to analyze CO impacts for the proposed project. The proposed project screens out satisfactorily under tier 2 based on a peak hour vehicle per hour that is low, combined with the fact that the project does not include any tunnels, parking garages, bridge underpasses, urban street canyons, or below-grade roadways, or other locations where horizontal or vertical mixing of air will be substantially limited. The project is within an attainment area for carbon monoxide (ambient air quality standards are currently attained) and in an area with low background concentrations, changes in carbon monoxide levels resulting from the proposed project would not result in violations of the ambient air quality standards, and would represent a ***less than significant*** impact.

Impact 3.2-4: The proposed project has the potential for public exposure to toxic air contaminants (less than significant)

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (2007) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 3.2-10 provides the California Air Resources Board minimum separation recommendations on siting sensitive land uses.

TABLE 3.2-10: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

Source Category	*Advisory Recommendations*
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.[1]
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro- ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

SOURCES: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE" (CARB 2005)

There are no traditional sensitive receptors such as residences, hospitals, or schools that are proposed as part of this project. However, the proposed project would include gasoline dispensing facilities, which is a source category identified in the CARB minimum separation standards list. Nearby residential residents could be affected by TACs generated by the proposed project.

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The Air Toxics "Hot Spots" Act requires Air Districts to prioritize facilities to determine which facilities must perform a health risk assessment. These facilities, for purposes of risk assessment, are ranked into high, intermediate, and low priority categories. Each Air District is responsible for establishing the prioritization score threshold at which facilities are required to prepare a health risk assessment. In establishing priorities, the Air Districts are to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that the Air District determines may indicate that the facility may pose a significant risk. The closest sensitive receptors are residences located to the east and northeast of the project site.

The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (2015) includes procedures for evaluating hazardous air pollutants. The GAMAQI states that projects where significant numbers of diesel powered vehicles will be operating such as truck stops, transit centers, and warehousing may create risks from toxic diesel particulate emissions. These facilities and vehicles are not subject to District permit and so may need mitigation measures adopted by the Lead Agency to reduce this impact. Measures such as limiting idling, electrifying truck stops to power truck auxiliary equipment, use of diesel particulate filters, and use of alternative fuel heavy-duty trucks have been required by some jurisdictions.

The GAMAQI states that Lead Agencies should consider both of the following situations when evaluating hazardous air pollutants:

1) a new or modified source of hazardous air pollutants is proposed for a location near an existing residential area or other sensitive receptor, and
2) a residential development or other sensitive receptor is proposed for a site near an existing source of hazardous air pollutants.

For the first scenario, the GAMAQI indicates that the Lead Agency should consult with the SJVAPCD's regarding anticipated hazardous air pollutant emissions, potential health impacts, and control measures. The GAMAQI states that "preparation of the environmental document should be closely coordinated with the SJVAPCD review of the facility's permit application when timing allows." The SJVAPCD's policies and regulations for implementing AB 2588 designate facilities as significant when they have a carcinogenic risk in excess of 20 in one million or a non-cancer risk Hazard Index of greater than one (if prescribed so by California's Office of Environmental Health Hazard Assessment). The second scenario is not applicable to the proposed project because the

proposed project does not include the construction of a residential development or other sensitive receptor.

On November 10, the SJVAPCD commented that a health impact analysis should be performed for the proposed project. The most common source of TACs for this type of project can be attributed to diesel exhaust that is emitted from both stationary sources, by diesel generators, and mobile sources, truck idling, and transportation refrigeration units (TRUs).

A health risk analysis was conducted utilizing Lakes Environmental Software AERMOD and the ARB's Hotspots Analysis Reporting Program Version 2 (HARP 2) Air Dispersion, Modelling, and Risk Tool (ADMRT). Truck idling, truck on-site mobile, and TRU diesel particulate matter (DPM) emissions were calculated. Additionally, benzene risk from gasoline fuel nozzle vapors were also calculated. The residential (70 year exposure) cancer, workplace (30 year exposure) cancer, chronic (non-cancer), and acute (non-cancer) risks were assessed and compared to SVJAPCD thresholds. Table 3.2-11 summarizes the results of the analysis. See Appendix B for more information.

TABLE 3.2-11: SUMMARY OF MAXIMUM HEALTH RISKS

Risk Metric	*Maximum Risk[a]*	*SJVPACD Significance Threshold*	*Is Threshold Exceeded?*
Residential Cancer Risk (70 year exposure)	13.1*/5.8**	20 per million	No
Workplace Cancer Risk (30 year exposure)	3.35	20 per million	No
Chronic (non-cancer)	0.007	Hazard Index ≥1	No
Acute (non-cancer)	0.11	Hazard Index ≥1	No

SOURCES: AERMOD (LAKES ENVIRONMENTAL SOFTWARE, 2015); HOTSPOTS ANALYSIS REPORTING PROGRAM VERSION 2, AIR DISPERSION, MODELLING, & RISK TOOL (ARB, 2015).

*[A] RESIDENTIAL CANCER RISK AND WORKPLACE CANCER RISK METRICS ARE PER MILLION PERSONS; *NEAREST RESIDENTIAL RECEPTOR RISK OF 13.1 REPRESENTS AVERAGE OF 16.7 AT FRONT PROPERTY LINE TO 9.5 AT REAR OF STRUCTURE; **NEAREST GENERAL PLAN DESIGNATED RESIDENTIAL USE*

As can be seen from Table 3.2-11 above, the proposed project, in and of itself, would not result in a significant increased exposure of sensitive receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD thresholds. Therefore, implementation of the proposed project would cause a ***less than significant*** impact relative to this topic.

Impact 3.2-5: The proposed project has the potential for exposure to odors (significant and unavoidable)

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (Heath and Safety Code §41700) is the basis for the threshold.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant.

The proposed project would include truck diesel and gasoline refueling stations. Although fumes from gasoline and diesel refueling are unlikely to cause a substantial odor issue for nearby residents, some residents located to the north and east of the project site may be affected. The level of significance of this impact, however, is largely based on the perception of the individual that is exposed. For instance, for one individual any odor may be considered intolerable, while to another individual the same odor may be tolerable. Because it is anticipated that some people will find any odor intolerable, implementation of the proposed Project would be considered a **significant and unavoidable** impact.

This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from project implementation. The analysis contained in this section is intended to be at a project-level, and covers impacts associated with the conversion of the entire site to an urban use. Comments received during the NOP comment period regarding biological resources include: SJCOG, Inc.

3.3.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCES/BIOREGION

The City of Lathrop is located in the western portion of the Great Valley Geomorphic Province of California. The Great Valley Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The San Joaquin River bisects the City, and is immediately west of the proposed project. This major river drains the Great Valley Province into the San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

The City of Lathrop is located within the San Joaquin Valley Bioregion, which is comprised of Kings county, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties. The San Joaquin Valley Bioregion is the third most populous out of ten bioregions in the state, with an estimated 2 million people. The largest cities are Fresno, Bakersfield, Modesto, and Stockton. Interstate 5 and State Route 99 are the major north-south roads that run the entire length of the bioregion.

The bioregion is bordered on the west by the coastal mountain ranges. Its eastern boundary joins the southern two-thirds of the Sierra bioregion, which features Yosemite, Kings Canyon, and Sequoia National Parks. At its northern end, the San Joaquin Valley bioregion borders the southern end of the Sacramento Valley bioregion. To the west, south, and east, the bioregion extends to the edges of the valley floor.

Habitat in the bioregion includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah. Historically, millions of acres of wetlands flourished in the bioregion, but stream diversions for irrigation dried all but about five percent. Remnants of the wetland habitats are protected in this bioregion in publicly owned parks, reserves, and wildlife areas. The bioregion is considered the state's top agricultural producing region with the abundance of fertile soil.

LOCAL SETTING

The proposed annexation area is located in San Joaquin County, east of Interstate 5 (I-5) and the San Joaquin River, and west of the nearby UPRR rail lines. The proposed annexation area, located just to the north of the City of Lathrop, is within the City's Sphere of Influence and General Plan area, and is identified as the northern portion of the City's Sub-Plan Area 1. The project is located in Township 1 South, Range 6 East in the Rancho Campo de los Franceses Land Grant and is plotted on a copy of the United States Geological Survey (USGS) Lathrop 7.5 minute series topographic quadrangle.

The proposed annexation area (including the Pilot Flying J project site) is currently designated Freeway Commercial (FC) by the City of Lathrop General Plan Land Use Map and General Industrial by the San Joaquin County General Land Use Map. The current uses in the immediate vicinity of the proposed project are a mix of commercial, industrial, and residential uses. The existing access to the Pilot Flying J project site is from Roth Road. The project area has relatively flat terrain that varies between elevation of approximately 16 and 32 feet above sea level. The UPRR rail lines are slightly elevated along the eastern boundary of the Pilot Flying J project site, between elevation 23 and 27 feet. I-5 runs along the western edge of the proposed annexation area and is elevated along the northern boundary between elevation 29 and 38 feet.

The Pilot Flying J project site is located on a parcel that is currently occupied by several existing buildings and large parking areas in the western and central portions of the parcel. The easternmost portion of the parcel is a gravel and dirt lot, currently used as a parking lot for large trucks. The site is documented as annual grassland on the Wildlife Habitat Relationship System; however, the existing conditions are better characterized as urban given the absence of vegetation and the present of gravel for the parking lot. Figure 2 illustrates the land cover types on the project site and vicinity.

The gravel and dirt portion of the parcel would be developed with parking lots and the Pilot Travel Center facilities. Vegetation on the Pilot Flying J project site is considered ruderal, and is limited or void throughout due to the regular disturbance associated with the heavy truck activities that currently exist. There are no wetlands, trees, or shrubs, and the site is not used for agricultural purposes. The potential for wildlife on the Pilot Flying J project site is very limited. The Pilot Flying J project site does not serve as foraging or nesting habitat due to the existing conditions.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within 10 miles of the Pilot Flying J project site. Table 3.3-1 provides a list of special-status plants and Table 3.3-2 provides a list of special-status animals. Figure 3.3-3 and 3.3-4 present the documented occurrences within a one-mile and ten-mile radius of the Pilot Flying J project site.

TABLE 3.3-1: SPECIAL-STATUS PLANT SPECIES WHICH ARE DOCUMENTED IN THE REGIONAL VICINITY

SPECIES	STATUS (FED./CA/ CNPS/SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT	BLOOMING PERIOD
Suisun Marsh aster *Aster lentus*	--/--/1B.2/Yes	Sacramento-San Joaquin Delta, Suisun Marsh, Suisun Bay: Contra Costa, Napa, Sacramento, San Joaquin, and Solano Counties	Brackish and freshwater marshes and swamps; below 3 m	May-November
Big tarplant *Blepharizonia plumosa*	--/--/1B.1/No	San Francisco Bay area with occurrences in Alameda, Contra Costa, San Joaquin, Stanislaus, and Solano Counties	Valley and foothill grassland; 30-505 m	July- Oct
Slough thistle *Cirsium crassicaule*	--/--/1B.1/Yes	San Joaquin Valley: Kings, Kern, and San Joaquin Counties	Freshwater sloughs and marshes; 3-100 m	May-August
Recurved larkspur *Delphinium recurvatum*	--/--/1B.2/Yes	Central Valley from Colusa to Kern Counties	Alkaline soils in saltbush scrub, cismontane woodland, valley and foothill grassland; 3-750 m	March-May
Round-leaved filaree *Erodium macrophyllum*	--/--/2.1/No	Scattered occurrences in the Great Valley, southern north Coast Ranges, San Francisco Bay area, south Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges	Cismontane woodland, valley and foothill grassland on clay soils; 15-1,200 m	March-May
Delta button-celery *Eryngium racemosum*	--/E/1B.1/Yes	San Joaquin River delta floodplains and adjacent Sierra Nevada foothills: Calaveras, Merced, San Joaquin, and Stanislaus Counties	Riparian scrub, seasonally inundated depressions along floodplains on clay soils; below 75 m	June-August
Rose-mallow *Hibiscus lasiocarpos var. occidentalis*	--/--/1B.2/Yes	Scattered locations in central California in the central and southern Sacramento Valley, deltaic Central Valley from Butte to San Joaquin Counties	Freshwater marshes along rivers and sloughs; below 120 m	June-September
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	--/--/2.1/Yes	Scattered locations in the Central Valley; southern coast of Texas	Floodplains, moist places, on alkaline soils; below 450 m	May-September
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	--/--/1B.1/Yes	Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills; currently known from Fresno, Monterey, and San Luis Obispo Counties	Alkaline hills in valley and foothill grassland; below 455 m	March-April

Notes: CNPS = California Native Plant Society
SJMSCP = San Joaquin Multi-Species Habitat Conservation and Open Space Plan

Federal
E = endangered under the federal Endangered Species Act.
T = threatened under the federal Endangered Species Act.

State
E = endangered under the California Endangered Species Act.
T = threatened under the federal California Endangered Species Act.
R = rare under the California Endangered Species Act

California Native Plant Society
1B = rare, threatened, or endangered in California and elsewhere.
2 = rare, threatened, or endangered in California, but more common elsewhere.
3 = a review list – plants about which more information is needed.
4 = plants of limited distribution – a watch list
.1 = seriously endangered in California (over 80% of occurrences threatened-high degree and immediacy of threat).
.2 = fairly endangered in California (20-80% occurrences threatened).
.3 = not very endangered in California (<20% of occurrences threatened).

TABLE 3.3-2: SPECIAL-STATUS WILDLIFE AND FISH SPECIES WHICH ARE DOCUMENTED IN THE REGIONAL VICINITY

SPECIES	*STATUS (FED/CA/ SJMCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
INVERTEBRATES			
Molestan blister beetle *Lytta molesta*	--/--/Yes	Distribution of this species is poorly known.	Annual grasslands, foothill woodlands or saltbush scrub.
Sacramento anthicid beetle *Anthicus sacramento*	--/--/No	Found in several locations along the Sacramento and San Joaquin rivers, from Shasta to San Joaquin counties, and at one site along the Feather River.	Sand dune area, sand slipfaces among bamboo and willow, but may not depend on these plants.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--/Yes	Stream side habitats below 3,000 feet throughout the Central Valley	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--/Yes	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools.
AMPHIBIANS			
California tiger salamander *Ambystoma californiense (=A. tigrinum c.)*	T/SSC/Yes	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.
BIRDS			
Aleutian goose *Branta canadensis leucopareia*	D/--/Yes	The entire population winters in Butte Sink, then moves to Los Banos, Modesto, the Delta, and East Bay reservoirs; stages near Crescent City during spring before migrating to breeding grounds.	Roosts in large marshes, flooded fields, stock ponds, and reservoirs; forages in pastures, meadows, and harvested grainfields; corn is especially preferred
White-tailed kite *Elanus leucurus*	--/FP/Yes	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging
Swainson's hawk *Buteo swainsoni*	--/T/Yes	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields
Merlin *Falco columbarius*	--/SSC/Yes	Does not nest in California. Rare but widespread winter visitor to the Central Valley and coastal areas	Forages along coastline in open grasslands, savannas, and woodlands. Often forages near lakes and other wetlands
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	--/E/Yes	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley oak riparian habitats where scrub jays are abundant

SPECIES	*STATUS (FED/CA/ SJMCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
Western burrowing owl *Athene cunicularia hypugea*	--/SSC/Yes	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows
Tricolored blackbird *Agelaius tricolor*	--/SSC/Yes	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony
MAMMALS			
San Joaquin pocket mouse *Perognathus inornatus*	--/--/Yes	Occurs throughout the San Joaquin Valley and in the Salinas Valley	Favors grasslands and scrub habitats with fine textured soils
Riparian (San Joaquin Valley) woodrat *Neotoma fuscipes riparia*	E/SSC, FP/Yes	Historical distribution along the San Joaquin, Stanislaus, and Tuolumne Rivers, and Caswell State Park in San Joaquin, Stanislaus, and Merced Counties; presently limited to San Joaquin County at Caswell State Park and a possible second population near Vernalis	Riparian habitats with dense shrub cover, willow thickets, and an oak overstory
Riparian brush rabbit *Sylvilagus bachmani riparius*	E/E/Yes	Limited to San Joaquin County at Caswell State Park near the confluence of the Stanislaus and San Joaquin Rivers and Paradise Cut area on Union Pacific right-of-way lands	Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees
American badger *Taxidea taxus*	--/SSC/Yes	In California, badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties	Badgers occur in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub; the principal habitat requirements for the species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground
San Joaquin kit fox *Vulpes macrotis mutica*	E/T/Yes	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County	Saltbush scrub, grassland, oak, savanna, and freshwater scrub
Fish			
Delta smelt *Hypomesus transpacificus*	T/T/Yes	Primarily in the Sacramento–San Joaquin Estuary but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay.	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand.
Central Valley steelhead *Oncorhynchus mykiss*	T/--/No	Sacramento River and tributary Central Valley rivers.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8°C to 18°C. Habitat types are riffles, runs, and pools.

SPECIES	*STATUS (FED/CA/ SJMCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
Central Valley fall- /late fall-run Chinook salmon *Oncorhynchus tshawytscha*	--/SSC/No	Sacramento and San Joaquin Rivers and tributary Central Valley rivers.	Have the same general habitat requirements as winter and spring-run Chinook salmon.
Longfin smelt *Spirinchus thaleichthys*	--/SSC/Yes	Occurs in estuaries along the California coast. Adults concentrated in Suisun, San Pablo, and North San Francisco Bays.	Prior to spawning, these fish aggregate in deepwater habitats available in the northern Delta, including, primarily, the channel habitats of Suisun Bay and the Sacramento River. Spawning occurs in fresh water on the San Joaquin River below Medford Island and on the Sacramento River below Rio Vista.
Sacramento splittail *Pogonichthys macrolepidotus*	--/SSC/Yes	Sacramento splittail are found only in California's Central Valley. Currently largely confined to: (1) the Delta, (2) Suisun Bay, (3) Suisun Marsh, (4) Napa River, (5) Petaluma River, and (6) other parts of the Sacramento-San Joaquin Estuary.	Adults require flooded vegetation for spawning and rearing, and are often found in areas subject to flooding. Spawning occurs on submerged vegetation in temporarily flooded upland and riparian habitat. Spawning occurs in the lower reaches of rivers, bypasses used for flood management, dead-end sloughs and in larger sloughs such as Montezuma Slough.
River lamprey *Lampetra ayresii*	--/SSC/No	Sacramento, San Joaquin, and Napa Rivers; tributaries of San Francisco Bay (Moyle 2002; Moyle et al. 1995)	Adults live in the ocean and migrate into fresh water to spawn
Hardhead *Mylopharodon conocephalus*	--/SSC/No	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem	Reside in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. Also occur in reservoirs.

Status explanations:

Federal

E = endangered under the federal Endangered Species Act.
T = threatened under the federal Endangered Species Act.
PE = proposed for endangered under the federal Endangered Species Act.
PT = proposed for threatened under the federal Endangered Species Act.
C = candidate species for listing under the federal Endangered Species Act.
D = delisted from federal listing status.

State

E = endangered under the California Endangered Species Act.
T = threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.

3.3.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the CDFW, USFWS, USACE, and the Central Valley Regional Water Quality Control Board. These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state and local regulations that are applicable to the proposed project.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA), passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a "take" unless a take permit is issued by the USFWS. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Federal Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act provide regulations to protect bald and golden eagles as well as their nests and eggs from willful damage or injury.

Clean Water Act – Section 404

Section 404 of the CWA regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

The USACE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Central Valley Regional Water Quality Control Board (CVRWQCB). To obtain the water quality certification, the CVRWQCB must indicate that the proposed fill would be consistent with the standards set forth by the state.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

STATE

Fish and Game Code §2050-2097 - California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §1900-1913 California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a “Streambed Alteration Agreement” from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code § 21000 - California Environmental Quality Act

The California Environmental Quality Act (CEQA) identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria. (CEQA Guidelines § 15380) Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low populations, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), adopted by the Central Valley RWQCB in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and SJR basins, including the Delta.

State and federal laws mandate the protection of designated "beneficial uses" of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Additional protected beneficial uses of the SJR include groundwater recharge and fresh water replenishment. Major issues and the general conditions of existing beneficial uses in the SJR are as follows:

- Water Supply: The SJR is not currently a source of municipal water supply for the City of Lathrop and is not identified as a source for the proposed project, although some farms in the area use the river as a source of water for irrigation. The City currently uses groundwater only and surface water from the South San Joaquin Irrigation District (SSJID) South County Surface Water Supply Project (SCSWSP), which does not rely on the SJR.

- Agricultural Supply: Extensive use is made of SJR and Delta waters for agricultural purposes. Annual water diversions from the Delta by the State Water Project (SWP) and the Central Valley Project (CVP) for agriculture are estimated to reach 4.3 million acre-feet (MAF) per year by 2030. In addition, about 2,000 privately owned agricultural water supply diversions are scattered throughout the Delta, generally consisting of riverside pumping stations.
- Recreation: Water-dependent recreation uses of the SJR and the Delta include swimming, wading, waterskiing, sport fishing, and a variety of other activities that involve contact with the water. Noncontact (water-enhanced) recreation uses include picnicking, camping, pleasure boating, hunting, bird watching, education, and aesthetic enjoyment.
- Groundwater Recharge: Water from the SJR and the Delta recharges the San Joaquin Valley groundwater basin. Recharge serves to maintain salt balance in the soil column, prevent saltwater intrusion into freshwater aquifers, and provide for water supplies. Groundwater is replenished through deep percolation of streamflow, precipitation, and applied irrigation water. Groundwater quality is generally adequate throughout the San Joaquin Valley and the Delta, although at shallow depths within the Delta the water is often saline and contains high levels of total dissolved solids (TDS) and dissolved minerals. Enforceable TDS standards do not exist for drinking water. The need for treatment generally depends on consumer acceptance.
- Fish and Wildlife: The SJR and the waterways of the Delta provide important habitat for a diverse variety of aquatic life and terrestrial wildlife. This includes temporary habitat and migration routes for anadromous and other migratory species, as well as permanent habitat for resident species. Fish dependent on the Delta as a migration corridor, nursery, or permanent residence include Chinook salmon, steelhead, delta smelt, Sacramento splittail, striped bass, American shad, sturgeon, catfish, largemouth bass, and numerous other estuary and freshwater species. The amount and quality of water flowing through the Delta greatly influences the overall productivity of the area on an annual basis. A large assemblage of wildlife uses the Delta either seasonally or year round, including waterfowl; migratory and resident songbirds; mice, rabbits, and other small mammals; water dependent mammals, such as beaver and muskrat; and predators such as skunk, raccoon, northern harrier, and coyote.

LOCAL

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the Federal Endangered Species Act (FESA). An approved HCP within a defined project site allows for the incidental take of species and habitat that are otherwise protected under FESA during development activities.

A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFW. An approved NCCP within a defined project site allows for the incidental take of species and habitat that are otherwise protected under CESA during growth and development activities.

Background: The key purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), is to provide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to Project Proponents and society at large.

San Joaquin County's past and future (2001-2051) growth has affected and will continue to affect 97 special status plant, fish and wildlife species in 52 vegetative communities scattered throughout San Joaquin County's 1,400+ square miles and 900,000+ acres, which include 43% of the Sacramento-San Joaquin Delta's Primary Zone. The SJMSCP, in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". In addition, the SJMSCP provides some compensation to offset the impacts of Open Space land Conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial Open Space uses.

The SJMSCP compensates for Conversions of Open Space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, transportation projects, school expansions, non-federal flood control projects, new parks and trails, maintenance of existing facilities for non-federal irrigation district projects, utility installation, maintenance activities, managing Preserves, and similar public agency projects. These activities will be undertaken by both public and private individuals and agencies throughout San Joaquin County and within the County's incorporated cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton and Tracy. Public agencies including Caltrans (for transportation projects), and the San Joaquin Council of Governments (for transportation projects) also will undertake activities which will be covered by the SJMSCP. In addition, 5,340 acres is allocated for anticipated projects (e.g., annexations, general plan amendments)

The 97 SJMSCP Covered Species include 25 state and/or federally listed species. The SJMSCP Covered Species include 27 plants (6 listed), 4 fish (2 listed), 4 amphibians (1 listed), 4 reptiles (1 listed), 33 birds (7 listed), 15 mammals (3 listed) and 10 invertebrates (5 listed).

Implementation: The SJMSCP is administered by a Joint Powers Authority consisting of members of the San Joaquin County Council of Governments (SJCOG), the California Department of Fish and Wildlife (CDFW), and the US Fish and Wildlife Service. Development project applicants are given

the option of participating in the SJMSCP as a way to streamline compliance with required local, State and federal laws regarding biological resources, and typically avoid having to approach each agency independently. According to the SJMSCP, adoption and implementation by local planning jurisdictions provides full compensation and mitigation for impacts to plants, fish and wildlife. Adoption and implementation of the SJMSCP also secures compliance pursuant to the state and federal laws such as CEQA, the National Environmental Policy Act (NEPA), the Planning and Zoning Law, the State Subdivision Map Act, the Porter-Cologne Act and the Cortese-Knox Act in regard to species covered under the SJMSCP.

Since Lathrop became a signatory to the SJMSCP at the end of 2001, all applicants for projects within the City have chosen to participate in the Plan, rather than pursue compliance independently. Applicants pay mitigation fees on a per-acre basis, as established by the Joint Powers Authority according to the measures needed to mitigate impacts to the various habitat and biological resources. Different types of land require different levels of mitigation; i.e., one category requires that one acre of a similar land type be preserved for each acre developed, while another type requires that two acres be preserved for each acre developed. The entire County is mapped according to these categories so that land owners, project proponents and project reviewers are easily aware of the applicable SJMSCP fees for the proposed development.

The appropriate fees are collected by the City and remitted to SJCOG for administration. SJCOG uses the funds to preserve open space land of comparable types throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. Development occurring on land that has been classified under the SJMSCP as “no-pay” would not be required to pay a fee. This category usually refers to already urbanized land and infill development areas. Although the fees are automatically adjusted on an annual basis, based on the construction cost index, they often cannot keep pace with the rapidly rising land prices in the Central Valley. Therefore, SJCOG is currently in the process of updating the mitigation fee schedule to more accurately match the market value of the various land types.

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to biological resources in the General Plan:

RESOURCE MANAGEMENT ELEMENT

Vegetation, Fish and Wildlife Policies:

The following policies seek not only the retention of virtually all of the beneficial habitat which now exists, but also to enhance habitat which has been degraded and to create new habitat where feasible.

Policy 1. The objective of habitat retention calls for:

- The integration of waterway habitat areas as part of the area wide system of open space.

- The preservation of all stands of vegetation along waterways which provide habitat, and achieving a standard of "no net loss of wetland acreage".

- The careful introduction of public and private recreation activities within habitat areas which will not disturb natural conditions either through intensity of operations, high levels of noise generation, or scarring of the landscape through development activity.

- The retention of hedgerows and other habitat areas within intensively farmed acreage which are compatible with agricultural operations.

- The protection of fisheries by preventing discharge of contaminated surface waters to waterways.

Policy 2. The objective of habitat enhancement calls for:

- The improvement of natural habitat along waterways.

- The creation of new habitat within multi-purpose open space area designated for reuse of treated wastewater for wildlife management and recreation.

- Cooperative approaches among landowners to manage farmlands so as to increase the numbers of desirable species of wildlife.

Policy 3. The City has adopted (effective October 15, 1996) a Habitat Conservation Plan (HCP) for the Swainson's hawk. The acquisition of lands required as replacement habitat for nesting and foraging is to be funded by fees imposed upon developers whose land development activities would threaten, endanger or eliminate existing habitat within the Lathrop planning area. The HCP shall be based upon a current habitat field survey taken during the Swainson's hawk nesting season to determine whether Core Conservation Areas or only foraging habitat exists.

It is the intent of the City of Lathrop to be a good steward of its biological resources for the benefit of its citizens and the general public. The General Plan EIR acknowledges that significant impacts would occur to Swainson's hawks, and potentially significant impacts could occur to other species. Mitigation measures are provided in the General Plan EIR to mitigate the impacts. The purpose of the following information is to clarify the proposed mitigation as a matter of General Plan policy.

a. A mitigation concept is presented on page 8-D-8 which states that the City should adopt its own HCP, or possibly participate in the plan being prepared by the City of Stockton. The City intends to prepare an HCP, in cooperation with other jurisdictions that would mutually benefit from Lathrop's HCP. Information and data from Stockton's HCP will be used to the extent appropriate. The City shall implement the following to fully mitigate impacts described in this policy and the EIR:

1. An HCP developed by the City, which meets the standards specified by the State of California Department of Fish and Game.

2. Participation in the "Stockton Plan". The "Stockton Plan' is a Habitat Management Plan which is, as of April 22, 1992, being developed by the Cities of Stockton, Tracy and Lathrop and the County of San Joaquin.

3. Until it is participating in an HCP, the City shall not pre-zone and/or annex any real property or approve a specific plan for the development of real property, unless these conditions are met:

a. For each acre annexed to, pre-zoned by or which is the subject of a specific plan (subject to an event), the City will mitigate the loss of Swainson's hawk habitat by providing a one-to-one ratio habitat, including foraging habitat, or equal value.

b. All property subject to an event shall be considered Swainson's hawk habitat. Habitat acquired for will be called the "preserve acreage". "Preserve Acreage" may also consist of conservation easements, and in lien fee ownership of property and shall be subject to the following conditions:

1. The "preserve acreage" must meet regulations specified by the State of California Department of Fish and Game.

2. The "preserve acreage" must be located within one mile of the property subject to the event.

3. The "preserve acreage" shall be deeded to the Department of Fish and Game, or the Land Utilization Trust.

4. A mitigation fee shall not be sufficient mitigation for real property subject to an event, but actual mitigation by acquisition of real property or a conservation easement shall be required.

5. A management fee will be collected in an amount to ensure that sufficient income will be available to manage the preserve property.

b. Lathrop's HCP will be completed prior to the City allowing specific project EIR's to be completed for projects proposed west of Interstate 5. This will ensure that the necessary mitigation plans and agreements with the State Department of Fish and Game (DFG) are in place for protection of Swainson's hawks. The HCP process will commence as soon as reasonably possible after General Plan adoption,

involving close cooperation with DFG. It is recognized that foraging habitat is one of the most important elements required for preservation of Swainson's hawks.

Policy 4. Developments proposed in sensitive biological areas shall be required to provide a site-specific analysis of the impacts of the project on fish and wildlife habitat. Because of the large-scale character of development proposed in the vicinity of biologically sensitive environments, including the conversion of several thousand acres of agricultural land to urban use, project proposals should be made to address ways in which new or enhanced habitat may be created as a trade-off to the general environmental impacts on biological resources associated with development under the General Plan.

Policy 5. Land use within areas of riparian habitat shall be restricted to nature-oriented passive recreation, which may include an arboretum, zoological gardens, hiking and nature study essential linear infrastructure and other such uses compatible with existing or enhanced riparian habitats. Structures, which would reduce the amount of area available for water detention, should be prohibited within the Paradise Cut flood plain unless they are accompanied by concurrent expansion of such detention areas in or adjacent to Paradise Cut.

Policy 6. A naturally landscaped corridor shall be provided along the western perimeter of SPA #2, which lies west of Interstate 5. This corridor should be wide enough to serve as a major component of the recreation and open space system, and should provide for a system of pedestrian, bicycle and equestrian trails where such uses are compatible with riparian habitats, where they exist. This corridor will also assure public access to the San Joaquin River as required by State policy and law and as permitted by RD-17.

Policy 7. The visual amenities of water and its potential as wildlife habitat are to be reflected where feasible in all developments by the inclusion of bodies of water as components of urban form. Such bodies of water may be in the form of lakes, ponds, lagoons, simulated streams or similar features which can be integrated by design within recreation open space corridors, parks, commercial and residential areas and public sites. The multi-purposes use of water bodies for surface water drainage, flood control, wastewater reclamation, wildlife management, recreation and visual amenity is encouraged.

Lathrop Municipal Code

CHAPTER 12.28 PROTECTION OF WATER COURSES

12.28.020 Rules and regulations.

A. It shall be unlawful for any person to interfere with, destroy or use in any manner whatsoever any levee, embankment, channel, dam, reservoir, rain or stream gauges, telephone line, piling; or other stream protection work constructed by the city or by any drainage district organized under the laws of the state, without having received a written permit therefor from the public works director, which permit shall be revocable whenever,

in the opinion of the public works director the public interest and welfare require the revocation thereof. Application for the use of any levee, embankment, channel, dam or reservoir shall be made to the public works director, setting forth the particular use desired, and the purpose and duration thereof. The public works director shall investigate such applications and may impose such terms and conditions as may be necessary to insure the proper maintenance of the property for flood control and drainage purposes.

B. It shall be unlawful for any person to place on or cause to be placed in any drainage ditch, water course, channel or conduit, or upon any property over which the city or any drainage district has an easement for flood control or drainage purposes duly recorded in the office of the city clerk, any wires, fence, building or other structure, or any refuse, rubbish, tin cans or other matter that may impede, retard or change the direction of the flow of water in such drainage ditch, water course, channel or conduit, or that will catch or collect debris carried by such water, or is placed where the natural flow of the storm and flood waters would carry the same downstream to the damage and detriment of either private or public property adjacent to said drainage ditch, water course, channel or conduit.

C. It shall be unlawful for any person to change the drainage on his or her property so as to divert the drainage to the nearest public road, without first obtaining a permit to do so from the public works director.

D. It shall be unlawful for any person to fill or obstruct or maintain any fill or obstruction in any drainage ditch, water course, channel or conduit carrying storm or drainage water unless a permit to do so has been obtained from the public works director.

E. It shall be unlawful for any person to do anything to any drainage ditch, water course, channel or conduit carrying storm or drainage water that will in any manner obstruct or interfere with the flow of water through such ditches, water courses, channels or conduits unless a permit to do so has been obtained from the public works director.

F. It shall be unlawful for any person to level land in a manner which would flood adjacent properties or public roadways.

G. Every property owner, whether it be a person or his lessee or tenant, through whose property a drainage ditch, water course, channel or conduit carrying storm or drainage water passes, shall keep and maintain the same free from obstacles that will prevent or retard the flow of water through such ditch, water course, channel or conduit except that same may be filled or altered if a permit to do so has been first obtained pursuant to this chapter. (Prior code § 158.02)

CHAPTER 13.28 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

13.28.020 Purpose and intent.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the city of Lathrop, pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.) and the Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.). This chapter seeks to meet that purpose through the following objectives:

A. To comply with all federal and state laws, lawful standards and orders applicable to stormwater and urban runoff pollution control;

B. To prohibit any discharge which may interfere with the operation of, or cause any damage to the storm drain system or impair the beneficial use of the receiving waters;

C. To prohibit illicit discharges into the storm drain system;

D. To reduce non-stormwater discharge to the storm drain system to the maximum extent practicable;

E. Minimize increases in stormwater and runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of drainage channels;

F. Minimize nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality; and

G. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development. (Ord. 07-265 § 1)

13.28.130 Requirement to prevent, control and reduce stormwater pollutants.

A. Authorization to Adopt and Impose Best Management Practices (BMPs). The city may adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. Where best management practice requirements are promulgated by the city or any federal, state of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or a waters of the United States, every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

B. New Development and Redevelopment. The city may adopt requirements identifying appropriate design standards and best management practices to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The city shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such

development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this chapter.

C. Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections A and B of this section, any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering stormwater, the storm drain system, or waters of the United States shall implement best management practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

D. Maintenance Agreements. All structural and nonstructural permanent stormwater BMPs not in the control of the city of Lathrop shall have an enforceable maintenance agreement to ensure the system functions as designed. The agreement shall include any and all maintenance easements required to access and inspect the stormwater BMPs, and to perform routine maintenance as required. Such agreements shall specify the parties responsible for the proper maintenance of all stormwater BMPs.

City of Lathrop Stormwater Management Program

The City has an adopted a stormwater management program (SWMP) for compliance with requirements of the Phase 2 NPDES municipal stormwater permit (City of Lathrop 2003). The SWMP is composed of six program elements developed to reduce contaminants discharged into receiving water bodies. The six Minimum Control Measure (MCM) elements of the SWMP are public education and outreach, public involvement/participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. For each MCM, the City has selected a suite of BMPs and measurable goals to address the specific stormwater problems identified within the city limits.

In association with the SWMP, the City adopted a Storm Water Ordinance, construction standards, and design review guidelines to reduce contaminants in stormwater runoff. Of particular relevance to the proposed project is the City's coordination of BMP review and implementation under the construction site runoff control program. New development and redevelopment control measures include development of structural controls, development of nonstructural controls, development of ordinances or regulatory mechanisms, and development of long-term operation and maintenance (O&M) practices.

Pollution prevention/good housekeeping for municipal operations addresses routine O&M activities for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm sewer system. The pollution prevention/good housekeeping program also includes a training component to prevent and reduce

stormwater pollution from municipal operations. The pollution prevention/good housekeeping BMPs can be separated into two broad categories: source controls and materials management. Source controls are BMPs designed to prevent or reduce pollutants at the source and include BMPs such as storm drainage system maintenance, structural floatable controls, street maintenance staff training, flood control projects, and litter ordinances. Materials management BMPs are designed to reduce pollutants with nonstructural controls such as pesticide education and spill prevention control.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- 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;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

IMPACTS AND MITIGATION

Impact 3.3-1: The proposed project has the potential to have a direct or indirect effect on special-status invertebrate species (no impact)

There are four special-status invertebrates that are documented within a 10-mile radius of the Pilot Flying J project site including: Molestan blister beetle (*Lytta molesta*), Sacramento anthicid beetle (*Anthicus sacramento*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and vernal pool fairy shrimp (*Branchinecta lynchi*). Of the four documented species, there are two federal listed species (threatened), no state listed species, and one federal species of concern. The federal listed and federal species of concern are covered species under the SJMCP.

Field surveys and habitat evaluations were performed by De Novo on September 10, 2015.

Valley elderberry longhorn beetle (VELB) is a federal threatened insect, proposed for delisting. Elderberry (*Sambucus* sp.), which is a primary host species for valley elderberry longhorn beetle (VELB), is not present within the proposed annexation area. VELB is not anticipated to be directly affected by the proposed project because this species is presumed to be absent from the proposed annexation area. Nevertheless, VELB is a covered species under the SJMSCP.

There is wetland habitat for vernal pool fairy shrimp (*Branchinecta lynchi*) or any other vernal pool crustaceans. Vernal pool fairy shrimp is not anticipated to be directly affected by the proposed project. Vernal pool fairy shrimp is a covered species under the SJMSCP.

Essential habitat for Molestan blister beetle and Sacramento anthicid beetle is not present in the proposed annexation area.

No special-status invertebrates were observed within the proposed annexation area (including the proposed Pilot Flying J project site) during field surveys and none are expected to be affected by the proposed project. Therefore, the proposed project would have a ***no impact*** impact on special-status invertebrate species.

Impact 3.3-2: The proposed project has the potential to have direct or indirect effects on special-status reptile and amphibian species (less than significant)

There is one special-status amphibian that is documented within a 10-mile radius of the Pilot Flying J project site including: California tiger salamander (*Ambystoma californiense*). There is no essential habitat for this species in the Flying J project site, or proposed annexation area.

While not documented within the 10-mile search radius, there are several additional species known to occur in the region including: giant garter snake (*Thamnophis gigas*) and western pond turtle (*Clemmys marmorata*). The nearest previously documented giant garter snake and western pond turtle occurrences are located greater than 10 miles from the site, and while these special status species are not anticipated to be affected by the proposed project based on the existing conditions, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur.

No special-status reptiles or amphibians were observed within the Pilot Flying J project site, or proposed annexation area, or offsite improvement corridors during field surveys and none are expected to be affected by the proposed project based on the absence of habitat. Therefore, the proposed project would have a ***less than significant*** impact on special status reptile or amphibian species. While there are no special status reptiles or amphibians species that are anticipated to be affected by the proposed project, participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. Mitigation Measure 3.3-1, will ensure coverage under the SJMSCP.

MITIGATION MEASURES

Mitigation Measure 3.3-1*: Prior to commencement of any grading activities, the project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. There are a wide variety of incidental take avoidance and minimization measures contained in the SJMSCP that were developed in consultation with the USFWS, CDFW, and local agencies. The applicability of incidental takes avoidance and minimization measures are determined by SJCOG on a project basis. The process of obtaining coverage for a project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a) and California Fish and Game Code Section 2081. The Section 10(a) permit also serves as a special-purpose permit for the incidental take of those species that are also protected under the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. The SJMSCP includes the implementation of an ongoing Monitoring Plan to ensure success in mitigating the habitat impacts that are covered. The SJMSCP Monitoring Plan includes an Annual Report process, Biological Monitoring Plan, SJMSCP Compliance Monitoring Program, and the SJMSCP Adaptive Management Plan SJCOG.*

Impact 3.3-3: The proposed project has the potential to have direct or indirect effects on special-status bird species (less than significant with mitigation)

Special-status birds that are documented within a ten-mile radius of the project site include: Aleutian goose (*Branta canadensis leucopareia*), white-tailed kite (*Elanus leucurus*), Swainson's hawk (*Buteo swainsoni*), Merlin (*Falco columbarius*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), western burrowing owl (*Athene cunicularia hypogea*), loggerhead shrike *(Lanius ludovicianus*) and Tricolored blackbird (*Agelaius tricolor*). The absence of plant communities within the Project site make the site highly unsuitable habitat for most potentially occurring special-status birds, including those listed above. The project site does not contain appropriate foraging or nesting habitat for any of these species. It is possible that an individual could stop-over as it moves through the region; however, the project site is not ideal as habitat for anything other than a stop-over. None of these species were observed during any of the field surveys.

Mitigation Measure 3.3-1 requires participation in the SJMSCP. Implementation of the following mitigation measure would require a preconstruction survey of the project site and immediate vicinity prior to construction to verify that the conditions have not changes and special status birds on not nesting. Implementation of the proposed project, with the Mitigation Measure 3.3-1 and 3.3-2, would ensure that potential impacts to special status birds are ***less than significant***.

MITIGATION MEASURES

Mitigation Measure 3.3-2: *If construction activities occur during the avian breeding season (March 1 – August 31) then the project proponent shall conduct pre-construction surveys to prevent impacts to nesting birds. No more than 15 days prior to the start of construction a bird survey shall be conducted by a qualified biologist to identify any active nests within the Project site or Offsite Infrastructure Corridor. If construction stops for a period of 15 days or more during the avian breeding season than an additional bird survey shall be conducted. The biologist will conduct a survey in the Project site or Offsite Infrastructure Corridor, for all special-status birds protected by the federal and state ESA, MBTA and CFGC, including but not limited to those that are documented within a ten-mile radius of the Project site and are known to nest in the region. The biologist shall map all nests that are within, and visible from, the Project site or Offsite Infrastructure Corridor. If nests are identified, the biologist shall develop buffer zones around active nests as deemed appropriate in coordination with the CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored at least twice per week and a report submitted to the City and CDFW monthly.*

Impact 3.3-4: The proposed project has the potential to result in direct or indirect effects on special-status mammal species (less than significant)

Special-status mammals that are documented within a 10-mile radius of the project site include: San Joaquin pocket mouse (*Perognathus inornatus*), Riparian (San Joaquin Valley) woodrat (*Neotoma fuscipes riparia*), Riparian brush rabbit (*Sylvilagus bachmani riparius*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*).

Essential habitat for Riparian (San Joaquin Valley) woodrat and riparian brush rabbit is not present in the project site, or within any portion of the proposed annexation area.

The region provides habitat for several special-status bats, including: Greater western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), small-footed myotis/bat (*Myotis ciliolabrum*), long-eared myotis/bat (*Myotis evotis*), fringed myotis/bat (*Myotis thysanodes*), long-legged myotis/bat (*Myotis volans*), Yuma myotis/bat (*Myotis yumanensis*). There is not essential roosting habitat for any of these species on the project site.

The project site is disturbed and used for a truck storage facility. As a result, the site does not contain high quality habitat for the American badger, San Joaquin kit fox, or San Joaquin pocket mouse. All but one of the documented occurrences of the San Joaquin kit fox occur on the southwest side of Tracy near the foothills. One documented occurrence is located near Mountain House. There is only one documented occurrence of American badger southeast of Tracy. The closest documented occurrence of San Joaquin pocket mouse is approximately five miles west of the project site. It is highly unlikely that the site is used by American badger, San Joaquin kit fox, or San Joaquin pocket mouse and these species have not been observed during recent or previous field surveys.

Implementation of the proposed project would have a ***less than significant*** impact on these mammal species. Nevertheless, these species are covered species under the SJMCP and participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. SJCOG, Inc. as administrator of the SJMSCP will impose appropriate avoidance and minimization measures as part of the incidental take permit. Mitigation Measure 3.3-1, previously listed, will ensure coverage under the SJMSCP.

Impact 3.3-5: The proposed project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species (No Impact)

The records search identified nine documented special-status plant species within a 10 mile radius of the project site. These nine special status plants include: Suisun Marsh aster (*Aster lentus*), Big tarplant (*Blepharizonia plumose*), Slough thistle (*Cirsium crassicaule*), Recurved larkspur (*Delphinium recurvatum*), Round-leaved filaree (*Erodium macrophyllum*), Delta button-celery (*Eryngium racemosum*), Rose-mallow (*Hibiscus lasiocarpos var. occidentalis*), Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*), and Caper-fruited tropidocarpum (*Tropidocarpum capparideum*).

Of the nine documented species, there are no federal listed species, one state listed species (endangered), six CNPS 1B listed species, and one CNPS 2 listed species. The state listed species and CNPS 1B listed species are covered species under the SJMCP. The CNPS 2 listed species is not covered under the SJMCP.

Reconnaissance level field surveys revealed that the project site is void of vegetation. The existing conditions are a combination of gravel/rock/dirt truck parking and storage areas. The existing conditions are not conducive to propagation of special status plants and none are present. Implementation of the proposed project will have a ***no impact*** impact on special status plants.

Impact 3.3-6: Effects on Protected Wetlands and Jurisdictional Waters (No Impact)

The project site does not contain protected wetlands or other jurisdictional areas and there is no need for permitting associated with the federal or state Clean Water Acts. The project site is a previously graded and flat site composed of gravel/rock/dirt that is used for storage of trucks and trailers. Implementation of the proposed project would have ***no impact*** relative to this topic.

Impact 3.3-7: Adverse Effects on Riparian Habitat or Sensitive Natural Community (less than significant)

The CNDDB record search revealed documented occurrences of four sensitive habitats within 10 miles of the project site including: Elderberry Savanna, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Valley Oak Riparian. None of these sensitive natural communities occur within the project site. Implementation of the proposed project would have ***no impact*** relative to this topic.

Impact 3.3-8: Interference with the Movement of Native Fish or Wildlife Species or with Established Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites (less than significant with mitigation)

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the project site. The land uses within the proposed project would not have any direct disturbance to the San Joaquin River or its tributaries, and therefore, would not have any direct disturbance to any fish species.

The ongoing operational phase of the proposed project requires discharge of stormwater into a basin, therefore discharge of stormwater is not anticipated to result in indirect impacts to special status fish and wildlife in the San Joaquin River. Nevertheless, there are various non-structural and structural stormwater BMPs that can be implemented to reduce pollution from stormwater. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs identified in the City's Storm Water Master Plan (SWMP) include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities. The following mitigation measures would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the project site. Implementation of these mitigation measures would ensure that a potential impact is reduced to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.3-5*: The project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:*

- *Pollution Prevention/Good Housekeeping*
    - *A spill response and prevention plan shall be developed as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES general Industrial Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities.*
    - *Streets and parking lots shall be swept at least once every two weeks.*
- *Operation and Maintenance (O&M) of Treatment Controls*
    - *An Operation and Maintenance (O&M) Plan shall be developed for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.*

Mitigation Measure 3.3-6*: The project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Lathrop:*

- *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the proposed project area where feasible in the landscape design to treat parking lot runoff.*
- *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*

Impact 3.3-9: Conflict with an Adopted Habitat Conservation Plan (less than significant)

SAN JOAQUIN COUNTY MULTI□SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

The City of Lathrop adopted the SJMSCP in January 2001 and signed the implementation agreement in 2002. The City's participation allows projects within Lathrop's jurisdiction to seek coverage under the SJMSCP for impacts to endangered, threatened, and species of special concern.

The proposed project is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The proposed project includes the annexation of land into an existing incorporated city limits and is located immediately adjacent to the boundaries of the defined community, which falls into the category of an unmapped land use under the SJMSCP. Projects in this category are subject to a case-by-case review by the Habitat Technical Advisory Committee (HTAC) to ensure that the biological impacts of the proposed project are within the parameters established by the SJMSCP and the Biological Opinion.

"Unmapped Land Use Projects" that seek coverage under the SJMSCP are required to complete the "*Section 8.2.1(10) Checklist for Unmapped SJMSCP Projects*" with supporting documentation for SJCOG to review and confirm that the proposed project is consistent with the SJMSCP and the Biological Opinion. If the HTAC confirms that the proposed project is consistent with the SJMSCP, they will recommend to the Joint Powers Authority that the project receive coverage under the SJMSCP.

Findings to be determined by SJMSCP biologist require the following steps to satisfy SJMSCP requirements:

- Schedule a SJMSCP Biologist to perform a pre-construction survey prior to any ground disturbance.
- SJMSCP Incidental take Minimization Measures and mitigation requirement.

The project proponent is required to comply with SJMSCP Incidental Take Minimization Measures and mitigation requirement and schedule a SJMSCP Biologist to perform a pre-construction survey prior to any ground disturbance. Prior to issuance of grading permits the project proponent will be required to coordinate with SJCOG and will be responsible for the appropriate coverage, permits, compensatory mitigation or fees, and project specific avoidance, minimization, and mitigation measures as defined within the SJMSCP. The proposed project does not conflict with the implementation of the SJMSCP and has included Measure 3.3-1 to ensure compliance and consistency with the SJMSCP. Therefore, Implementation of the proposed project would have a ***less than significant*** impact relative to compliance with the SJMSCP.

Impact 3.3-10: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (less than significant)

The Resource Management Element of the General Plan establishes policies numerous policies related to vegetation, fish and wildlife. Due to the habitat conditions, many of the policies are not relevant. For instance, there is no riparian habitat or wetland so all policies aimed at protected, conserving, or restoring such habitat is not relevant for this project. The most relevant policy is "Policy 4" which requires developments proposed in sensitive biological areas to provide a site-specific analysis of the impacts of the project on fish and wildlife habitat. This policy also requires development to address ways in which new or enhanced habitat may be created. A specific analysis was performed for this project to determine whether there were sensitive biological areas associated with the project site or vicinity. The analysis did not identify sensitive biological areas on the project site or vicinity. The proposed project does not conflict with any General Plan policies protecting biological resources. There are no tree preservation ordinances or other ordinances protecting biological resources. The proposed project would have a ***less than significant*** impact relative to this topic.

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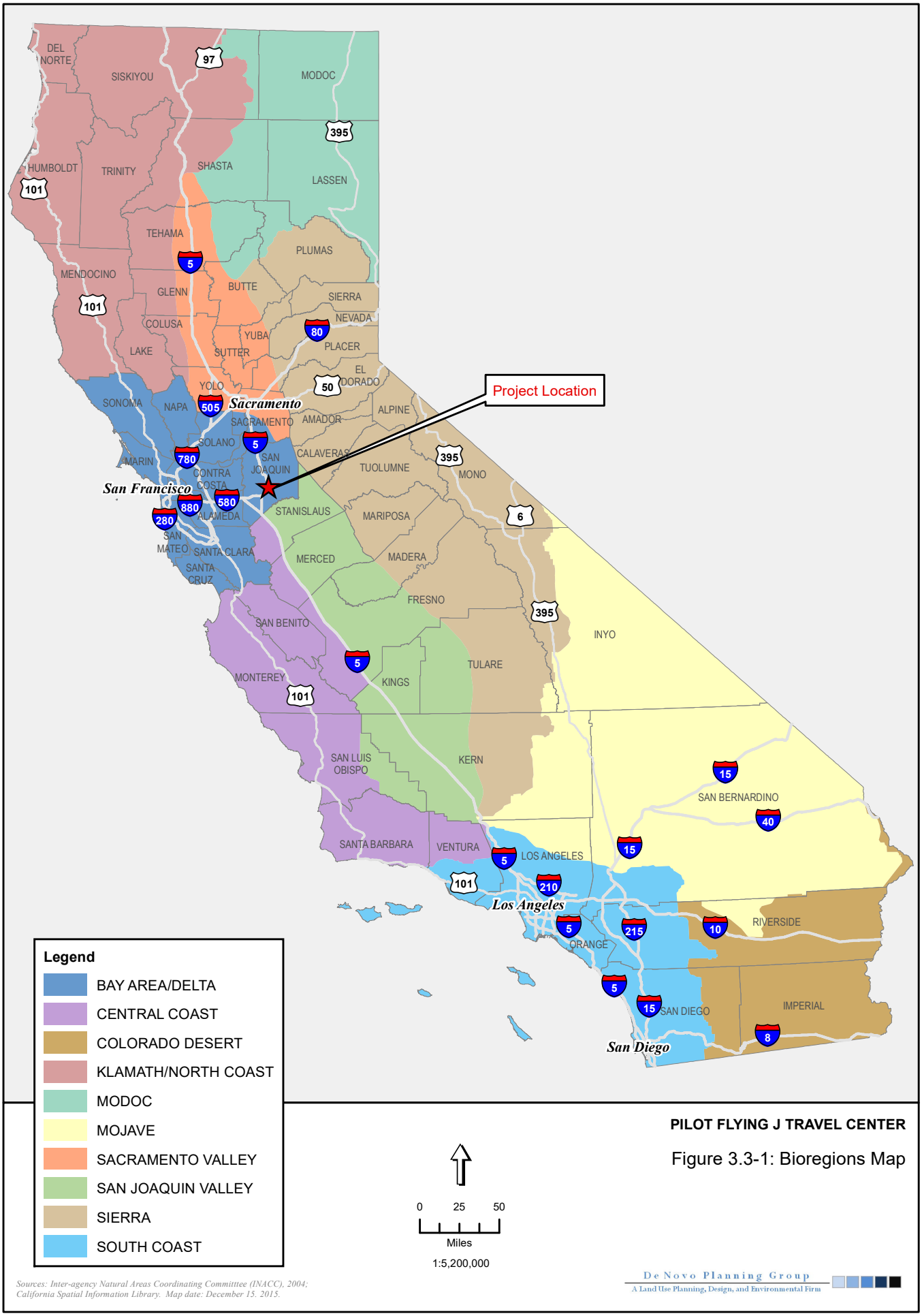

PILOT FLYING J TRAVEL CENTER

Figure 3.3-1: Bioregions Map

Sources: Inter-agency Natural Areas Coordinating Committee (INACC), 2004; California Spatial Information Library. Map date: December 15, 2015.

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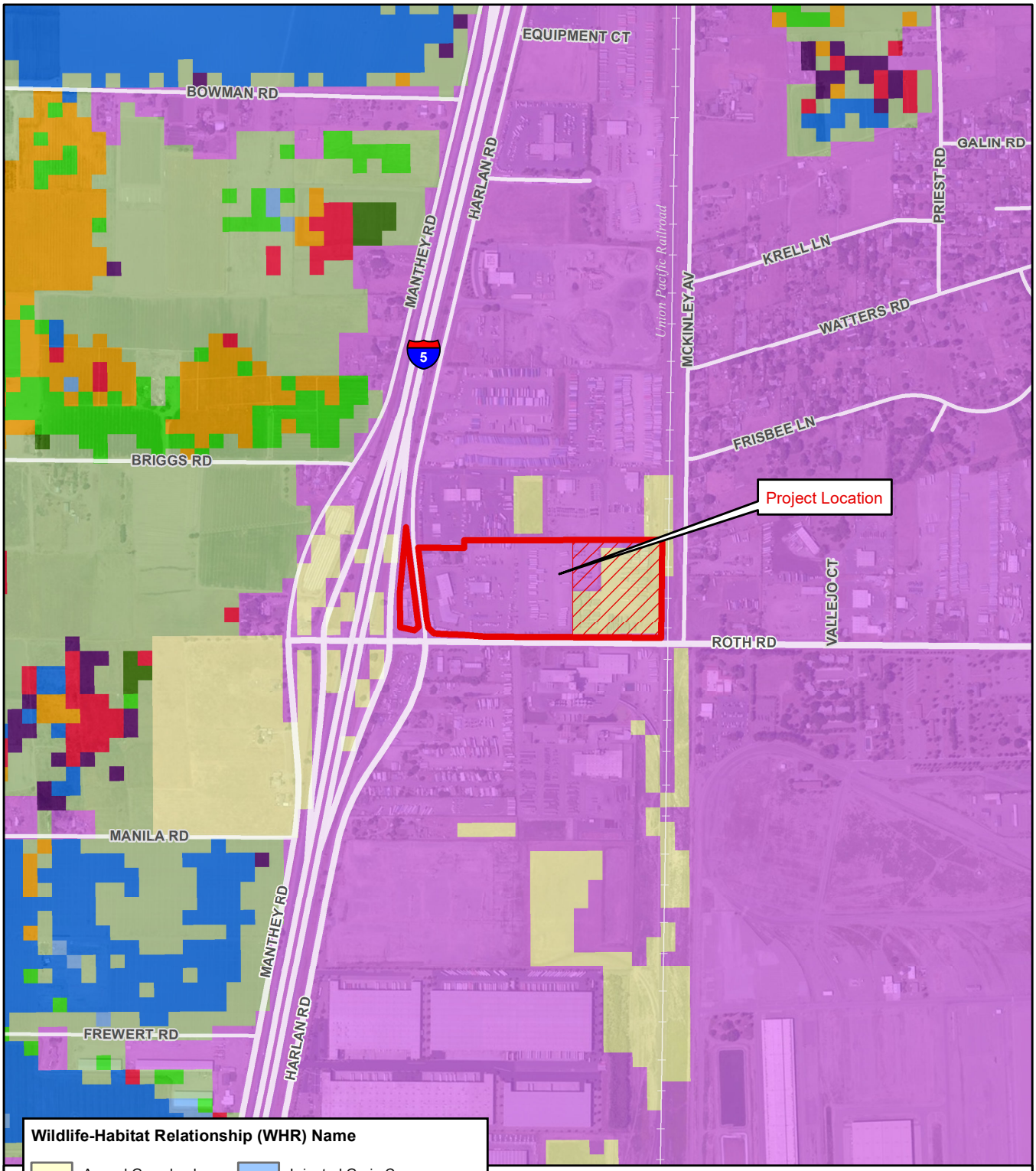

Wildlife-Habitat Relationship (WHR) Name

- Annual Grassland
- Cropland
- Deciduous Orchard
- Dryland Grain Crops
- Evergreen Orchard
- Irrigated Grain Crops
- Irrigated Hayfield
- Irrigated Row and Field Crops
- Urban
- Vineyard

Project Location

- Proposed Annexation Area
- Proposed Flying J Project Site

PILOT FLYING J TRAVEL CENTER

Figure 3.3-2: Land Cover Types

N

0 500 1,000

Feet

1:12,000

Sources: California Department of Forestry and Fire Protection 2015 FVEG15_1; San Joaquin County GIS; ArcGIS Online BING Aerial Imagery map service. Map date: January 15, 2016.

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Common Name

- Swainson's hawk
- burrowing owl

Project Location

- Proposed Annexation Area
- Proposed Flying J Project Site

0 1,000 2,000

Feet

1:24,000

Sources: California Natural Diversity Database 12/1/2015.
ArcGIS Online USGS Topographic Map Service. Map date: January 17, 2016.

PILOT FLYING J TRAVEL CENTER

Figure 3.3-3: Special Status Species

1-mile Radius Search

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10-mile Radius

Project Location

Map Label: Common Name: Occurrence Count

- 1: alkali milk-vetch: 1
- 2: big tarplant: 1
- 3: bristly sedge: 1
- 4: burrowing owl: 33
- 5: California tiger salamander: 2
- 6: Delta button-celery: 1
- 7: Delta smelt: 1
- 8: Delta tule pea: 1
- 9: giant garter snake: 2
- 10: Great Valley Cottonwood Riparian Forest: 1
- 11: Great Valley Valley Oak Riparian Forest: 1
- 12: heartscale: 1
- 13: least Bell's vireo: 1
- 14: longfin smelt: 2
- 15: moestan blister beetle: 1
- 16: palmate-bracted salty bird's-beak: 1
- 17: recurved larkspur: 1
- 18: riparian brush rabbit: 12
- 19: round-leaved filaree: 1
- 20: Sacramento anthicid beetle: 2
- 21: saline clover: 1
- 22: San Joaquin spearscale: 1
- 23: Sanford's arrowhead: 1
- 24: slough thistle: 1
- 25: song sparrow ("Modesto" population): 3
- 26: steelhead - Central Valley DPS: 3
- 27: Suisun Marsh aster: 1
- 28: Swainson's hawk: 173
- 29: tricolored blackbird: 6
- 30: valley elderberry longhorn beetle: 1
- 31: watershield: 1
- 32: white-tailed kite: 1
- 33: woolly rose-mallow: 4
- 34: Wright's trichocoronis: 1
- 35: yellow-headed blackbird: 1

Area of Multiple Species Occurrences

Sources: California Natural Diversity Database 12/1/2015. ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2015.

PILOT FLYING J TRAVEL CENTER

Figure 3.3-4: Special Status Species

10-mile Radius Search

0 1 2

Miles

1:132,000

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This section provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. The NOP was sent to the Native American Heritage Commission (NAHC) in accordance with SB 18, and the North Valley Yokuts Tribe in accordance with AB 52. There was one comment received during the public review period for the NOP related to cultural resources from the North Valley Yokuts Tribe. Information in this section is derived primarily from the *Cultural Resources Assessment prepared by Peak & Associates* on *December 2, 2015.*

3.4.1 ENVIRONMENTAL SETTING

PROJECT SETTING

The proposed project is located in Township 1 South, Range 6 East in the Rancho Campo de los Franceses Land Grant and is plotted on a copy of the United States Geological Survey (USGS) Lathrop 7.5 minute series topographic quadrangle.

CULTURAL AND HISTORICAL SETTING

Archeological Background

Between 1893 and 1901, J.A. Barr (an avocational archeologist) excavated many prehistoric mounds in the Stockton area. He collected nearly 2000 artifacts during the course of his uncontrolled digging. H.C. Meredith was another avocational, who also pursued collecting in the same Stockton locality. Meredith (1899, 1900) did publish a compilation of his own and Barr's findings, and these appear to constitute the earliest accounts of Delta "archeology." Holmes (1902), from the Smithsonian Institution, further elaborated on the Delta or Stockton District archeology and presented illustrations of artifacts collected by Meredith and Barr. It was Elmer J. Dawson who first recognized that there had been cultural changes through time in the northern San Joaquin Valley locale. Although he was also an avocationalist, Dawson understood the necessity of keeping accurate notes on grave associations and provenience of artifacts. He collaborated with W.E. Schenck to produce an overview of northern San Joaquin Valley archeology (Schenck and Dawson 1929). The overview contained information on over 90 prehistoric sites as well as data on all previous collectors. By 1931, the focus of archeological work was directed towards the Cosumnes River locality, where survey and exploration were conducted by Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmiller site (CA-SAC-107), suggested three temporally distinct cultural traditions: Early, Transitional, and Late. As data accumulated from the excavation of other mounds in the Delta and lower Sacramento Valley by Sacramento Junior College and the University of California, Berkeley, research horizons expanded.

In 1939, Lillard, Heizer, and Fenenga presented the concept of a tripartite or three-horizon cultural sequence, with a fourth horizon representing the historic or post-contact period. The sequence was based on discrete changes in ornamental artifacts, projectile point types, other tool forms, mortuary practices, and on observed differences in soils within the sites. The authors

did not attempt to assign dates to the three horizons, but they did discuss the progressive degree of bone mineralization from the Late to the Early Horizon. They also directed attention to the increased soil induration in the same order as the three Horizons -- Early Horizon, 2500 B.C.; Middle Horizon, 1500 B.C.; and Late Horizon, A.D. 500. They based their argument on an assessment of artifactual cross-dating, soil development, and stratigraphy. Beardsley (1954) later refined the sequence, as have other investigators concerned with the prehistory of the region. Beardsley's revisions of the Delta sequence extended this system to include the San Francisco Bay region. Other studies by Heizer (1949) and Ragir (1972) focused on an elaboration and refinement of the Early Horizon. The Middle Horizon and the Late Horizon unfortunately have not been as well defined. Ragir (1972) proposed to substitute alternative designations: Windmiller Culture for Early Horizon, Cosumnes Culture for Middle Horizon, and Hotchkiss Culture for the Late Horizon. She argued that these new designations provided a more flexible system to accommodate new developments that might be discovered. The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads, a high percentage of burials with grave goods, frequent presence of red ochre in graves, large projectile points (of which 60 percent are of materials other than obsidian), rectangular Haliotis beads, Olivella shell beads (types A1a and L), rare use of bone, some use of baked clay objects, and well-fashioned charmstones, usually perforated. The Cosumnes Culture (Middle Horizon) displays considerably changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and with some cremations present. A lower percentage of burials with grave goods, with ochre staining common in graves, Olivella beads of types C1, F, and G, abundant use of green Haliotis sp. Rather than red Haliotis sp., perforated canid teeth, asymmetrical and "fishtail" charmstones that are usually unperforated. Other diagnostic features include cobble mortars and evidence of wooden mortars, extensive use of bone for tools and ornaments, large projectile points with considerable use of rock other than obsidian, and use of baked clay.

For Hotchkiss Culture (Late Horizon), the burial pattern retains the use of the flexed mode, and there is widespread evidence of cremation, lesser use of red ochre, heavy use of baked clay, Olivella beads of types E and M, extensive use of Haliotis ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird bond tubes with elaborate geometric designs, and clam shell disc beads. Other traits include small projectile points that indicate the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnesite (Moratto 1984:181-183). The characteristics noted are not all inclusive, but cover the more important traits.

Schulz (1981), in an extensive examination of the central California evidence for the use of acorns, used the terms Early, Middle, and Late complexes. While the reference is not altogether clear, Schulz seemingly uses the term “complex” to refer to particular archeological entities, above called “Horizons,” as defined in this region. Ragir's (1972) cultures are the same as Schulz's term complexes.

Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the

horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

Other chronologies proposed have been suggested. Fredrickson (1973) makes an important proposal that is correlated with Bennyhoff's (1977) recent work. The particular archeological cultural entities Fredrickson defines, based on the work of Bennyhoff, are patterns, phases, and aspects. Bennyhoff's (1977) work in the Plains Miwok area is the best definition of the Cosumnes District, which most likely conforms to Fredrickson's term pattern. The interested reader can refer to Fredrickson for full details of the entities. Fredrickson also proposes periods of time associated heavily with economic modes, and thus provides a temporal term for comparing contemporary cultural entities. This scheme corresponds with Willey and Phillips' (1958) earlier "tradition," although tied more specifically to the archeological record in California.

Although the Central California Taxonomic System has some application to other areas of prehistoric central California, there are distinct temporal and spatial limits. There is an increasing recognition of these limits as archeologists have found their date simply does not fit this scheme comfortably. This problem is particularly apparent for the San Francisco Bay region. Nevertheless, the system is still widely used despite the many attempts to find new integrative models for both regional and area syntheses (Moratto 1984:237).

Ethnography

The proposed annexation area lies within the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

The Yokuts held portions of the San Joaquin Valley from the Tehachapis in the south to Stockton in the north. On the north they were bordered by the Plains Miwok, on the west by the Saclan or Bay Miwok and Costonoan peoples. Although neighbors were often from distinct language families, differences between the people appear to have been more influenced by environmental factors as opposed to linguistic affinities. Thus the Plains Miwok were more similar to the nearby Yokuts than to foothill members of their own language group. Similarities in cultural inventory co-varied with distance from other groups and proximity to culturally diverse people. The material culture of the southern San Joaquin Yokuts was therefore more closely related to that of their non-Yokuts neighbors than to that of Delta members of their own language group.

The best estimates place the pre-contact population for each of the southern tribes at 350 persons. For the northern groups, population figures have been calculated on the basis of average population density per square mile. The highest density was 10+ persons per square mile, according to these figures, achieved along major drainages. On the plains, primarily east of the San Joaquin River, the average density was only two to three persons per square mile, while

even fewer persons occupied the drier foothills to the west of the valley (Wallace 1978a:448; Wallace 1978b:462).

The archeology of the northernmost San Joaquin Valley suggests that the Yokuts were relative latecomers to the area. Cultural differentiation from the Plains Miwok culture occurred before A.D. 1500. Artifacts recovered from sites in the western side of the San Joaquin Valley in Merced and Fresno counties have been assigned to the time between A.D. 1500-1600 and the beginning of contact with the Spanish. Linguistic data suggest that the Northern Valley Yokuts were pressured by their eastern neighbors -- the Monache -- who moved down the Sierra foothills and caused Yokuts to spread northward across the valley into what had formerly been Costanoan and Miwok territory. This territorial shift took place over a span of two hundred years, leaving the Yokuts well-established in the San Joaquin Valley before the first Spanish expeditions (Wallace 1978b:463). The Southern Valley Yokuts may have been established in their ethnographic territory somewhat earlier, perhaps as early has 2000 years ago, although physical signs of human occupation near Buena Vista Lake have been dated at 6000 B.C. (Wallace 1978a:449).

The most northern Yokuts tribes subsisted in much the same way as did their Bay Miwok neighbors, who relied heavily on acorn and salmon as dietary staples. Because of their dependence on riverine resources, the Northern Yokuts situated large villages near the San Joaquin River and its tributaries. They built their villages on low mounds to protect them from seasonal flooding caused by rains and rivers swollen by melting Sierran snows. To the west side of the valley, the Yokuts concentrated in smaller settlements along semipermanent drainages in the foothills (Wallace 1978b:463-464). Southern tribes also concentrated along waterways and near the marshes where waterfowl and fish were plentiful (Wallace 1978a:449-450).

Geese, ducks, mudhens, and other waterfowl provided a substantial portion of Yokuts diet. Birds were easy prey for hunters who lured them with decoys and caught them with specialized techniques. They also raided eggs from the nests. Seeds of grasses, tule, and flowering herbs added variety to Yokuts meals. The Yokuts ate tender leaves and stems of clover, fiddle-neck, alfilaria, other plants, and gathered roots of grassnuts and tule. Like the neighboring Costanoans, the Yokuts practiced controlled plant management by burning vegetation (Wallace 1978a:450; 1978b:464). Hunting large mammals apparently was less important to sustain the Yokuts, although they did hunt antelope and elk. Hunters disguised themselves and waited for the animals to come to lakes or sloughs to drink, then snared individual animals or shot into the herd and turned the fleeing animals into fenced enclosures. The Yokuts organized communal jackrabbit drives and snared small animals and some birds (Latta 1949:141-143; Wallace 1978a:450).

Northern Yokuts built small houses with tule mats that covered wooden frameworks. These dwellings were round to oval, 25 to 40 feet in diameter, with hard-packed dirt floors excavated two feet below ground level, and served as single-family dwellings. The southern tribes also built large, gable-roofed communal residences that were partitioned to accommodate ten or more families. These structures were covered with tule stalks sewn together. In some instances, one house sheltered the people of an entire village. Earth-covered sweathouses, which measured up to 15 feet in length, were used by men for daily sweatbaths and in winter for sleeping. Latta

(1949:96-97) recounted that sweathouses were built at the downstream limits of a village so that the bathing would not contaminate the water used by the villagers. Northern villages featured very large earth-covered assembly structures, but southern villages did not include these ceremonial buildings. One communal structure found at a village site on Los Banos Creek measured 84 by 93 feet (Kroeber 1925:521-523; Latta 1949:87-97; Wallace 1978a:450-451; 1978b:464-465). Arrangement of the buildings in a village was orderly, as Stephen Powers described:

> *(The Yokuts) display in their encampments a military precision and regularity which are remarkable. Every village consists of a single row of wigwams, conical or wedgeshaped, generally made of tule, and just enough hollowed out within so that the inmates may sleep with the head higher than the feet, all in perfect alignment, and with a continuous awning of brushwood stretching along in front. In one end-wigwam the village captain; in the other, the shaman or si-se'ro (Spanish, hechizero). In the mountains there is some approach to this martial array, but it is universal on the plains [Powers 1877:370-371].*

Latta (1949:99) reported that a village of 200 to 300 Yokuts might have four or five large houses that were used for ten or twelve years or until a family member died, and which time the Indians burned the house in which the death had occurred. If a sick or aged person died outside the dwelling, the family did not burn the house. When a Northern Yokuts died, his body was cremated or buried in a flexed position. Southern tribes normally buried their dead, although they did cremate shamans, persons who died away from their village and, among the Tachi, persons of great importance (Wallace 1978b:468).

The most devastating impacts of the Spanish colonization effort were not the result of military conflicts, but came from Old World diseases newly introduced to the native people. Three major epidemics swept through the missions: a respiratory virus at Mission Santa Clara in 1777, pneumonia and diphtheria that killed children from Mission San Carlos to San Luis Obispo, and the devastating measles epidemic that killed at least 1600 natives at missions from San Francisco to Santa Barbara (Castillo 1978:103). These epidemics at the missions were followed in 1833 by a severe malaria epidemic that claimed thousands of lives and virtually destroyed many villages and tribes. Up to three-quarters of the population in the San Joaquin Valley was killed by this contagious disease, which was brought to California by a party of Hudson's Bay Company fur trappers from the Oregon country. In 1834, the Mexican government desecularized the missions and many of the Indian residents returned to their former territories, where they survived by a combination of strategies that included traditional hunting and gathering and livestock raiding (Wallace 1978a:459-460; Wallace 1978b:468-469).

History

In 1848, after James Marshall discovered gold at Sutter's Mill in Coloma, thousands of people flocked to California to seek their fortunes. Although some people took overland trails to California, arriving in Sacramento, most traveled the faster route by sea, arriving in San Francisco. With thousands of miners arriving weekly, San Francisco became the initial staging area for the many people heading off to the gold fields of the Sierra Nevada foothills. The project site lies

along one of the routes to the southern mining region. This route ran east from Mission San José past Livermore, over Altamont Pass, to Mountain House before continuing to Stockton, Sacramento, or the gold camps beyond those cities.

With the arrival of the Central Pacific Railroad in 1869, the future town site of Lathrop was laid out. Lathrop was named in honor of Leland Stanford's wife's maiden name. A post office was established in 1871. In 1889, a famous incident occurred at the train station at Lathrop when Chief Justice of California, David S. Terry, assaulted U.S. Supreme Court Justice Stephen J. Field and was shot and killed by his bodyguard (Wikipedia.org 2015).

Transportation was the main employer in the area until the availability of irrigation water after 1915 led to increased interest, and profits, in agriculture. With agricultural abundance and transportation facilities in place, the two interests came together to assist the U.S. war effort with the creation of the Sharpe Army Depot in 1941. The 720-acre facility was used by the U.S.Army to receive, store, package and ship supplies- including local agricultural products, to forces in the Pacific Theater until its closure in 1976. It was also used to store and maintain heavy equipment and aircraft and at one time employed about 1,200 people.

METHODOLOGY

Peak & Associates performed a records search, literature review, Native American consultation, and field surveys as part of the investigation of potential cultural and historical resources in the proposed annexation area. The records search and literature review informed the previous discussion of the area's prehistory, ethnography, and history.

Research

A review of literature maintained by the Central California Information Center of the California Historical Resources Information System at California State University, Stanislaus was conducted on November 19, 2015 for the Project (File No. 9558L) and one-eighth mile radius. According to the Central California Information Center, no previously identified prehistoric or historic period cultural resources are known within the proposed annexation area. Three historic period resources, P-39-000333, P-39-000610, and P-39-000612, related to the Sharpe Army Depot have been recorded within a one-eighth mile radius. Fourteen previous archeological investigations have also been conducted in this radius.

Native American Consultation

The Native American Heritage Commission was contacted by Peak & Associates for a Sacred Lands review, although the results have not yet been provided.

Correspondence requesting information and/or comment and a topographic map showing the Project were sent to Katherine Erolinda Perez, Chairperson, North Valley Yokuts on November 30, 2015. Ms. Erolinda- Perez North Valley Yokuts Tribe provided a comment letter on requesting to be included in project document notifications and requests a copy of the project reports.

Field Survey and Site Investigation

A field reconnaissance of the approximately 9 acre Pilot Flying J project site was conducted on November 22, 2015 by Peak & Associates' Senior Archeologist, Robert Gerry. A complete, intensive pedestrian inventory of the project site was undertaken by means of parallel transects spaced at intervals of roughly 10 to 15 meters. The project site is currently vacant except for some tractor-trailer rigs. No portion of the site was excluded from the intensive reconnaissance. Vegetation was absent, providing for a complete examination of the exposed sediment.

No evidence of prehistoric or historic period activity was observed within the project site. The project site contains Veritas Series soils that are derived from mixed alluvial sources and generally extend down 40 to 60 inches to hardpan (Soil Conservation Service 1992). The closest water source is the San Joaquin River approximately two miles west of the project site. Given the lack of active alluviation in or near the proposed project, the potential for buried cultural deposits is likely low.

3.4.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the National Register of Historic Places (NRHP). The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American History.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

National Register of Historic Places

The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history and cultural heritage; or*

(B) that are associated with the lives of persons significant in our past; or

(C) that embody the distinctive characteristics of a type, period, region, or method of construction, or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) that have yielded, or may be likely to yield, information important in prehistory or history.

STATE

California Register of Historic Resources

The California Register of Historical Resources (CRHR) was established in 1992 and codified in the Public Resource Code §5020, 5024 and 21085. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §§15064.5(b) and Public Resources Code (PRC) §§21083.2 and 21084.1.

Cultural resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

California Environmental Quality Act

CEQA Guidelines §15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration of a historical resource, including archaeological sites, is generally considered a significant impact. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §§15064.5(b) and Public Resources Code (PRC) §§21083.2 and 21084.1.

In 2014, California Governor Brown signed Assembly Bill 52 (AB 52), formally establishing a new requirement under CEQA. Effective July 1, 2015, a lead agency will be required to offer Native American tribes with an interest in tribal cultural resources located within its jurisdiction the opportunity to consult on CEQA documents. The new procedures under AB 52 offer the tribes an

opportunity to take an active role in the CEQA process in order to protect tribal cultural resources.

CEQA also provides for the protection of Native American human remains (CCR §15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, but does meet the definition of a "unique" site as outlined in PRC §21083.2, it may still be treated as a significant resource if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
- it has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- it is directly associated with a scientifically recognized important prehistoric or historic event.

Assembly Bill 978

In 2001, Assembly Bill (AB) 978 expanded the reach of Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation.

LOCAL

City of Lathrop General Plan

The Community Development and Resource Management Elements of the City of Lathrop General Plan contain the following policies that are relevant to cultural or historical aspects of the proposed project.

COMMUNITY DEVELOPMENT ELEMENT

> **Policy 7.3:** Significant natural open space and cultural resources should be identified prior to development and incorporated into site-specific development project design.

RESOURCE MANAGEMENT ELEMENT

Archaeological and Cultural Resource Policies

Policy 1. Existing known archaeological and cultural resources are to be protected, beginning with the filing of an application for development in the immediate vicinity of such resources. The City shall follow the procedures set forth in Appendix K of CEQA Guidelines. Confidentiality shall be maintained between the City and developer to avoid vandalism or desecration of such resources. Alternatives for development design intended to protect cultural resources shall be reviewed by a Native American having competence in understanding and interpreting the importance of the resources and of the most desirable methods to assure their preservation.

Policy 2. The potential loss of as yet unknown archaeological and cultural resources shall be avoided by close monitoring of the development process. The close proximity of properties intended for development to natural watercourses or to known archaeological or cultural resources shall be taken as a signal by the City and developer of a potential for unearthing unknown resources. In such cases, the City shall instruct the developers, construction foremen and City inspectors of the potential for damage to artifacts and sites, and provide written instructions requiring a halt to all excavation work in the event of any find until the significance of the find can be evaluated by competent archaeological and Native American specialists. The costs of such protection work shall be the responsibility of the developer.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project is considered to have a significant impact on cultural resources if it will:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5;
- Cause a substantial adverse change in the significance of archaeological resource pursuant to CEQA Guidelines §15064.5;
- Directly or indirectly destroy a unique paleontological resource;
- Disturb any human remains, including those interred outside of formal cemeteries.

IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as

Defined in CEQA Guidelines §15064.5 (Less than Significant with Mitigation)

As described above, the project site is located in an area known to have cultural and historical resources. During the field surveys conducted on the project site, no evidence of historical or prehistorical resources were identified. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. The implementation of the following mitigation measure would ensure that this potential impact is ***less than significant***.

MITIGATION MEASURES

Mitigation Measure 3.4-1*: If any cultural resources, including prehistoric or historic artifact, or other indications of archaeological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).*

Work cannot continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR.

If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency as verification that the provisions in CEQA for managing unanticipated discoveries have been met.

If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the Applicant's expense.

Impact 3.4-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as Defined in CEQA Guidelines §15064.5 (Less than Significant with Mitigation)

The project site is located in an area known to have cultural resources. During the field surveys and records searches, no cultural resources were identified within the proposed annexation area. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural resource or human remains. The implementation of Mitigation Measure 3.4-1 would ensure that this potential impact is ***less than significant***.

MITIGATION MEASURES

Implement Mitigation Measure 3.4-1

Impact 3.4-3: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource (Less than Significant with Mitigation)

The field surveys did not reveal any surface evidence of paleontological resources on the project site, and the site is not expected to contain subsurface paleontological resources, although it is possible.

Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. Implementation of the following mitigation measure would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. The following mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.4-2: *If paleontological resources are discovered during the course of construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Lathrop shall be notified, and a qualified paleontologist shall be retained to determine the significance of the discovery. If the paleontological resource is considered significant, it shall be excavated by a qualified paleontologist and given to a local agency, State University, or other applicable institution, where it could be curated and displayed for public education purposes.*

Impact 3.4-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries (Less than Significant with Mitigation)

Indications are that humans have occupied San Joaquin County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials.

Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during project implementation.

Implementation of the following mitigation measure would ensure that all construction activities that inadvertently discover human remains implement state required consultation methods to determine the disposition and historical significance of any discovered human remains. The following mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.4-3: *If human remains are discovered during the course of construction, work shall be halted at the site and any nearby area reasonably suspected to overlie adjacent human remains, until the San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken:*

- *The coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.*
- *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:*
    - *The Native American Heritage Commission is unable to identify a descendent.*
    - *The descendant identified fails to make a recommendation.*
    - *The City of Lathrop or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*

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The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the Pilot Flying J project site and regional vicinity, and to analyze issues such as the potential exposure of people and property to geologic hazards, landform alteration, and erosion. This section is based in part on the following: *Comprehensive General Plan for the City of Lathrop* (City of Lathrop 2004), *General Plan Environmental Impact Report* (City of Lathrop 1991), *Custom Soils Report for San Joaquin County, California* (NRCS 2013a) and the *NRCS Web Soil Survey* (NRCS 2013b). No comments were received regarding geology and soils during the NOP review period.

3.5.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

Regional Geology

The project area lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the southern portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west.

The San Joaquin Valley (Valley) is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the Valley, and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rocks.

Local Setting

The Pilot Flying J project site has relatively flat terrain that varies between elevation 21 and 25 feet above sea level. The UPRR tracks are slightly elevated along the eastern boundary of the project site.

A Custom Soil Survey was completed for the Pilot Flying J project site using the NRCS Web Soil Survey program. Table 3.5-1 identifies the soils found on the project site.

TABLE 3.5-1: PLAN AREA SOILS

MAP UNIT SYMBOL MAP	*NAME*	*PERCENT OF AOI*
266	Veritas fine sandy loam, 0 to 2 percent slopes	100.0%

SOURCE: NRCS CUSTOM SOIL SURVEY

Veritas fine sandy loam. The Veritas series consists of deep to duripan, moderately well drained soils that formed in alluvium derived from mixed rock sources. Veritas soils are normally found on low fan terraces with slopes of 0 to 2 percent. The mean annual precipitation is 11 inches and the mean annual temperature is 60 degrees F. Veritas soils are found in San Joaquin County, California;

1 1/2 miles west of Manteca; 800 feet west of Airport Way and 150 feet north of Louis Avenue in the Lathrop quadrangle. These soils are moderately well drained and typically experience slow runoff and moderately rapid permeability. Soils of this classification are commonly used for irrigated cropland including: Alfalfa, barley and corn as the the principal crops. Soils in their natural state are typically contain annual grasses, forbs and scattered valley oaks.

FAULTS AND SEISMICITY

Faults

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The State of California designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.5-2 presents the California fault activity rating system.

TABLE 3.5-2: FAULT ACTIVITY RATING

FAULT ACTIVITY RATING	*GEOLOGIC PERIOD OF LAST RUPTURE*	*TIME INTERVAL (YEARS)*
Active (A)	Holocene	Within last 11,000 years
Potentially Active (PA)	Quaternary	11,000-1.6 Million Years
Inactive (I)	Pre-Quaternary	Greater than 1.6 Million

SOURCE: CALIFORNIA GEOLOGICAL SURVEY

The 2010 Fault Activity Map provided by the California Department of Conservation identified potential seismic sources within 100 kilometers (62 miles) of the Pilot Flying J project site. Two of the closest known faults classified as active by the California Geological Survey are the Greenville fault, located approximately 23 miles to the west, and the Foothills Fault System, located approximately 33 miles to the east. The Vernalis Fault, located approximately 13 miles to the west has had movement as recently as the Quaternary Period (Pliocene Epoch 2.588 million years ago to 11.7 thousand years ago) , thus, is considered a potentially active fault. Other faults that could potentially affect the project site include the Mount Diablo, Calaveras, Hayward, Ortigalita and San Andreas Faults. Figure 3.5-1 shows area faults in relation to the proposed project.

Seismicity

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the

displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. The total seismic energy release for a fault source is sometimes partitioned between two different recurrence models, the characteristic and truncated Gutenberg-Richter (G-R) magnitude-frequency distributions. These models incorporate our knowledge of the range of magnitudes and relative frequency of different magnitudes for a particular fault. The partition of moment and the weights for multiple models are given in the following summary.

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.5-3 provides a description and a comparison of intensity and magnitude.

TABLE 3.5-3: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

RICHTER MAGNITUDE	*MODIFIED MERCALLI SCALE*	*EFFECTS OF INTENSITY*
0.1 – 0.9	I	Earthquake shaking not felt
1.0 – 2.9	II	Shaking felt by those at rest.
3.0 – 3.9	III	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	V	Felt by everyone indoors, many can estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	VI	Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	VIII	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	IX	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	X	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed, railroads bent slightly. Dams, dikes and embankments damaged.
8.0 – 8.4	XI	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed, railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

Source: ABAG Resiliency Program

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, San Joaquin County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent

within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. As a result of these factors, the California Geological Survey has defined the entire county as a seismic hazard zone. The Uniform Building Code places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

Alquist-Priolo Special Study Zone

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The project site is not within an Alquist-Priolo Special Study Zone.

SEISMIC HAZARDS

Seismic Ground Shaking

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters. Seismic ground shaking in the project site is expected during the life of the proposed project. All structures will be built in accordance with the seismic design standards in California.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. The proposed annexation area does not have surface expression of active faults and fault rupture is not anticipated.

Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Liquefaction normally occurs when sites underlain by saturated, loose to medium dense, granular. During an earthquake, ground shaking may cause certain types of soil deposits to lose shear strength, resulting in ground settlement, oscillation, loss of bearing capacity, landsliding, and the buoyant rise of buried

structures. The majority of liquefaction hazards are associated with sandy soils, silty soils of low plasticity, and some gravelly soils. Cohesive soils are generally not considered to be susceptible to liquefaction.

The San Joaquin County General Plan identifies the Lathrop/and Manteca areas of the county to have the greatest liquefaction risk. Less cohesive sandy soils increase the risk of liquefaction on the project site.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. The geologic conditions conducive to lateral spreading include gentle surface slope, and liquefiable soils. As identified in the San Joaquin County General Plan, the Lathrop Planning Area is at risk for liquefaction, and soils that underlay the project site consist of predominantly fine sand soil particle sizes, which are subject to liquefaction. The project site is essentially flat which reduces the potential for lateral spreading, however, because liquefiable soils are present, potential impacts related to lateral spreading are present.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The proposed annexation area including the Pilot Flying J project site is essentially flat with a minor elevation gain of approximately three feet, therefore, the potential for a landslide is non-existent.

NON-SEISMIC HAZARDS

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

According to the *Custom Soils Report*, the soils on the project site have a low shrink-swell potential. This potential is directly related to the expansion potential of the project site. Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change. The shrink-swell classes are defined as follows: Low <3%,

Moderate 3 – 6%, High 6 – 9%, and Very High ≥9%. According to the custom soils report the project site contains soils that have a volume change of 1.5%. Furthermore, the San Joaquin County General Plan Figure III.A-4 identifies the project area as having a low potential for the presence of shrink-swell soils.

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The Custom Soils Report identified the erosion potential for the soils project site. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the project site, the erosion factor Kf of 0.28, which is considered a moderate potential for erosion. However, because the project site is essentially flat, the erosion potential is reduced.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Soils in the project area have not been identified by the Lathrop or San Joaquin County General Plan to be susceptible to collapse.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is

greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has not been identified in the Lathrop General Plan as an issue in the Lathrop area.

3.5.2 REGULATORY SETTING

FEDERAL

Uniform Building Code (UBC)

The purpose of the Uniform Building Code (UBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. UBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or just "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts including: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), California Reference Standards Code. Through the CBSC, the state provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. It also regulates grading activities, including drainage and erosion control.

California Building Code

The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city

and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Section 1808, 1809, and 1810 provides standards and requirements for the construction of varying foundations.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and Criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and Counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

LOCAL

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to geology and soils in the General Plan:

HAZARD MANAGEMENT ELEMENT

Seismic Policies

Policy 2: All new building construction shall conform to the latest seismic requirements of the Uniform Building Code as a minimum standard.

Policy 6: Soil compaction tests, and geotechnical analysis of soil conditions and behavior under seismic conditions shall be required of all subdivisions and of all commercial, industrial and institutional structures over 6,000 square feet in area (or in the case of institutional structures, those which hold 100 or more people).

Policy 7: A preliminary soils report is to be prepared by a registered geo-technical engineer for any residential development project, based upon adequate test borings. If the report indicates the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects, the developer shall provide for and submit the findings of a soil investigation of each non-residential lot or housing site proposed. The soil

investigation shall be prepared by a state registered civil engineer and shall recommend corrective action likely to prevent structural damage to each dwelling to be constructed. Prior to the issuance of a building permit, any recommended action approved by the Building Official shall be incorporated into the construction of each dwelling.

Policy 8: A preliminary geologic report, prepared by a state-certified engineering geologist and based on adequate test borings, shall be submitted to the Building Official for every subdivision, planned development or other residential project at the time of submitting a tentative map or other type of development application to the City.

Policy 9: If the preliminary geologic report indicates the presence of critically expansive soils or other soil problems (e.g., potential for liquefaction which if not corrected could lead to structural defects), the developer shall provide such additional soils investigation for each development site as may be requested by the Building Official. The geologic investigation shall be prepared by a state-certified engineering geologist and shall, recommend further corrective action likely to prevent structural damage to dwelling units. Prior to the issuance of a building permit, any recommended action approved by the Building Official shall be incorporated into site preparation and the construction of each dwelling.

Policy 10: The provisions of policy nos. 6 - 9, above, shall be applicable to all commercial, industrial, institutional and public development projects.

City of Lathrop Design and Construction Standards

The City of Lathrop has design and construction standards, some of which are relevant to geologic and soils conditions. The City, in accordance with the California Building Code Part 2, Chapter 18, Section 1803.1.1.1, has adopted a requirement for a preliminary soil report for each project requiring a building permit and that the report be based upon adequate test borings or excavations, of every subdivision. The geotechnical report must address the requirements outlined in Section 1803 and be submitted as an item for the City's review of grading, improvement, and building plans. The City reviews the geotechnical report along with other project design documents to confirm that the recommendations in the geotechnical report are reflected in project design.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and soils if it will:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Strong seismic ground shaking; or
    - Seismic-related ground failure, including liquefaction;
- Result in substantial soil erosion or the loss of topsoil;

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: The proposed project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure (less than significant)

The California Geologic Survey (CGS) evaluates faults and determines if a fault should be zoned as active, potentially active, or inactive. All active faults are incorporated into a Special Studies Zone, also referred to as an Alquist-Priolo Special Study Zone. The Plan Area is not within an Alquist-Priolo Special Study Zone.

The 2010 Fault Activity Map provided by the California Department of Conservation identified potential seismic sources within 100 kilometers (62 miles) of the project area. Two of the closest known faults classified as active by the California Geological Survey are the Greenville fault, located approximately 23 miles to the west, and the Foothills Fault System, located approximately 33 miles to the east. The Vernalis Fault located approximately 13 miles to the west has had movement as recently as the Quaternary Period (Pliocene Epoch 2.588 million years ago to 11.7 thousand years ago), thus, is considered a potentially active fault. Other faults that could potentially affect the proposed project include the Mount Diablo, Calaveras, Hayward, Ortigalita and San Andreas Faults.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Lathrop is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. As a result of these factors the California Geological Survey has defined the entire county as a seismic hazard zone. The Uniform Building Code places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

The Lathrop General Plan includes policies which assist in the protection of persons and structures in the event of an earthquake. Seismic Policy 2 requires all building construction to conform to the latest seismic requirements of the UBC. Policies 5 and 6 require soil compaction tests and geotechnical analyses to be completed for developments in Lathrop. Policies 7, 8, and 9 require

preliminary soils and geologic reports to be completed in order to determine the steps necessary to make the land suitable for development. Policy 10 requires all commercial, industrial, institutional and public development project to adhere to policies 6 through 9.

There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the project site and surrounding areas. Seismic activity could come from a known active fault such as the Greenville fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. As discussed under Section 3.5.2 Regulatory Setting, the California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City of Lathrop, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Additionally, the City of Lathrop has adopted Design and Construction Standards and incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level. Because all proposed structures on project site must be designed in conformance with these state and local standards and policies, any potential impact would be ***less than significant***.

Impact 3.5-2: Implementation and construction of the proposed project may result in substantial soil erosion or the loss of topsoil (less than significant with mitigation)

According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion and the loss of topsoil is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"

To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency.

The Custom Soils Report identified the erosion potential for the soils that underlay the Pilot Flying J project site. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Soils within the Pilot Flying J project site have a K factor of 0.28 which is considered a low to moderate potential for erosion. Furthermore, because the site is essentially flat, the erosion potential is slight.

The NRCS Custom Soils Report identifies the project site as having a "low to moderate" potential for erosion. This is largely due to the fact that the proposed annexation area is relatively flat combined with the area being underlain by soil that typically have a low erosive factor. Regardless of the potential for erosion, there is always the potential for human caused erosion associated with construction activities or through the operational phase of a project. Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities temporarily expose soils and increase the potential for soil erosion and sedimentation during rail events. Construction activities can also result in soil compaction and wind erosion effects that can adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.5-1 requires an approved SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are existing regulatory requirements. Implementation of Mitigation Measure 3.5-1 would ensure that the proposed project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure 3.5-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These*

BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Lathrop and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.

Impact 3.5-3: The proposed project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse (less than significant with mitigation)

Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, and uniformly graded, fine-grained sands. The San Joaquin County General Plan indicates that areas within the county most susceptible to liquefaction include the Lathrop planning area. Additionally, soil data from the NRCS Web Soil Survey (NRCS 2013b) also suggests a potential for liquefaction on the project site due to the high percentage of sand content of the soil.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. The project site is essentially flat. Due to the lack of slopes in the project area the potential for lateral spreading is considered low.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The project site and the surrounding areas are essentially flat with a minor elevation gain of approximately three feet; therefore, the potential for a landslide on the project site is non-existent.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. The project area has not been identified by the City of Lathrop or San Joaquin County General Plans as containing collapsible soils.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has not been identified in the Lathrop General Plan as an issue in the Lathrop area.

Conclusion

The project site does not have a significant risk of becoming unstable as a result landslide, lateral spreading, or soil collapse. However, the project site may contain soils that are susceptible to liquefaction and settling. The City of Lathrop requires a final geotechnical evaluation to be performed at a design-level to ensure that the foundations, structures, roadway sections, sidewalks, and other improvements can accommodate the specific soils. The following Mitigation Measure, provides the requirement for a final geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures.

MITIGATION MEASURES

Mitigation Measure 3.5-2*: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils, liquefaction and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage outfall and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

Impact 3.5-4: Potential for expansive soils to create substantial risks to life or property (less than significant)

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change. Soil expansion potential is rated as a percent with soils having a (Low <3%), (Moderate 3-6%), (High 6-9%), and (Very High ≥9%) expansion potential. According to the *Custom Soils Report*, the soils that underlay the Pilot Flying J project site have a very low shrink-swell potential (1.5%). Therefore, implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

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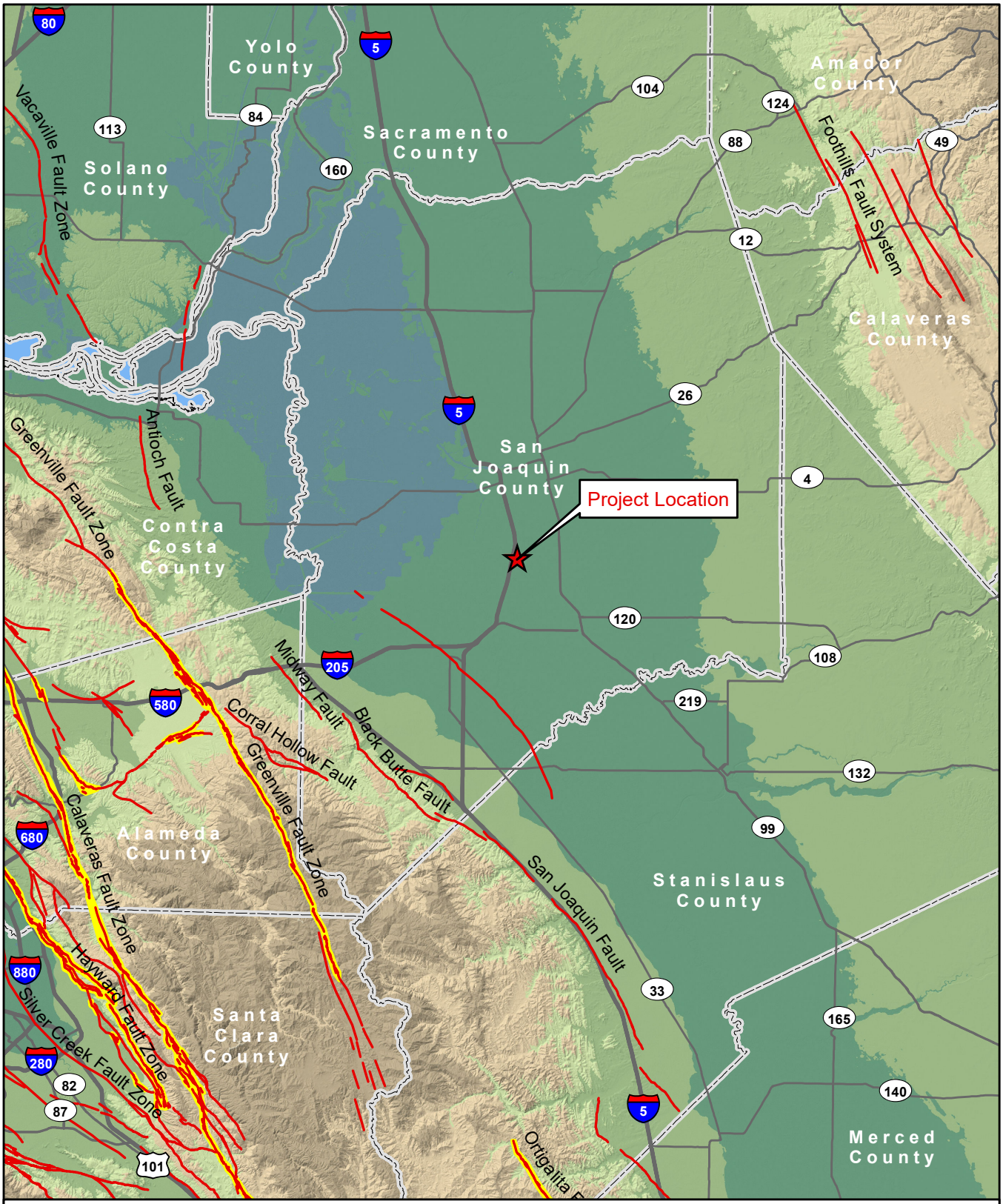

PILOT FLYING J TRAVEL CENTER

Figure 3.5-1: Earthquake Fault Zone Map

Legend

- Quaternary Faults
- Alquist-Priolo Fault Zones

0 3 6
Miles

Data sources: US Geological Survey; San Joaquin County GIS.
Map date: December 3, 2015.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section discusses regional greenhouse gas (GHG) emissions and climate change impacts that could result from implementation of the proposed project. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG and climate change impacts in this section focuses on the project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed project.

3.6.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2005, concentrations of these three greenhouse gases have increased globally by 36, 148, and 18 percent, respectively (IPCC 2007)[1].

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, commercial, and agricultural sectors (California Air Resources Board, 2012)[2]. In California, the

1 Intergovernmental Panel on Climate Change. 2007. "Climate Change 2007: The Physical Science Basis, Summary for Policymakers."
http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm

[2] California Air Resources Board. 2012. "Greenhouse Gas Inventory Data, 2000-2009.
http://www.arb.ca.gov/cc/inventory/data/data.htm

transportation sector is the largest emitter of GHGs, followed by electricity generation (California Air Resources Board, 2012).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 492 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2004 (California Energy Commission 2006a)[3]. By 2020, California is projected to produce 507 $MMTCO_2e$ per year.[4]

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2008, accounting for 36.9% of total GHG emissions in the state (California Air Resources Board, 2012). This category was followed by the electric power sector (including both in-state and out of-state sources) (24.8%) and the industrial sector (21.1%) (California Air Resources Board, 2012).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. The snowpack portion of the supply could potentially decline by 70% to 90% by the end of the 21st century (Cal EPA 2006)[5]. This phenomenon could lead to significant challenges securing an adequate water

3 California Energy Commission. 2006a. Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004. http://www.arb.ca.gov/cc/inventory/archive/archive.htm

4 California Air Resources Board. 2010. "Functional Equivalent Document prepared for the California Cap on GHG Emissions and Market-Based Compliance Mechanisms."

5 California Environmental Protection Agency, Climate Action Team. 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature.
http://www.climatechange.ca.gov/climate_action_team/reports/

supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (Cal EPA 2006). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (Cal EPA 2006). As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (Cal EPA 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90^{o}F in Los Angeles and 95^{o}F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply. Global warming is also

projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large of wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that ultimately result in global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Approximately 71 percent of the electrical power needed to meet California's demand is produced in the state. Approximately 29 percent of its electricity demand is imported from the Pacific Northwest and the Southwest (California Energy Commission, 2012)[6]. In 2010, California's in-state generated electricity was derived from natural gas (53.4 percent), large hydroelectric resources (14.6 percent), coal (1.7 percent), nuclear sources (15.7 percent), and renewable resources that include geothermal, biomass, small hydroelectric resources, wind, and solar (14.6 percent) (California Energy Commission, 2012).

6 California Energy Commission (2012). Energy Almanac. Retrieved August 2012, from http://energyalmanac.ca.gov/overview/index.html

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (California Energy Commission Energy Almanac, 2012). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010.

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2009, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (The World Factbook 2009, Washington, DC: Central Intelligence Agency, 2009). The transportation sector relies heavily on oil. In California, petroleum based fuels currently provide approximately 96 percent of the state's transportation energy needs (California Energy Commission, 2012).

Natural Gas/Propane

The state produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012).

3.6.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor National Ambient Air Quality Standards (NAAQS) vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Intermodal Surface Transportation Efficiency Act (ISTEA)

ISTEA (49 U.S.C. § 101 et seq.) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations (MPOs), such as SACOG, were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan

area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

SAFETEA-LU (23 U.S.C. § 507), renewed the Transportation Equity Act for the 21st Century (TEA-21) of 1998 (23 U.S.C.; 49 U.S.C.) through FY 2009. SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit. SAFETEA-LU addressed the many challenges facing our transportation system today—such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment—as well as laying the groundwork for addressing future challenges. SAFETEA-LU promoted more efficient and effective federal surface transportation programs by focusing on transportation issues of national significance, while giving state and local transportation decision makers more flexibility to solve transportation problems in their communities. SAFETEA-LU was extended in March of 2010 for nine months, and expired in December of the same year. In June 2012, SAFETEA-LU was replaced by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which will take effect October 1, 2012.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The federal government's goal is to reduce the greenhouse gas (GHG) intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, the EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publically available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

Assembly Bill 1493

In response to AB 1493, CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with the state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan – Executive Order #S-06-06

Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Assembly Bill 32- Climate Change Scoping Plan

On December 11, 2008 ARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of ARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO_2e emissions by 169 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO_2e under a business-as-usual scenario. (This is a reduction of 42 MMT CO_2e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions ARB recommends for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e), and
- a renewable portfolio standard for electricity production (21.3 MMT CO_2e).

California Strategy to Reduce Petroleum Dependence (AB 2076)

In response to the requirements of AB 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce petroleum dependence in California. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non- petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Climate Action Program at Caltrans

The California Department of Transportation, Business, Transportation, and Housing Agency, prepared a Climate Action Program in response to new regulatory directives. The goal of the Climate Action Program is to promote clean and energy efficient transportation, and provide guidance for mainstreaming energy and climate change issues into business operations. The overall approach to lower fuel consumption and CO_2 from transportation is twofold: (1) reduce congestion and improve efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems; and (2) institutionalize energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

The reasoning underlying the Climate Action Program is the conclusion that "the most effective approach to addressing GHG reduction, in the short-to-medium term, is strong technology policy and market mechanisms to encourage innovations. Rapid development and availability of alternative fuels and vehicles, increased efficiency in new cars and trucks (light and heavy duty), and super clean fuels are the most direct approach to reducing GHG emissions from motor vehicles (emission performance standards and fuel or carbon performance standards)."

Governor's Low Carbon Fuel Standard (Executive Order #S-01-07)

Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by CARB pursuant to AB 32.

Senate Bill 97 (SB 97)

Senate Bill 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

Sen. Bill No. 375 (Stats. 2008, ch. 728) (SB 375) was built on AB 32 (California's 2006 climate change law). SB 375's core provision is a requirement for regional transportation agencies to develop a Sustainable Communities Strategy (SCS) in order to reduce GHG emissions from passenger vehicles. The SCS is one component of the Regional Transportation Plan (RTP).

The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing GHG emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farmlands.

Additionally, SB 375 modified the state's Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and the Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans.

Finally, SB 375 amended the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to ease the environmental review of developments that help reduce the growth of GHG emissions.

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. On January 1, 2010, the California Building Standards Commission adopted CALGreen and became the first state in the United States to adopt a statewide green building standards code. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials.

CEQA Guidelines Appendix F

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. The goal of conserving energy implies the wise and efficient use of energy.

LOCAL

San Joaquin Valley Air Pollution Control District Climate Change Action Plan

In August 2008, the San Joaquin Valley APCD adopted its Climate Change Action Plan. The Climate Change Action Plan directed the SJVAPCD's Air Pollution Control Officer to develop guidance to assist APCD staff, Valley businesses, land use agencies and other permitting agencies in addressing GHG emissions as part of the CEQA process. Regarding CEQA guidance, some of the goals of the Climate Change Action Plan are to assist local land use agencies, developers and the public by identifying and quantifying GHG emission reduction measures for development projects and by providing tools to streamline evaluation of project-specific GHG effects, and to assist Valley businesses in complying with State law related to GHG emissions.

A product of this direction to provide CEQA guidance is the Final Staff Report – Climate Change Action Plan: Addressing GHG Emissions Impacts, presented to the APCD Board in December 2009. A central component of the Final Staff Report is the establishment of Best Performance Standards, which are specifications or project design elements that identify effective, feasible GHG emission

reduction measures. Emission reductions achieved through Best Performance Standards implementation would be pre-quantified, thus negating the need for project-specific quantification of GHG emissions.

For projects not implementing Best Performance Standards, demonstration of a 29% reduction in GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact. Appendix J of the Final Staff Report provides a table of GHG emission reduction measures for development projects, along with a point value that corresponds to a percentage decrease in GHG emissions when available.

2014 Regional Transportation Plan/Sustainable Communities Strategy

The 2014 San Joaquin County Regional Transportation Plan, which has been named "Valley Visions San Joaquin," will be the first Regional Transportation Plan in San Joaquin County to contain a Sustainable Communities Strategy (SCS), the result of the Sustainable Communities and Climate Protection Act of 2008 (i.e., SB-375). The SCS will coordinate future transportation investments and land use strategies to prioritize a multi-modal investment plan covering a 27-year period extending out to 2040.

The RTP is a long-range transportation plan that guides the region's transportation improvements over a minimum of 20-years and is updated every four. Using growth forecasts and economic trends projected out over study timeframe, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address our mobility needs. The 2014 RTP will address all transportation modes including motor vehicles, transit (commuter and local), rail (commuter and inter-regional), goods movement (rail, truck, and water), bicycle and pedestrian facilities, aviation systems, transportation systems management (TSM) and transportation demand management (TDM) programs, and other projects considered over the planning horizon of 2040. Regional transportation improvement projects proposed to be funded, in whole or in part, in the state transportation improvement program must be included in the adopted RTP.

The eight counties of the San Joaquin Valley are coordinating on some aspects of these planning efforts to maximize resources, with each area's Metropolitan Planning Organization (MPO) developing a separate plan. MPOs are responsible for setting transportation policy and priorities for a region and documenting how transportation funds will be spent in a Regional Transportation Plan. Specifically, the San Joaquin County SCS will:

- Identify the general location of uses, residential densities, and building intensities within the region
- Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region
- Gather and consider the best practically available scientific information regarding resource areas and farmland in the region
- Set forth a forecasted development pattern for the region
- Identify areas within the region sufficient to house all the population of the region

- Identify a transportation network to service the transportation needs of the region
- Quantify the reduction in greenhouse gas emissions projected to be achieved by the SCS

The Greenhouse Gas Reduction Targets for the 2014 San Joaquin County Regional Transportation Plan are as follows:

- 5% - per capita reduction from 2005 levels by 2020
- 10%--per capita reduction from 2005 levels by 2035

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to greenhouse gas emissions in the General Plan:

RESOURCES MANAGEMENT ELEMENT

Air Quality Policies:

Policy 1. Mitigation of air quality impacts is to be achieved in part through the design and construction of an efficient system of arterial and collector streets and interchange and freeway improvements that will assure high levels of traffic service and the avoidance of unmanageable levels of traffic congestion.

Policy 2. Mitigation of air quality impacts is to be achieved in part through the development of a regional rail transit service to be incorporated into early stages of development.

Policy 3. The City shall adopt standards, which require industrial process analysis before the fact of site and building permit approval to assure compliance with State air quality and water quality standards.

Standards shall provide for periodic monitoring of industrial processes, which could have an adverse impact on water or air quality. Industrial process review that may be required should be conducted as part of environmental assessment by an engineer licensed in California having demonstrated experience in the industrial processes involved.

Policy 4. The City shall require positive control of dust particles during project construction activities, including watering or use of emulsions, parking of heavy equipment on paved surfaces, prohibition of land grading operations during days of high wind (beginning at 10 mph, with gusts exceeding 20 mph), and prohibition of burning on vacant parcels. The City should seek the cooperation of agricultural operators to refrain from the plowing of fields on windy days, and to keep loose soils under control to the extent reasonable to avoid heavy wind erosion of soils.

Policy 5. The beneficial effects of open space and vegetation on the air resource are to be reflected in the arrangement of land uses depicted on the General Plan. Heavy plantings of trees are encouraged to assist in maintaining oxygen levels.

Policy 6. The need to protect and preserve the air resource within the planning area and to reduce levels of vehicle emissions of air pollutants imposes practical limitations on the extent to which the City can depend on the automobile as the principal source of transportation into the next Century.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed project would do any of the following:

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

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In accordance with AB 32, the City of Lathrop, as lead agency, has prepared a quantitative GHG analysis for the proposed project in order to demonstrate that the project would reduce the project's GHG emissions from Business as Usual (BAU) levels by 29 percent, in accordance with the guidance from the SJVAPCD for analyzing GHG emissions.

The City of Lathrop, as lead agency, has chosen to utilize a threshold of significance for GHG emissions based on the guidance from the SJVAPCD that a development project must show a minimum GHG emission reduction of 29 percent from projected 2005 Business as Usual (BAU) levels by the year 2020. The BAU level is the 2005 scenario, which corresponds to the development of the proposed project before AB 32 was enacted. The BAU levels does not assume the use of Pavely and Low Carbon fuels, which is a result of legislation after AB 32. Thus, the project's BAU levels were evaluated in order to determine the net decrease in GHG emissions over time.

Using this methodology, if the proposed project does not show a 29 percent reduction from projected BAU levels compared to the project's estimated 2020 levels, the project would be considered to be inconsistent with the guidance provided by the SJVAPCD for reducing GHG emissions within the Air Basin. GHG emission reduction measures could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation recommendations from the Office of the Attorney General, and project design features.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Significant and Unavoidable)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

The proposed project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2013.2.2). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e$), based on the global warming potential of the individual pollutants.

Short-Term Construction GHG Emissions: Estimated increases in GHG emissions associated with construction of the proposed project are summarized in Table 3.6-1.

TABLE 3.6-1: CONSTRUCTION GHG EMISSIONS (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
2016	0.0000	595.4804	595.4804	0.0923	0.0000	597.4194
2017	0.0000	26.3199	26.3199	6.4900e-003	0.0000	26.4562
Total	0.0000	621.8003	621.8003	0.0988	0.0000	623.8756

SOURCES: CALEEMOD (V.2013.2.2)

As presented in the table, the total short-term construction emissions of GHG associated are estimated to be 623.8 $MTCO_2e$. This represents a low of 26.45 and a high of 597.41 $MTCO_2e$ emitted during each of the construction years (2016 through 2017). These construction GHG emissions are a one-time release and are comparatively much lower than emissions associated with operational phases of a project. Cumulatively, these construction emissions would not

generate a significant contribution to global climate change as they will not continue to occur into the future.

Long-Term Operational GHG Emissions: The long-term operational GHG emissions estimate for the proposed project incorporates the potential area source and vehicle emissions, and emissions associated with utility and water usage, and wastewater and solid waste generation. The modeling included mitigation inputs for the year 2020 including the following:

Traffic Mitigation

- Improve Pedestrian Network so that the project site connects to offsite pedestrian networks.

Estimated GHG emissions associated with the proposed project in 2020 with and without the above mitigation incorporated are summarized in Table 3.6-2 and 3.6-3. As shown in the table, the annual 2020 GHG emissions associated with the proposed project would be 3,182.01 $MTCO_2e$ with the above referenced mitigation incorporated and 3,234.52 without mitigation. The mitigation results in a decrease of 52 $MTCO_2e$.

TABLE 3.6-2: OPERATIONAL GHG EMISSIONS 2020 (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.0000	3.3600e-003	3.3600e-003	1.0000e-005	0.0000	3.5500e-003
Energy	0.0000	76.6231	76.6231	3.2400e-003	7.9000e-004	76.9372
Mobile	0.0000	3,133.7876	3,133.7876	0.1279	0.0000	3,136.4735
Waste	7.9370	0.0000	7.9370	0.4691	0.0000	17.7872
Water	0.3057	2.1183	2.4241	0.0315	7.6000e-004	3.3215
Total	**8.2427**	**3,212.5324**	**3,220.7751**	**0.6317**	**1.5500e-003**	**3,234.5229**

SOURCES: CALEEMOD (V.2013.2.2)

TABLE 3.6-3: OPERATIONAL GHG EMISSIONS 2020 (MITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.0000	3.3600e-003	3.3600e-003	1.0000e-005	0.0000	3.5500e-003
Energy	0.0000	76.6231	76.6231	3.2400e-003	7.9000e-004	76.9372
Mobile	0.0000	3,081.3080	3,081.3080	0.1264	0.0000	3,083.9628
Waste	7.9370	0.0000	7.9370	0.4691	0.0000	17.7872
Water	0.3057	2.1183	2.4241	0.0315	7.6000e-004	3.3210
Total	**8.2427**	**3,160.0528**	**3,168.2955**	**0.6302**	**1.5500e-003**	**3,182.0117**

SOURCES: CALEEMOD (V.2013.2.2)

The significance thresholds for GHG emissions should be related to compliance with the SJVAPCD guidance, and the City of Lathrop, as lead agency, has chosen to utilize a threshold of significance for GHG emissions based on the guidance from the SJVAPCD that a development project must show a minimum GHG emission reduction of 29 percent from projected Business as Usual (BAU) levels (i.e., 2005 scenario) by the year 2020. Thus, the proposed project's Business as Usual levels

were evaluated in order to determine the net decrease in the project's GHG emissions over time. Table 3.6-4 presents the projected BAU GHG emissions, which are estimated to be 4,552.77 MTCO2e.

TABLE 3.6-4: OPERATIONAL GHG EMISSIONS BUSINESS AS USUAL (UNMITIGATED METRIC TONS/YR)

	Bio- CO_2	*NBio- CO_2*	*Total CO_2*	*CH_4*	*N2O*	*CO_2e*
Area	0.0000	3.3600e-003	3.3600e-003	2.0000e-005	0.0000	3.6900e-003
Energy	0.0000	76.6231	76.6231	3.2400e-003	7.9000e-004	76.9372
Mobile	0.0000	4,441.7872	4,441.7872	0.6162	0.0000	4,454.7264
Waste	7.9370	0.0000	7.9370	0.4691	0.0000	17.7872
Water	0.3057	2.1183	2.4241	0.0315	7.6000e-004	3.3215
Total	**8.2427**	**4,520.5320**	**4,528.7747**	**1.1200**	**1.5500e-003**	**4,552.7760**

SOURCES: CALEEMOD (V.2013.2.2)

Consequently, the proposed project would result in approximately a 30.1 percent reduction in annual GHG emissions from the BAU level by 2020 ([4,552.7760 MTCO2e – 3,182.0117 MTCO2e] / 4,552.7760 MTCO2e x 100% = 30.1%). As shown in the tables above, mobile sources contribute greatly to the projects overall emissions. The reduction in GHG emissions would be attributable to the traffic mitigation model inputs as well as the advancement of vehicle and equipment efficiency, and more stringent standards and regulations as time progresses, such as State regulation emission reductions (e.g., Pavley, Low Carbon Fuel Standard, and Renewable Portfolio Standard). It should be noted that although a reduction related to such attributes would occur for every development project, CalEEMod takes into consideration how much of each attribute is applied for each specific project based on the size of the project and associated land uses.

Conclusion: As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the project. With the implementation of the following mitigation measure, the overall annual GHG emissions associated with the proposed project would be reduced by over 30.1 percent by the year 2020, consistent with applicable standards and thresholds of a 29 percent reduction established by the SJVAPCD guidance. Because the proposed project would meet the City's 29 percent minimum reduction threshold, the project would not conflict with the SJVAPCD's guidance or policies related to GHG emission reductions.

As previously discussed, the Final Staff Report for the SJVAPCD's Climate Change Action Plan provides a table of GHG emission reduction measures for development projects, along with a point value that corresponds to a percentage decrease in GHG emissions when available. According to the Final Staff Report, projects achieving a 29% reduction in GHG emissions would be determined to have a less than significant individual and cumulative impact for GHG emissions. The percentage reduction is consistent with the GHG reduction percentage sought by the state's Scoping Plan. As discussed, the GHG emission reductions anticipated for the proposed project would be 30.1%. Therefore, the proposed project would be consistent with the reduction target set in the Climate Change Action Plan, and would be consistent with the reduction targets established by the Scoping Plan and the SJVAPCD. Implementation of the proposed project would not conflict with any

applicable plan, policy, or regulation related to GHG reduction, and impacts related to GHG emissions and global climate change.

While the modeling shows that the proposed project would be consistent with the guidance provided by the SJVAPCD for GHG reduction, implementation of the proposed project will still generate GHG emissions that wouldn't otherwise exist without the proposed project. The construction emissions would be a short-term and one-time release totaling 623.88 CO_2e. The operational emissions would be a long-term release totaling 3,182.01 CO_2e. The City of Lathrop must weigh the economic and social benefits of development against the environment impacts associated with development. The City of Lathrop's planning efforts included targeted growth that accommodates the economic and social needs of the community, while recognizing and seeking to mitigate environmental impacts when growth occurs. The City of Lathrop's planning efforts are provided in the City's General Plan, which has specifically designated the project site for uses consistent with the proposed project. The proposed project has incorporated mitigation measures that are intended to reduce emissions to the extent feasible. The State continues to implement measures that are intended to reduce emissions on a State-wide scale (i.e. vehicle fuel efficiency standards in fleets, low carbon fuels, etc.) that are consistent with AB 32. These types of State-wide measures will benefit the proposed project (and City as a whole) in the long-term as they come into effect; however, the City does not have the jurisdiction to create far reaching (i.e. State-wide) measures to reduce GHG emissions. On a project-by-project case, the City of Lathrop evaluates a project and the potential to impose project-specific mitigation, which has been done through this GHG analysis. However, because the project would result in a net increase in CO_2e emissions even with mitigation measures incorporated into the project, it would result in a **significant and unavoidable** impact.

MITIGATION MEASURES

Mitigation Measure 3.5-1*: Ensure that the pedestrian network within the proposed annexation area connects to offsite pedestrian networks. Project frontage improvements shall be included to ensure the project is consistent with citywide street design standards and planed nearby circulation improvements.*

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The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the project area and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials during construction and operation of the proposed project. This section is based in part on the following documents: *Comprehensive General Plan for the City of Lathrop* (City of Lathrop 2004), and *General Plan Environmental Impact Report* (City of Lathrop 1991). No comments were received during the NOP review period regarding hazards and/or hazardous materials.

3.7.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location

The project site is located in north of Roth Road and approximately 1,000 feet east of Interstate 5 (I-5), and is bordered to the east by the existing Union Pacific Railroad (UPRR) tracks. Figures 2-1 and 2-2 in Section 2.0 show the project's regional location and vicinity. The project site includes approximately 9 acres of land located on the eastern portion of an approximately 24 acre parcel (Assessors Partial Number (APN) 193-330-30, the "project parcel"), as described in Section 2.0.

Existing Site Uses

The proposed site of the Pilot Flying J Travel Center currently consists of undeveloped land that is used as a trailer storage area. Figure 2-4 in Section 2.0 shows aerial imagery of the proposed annexation area (including the Pilot Flying J project site). The western portion of the approximately 24 parcel on which the 9 acre Pilot Flying J project site is located includes a commercial truck repair, storage, and sales facility (Papé Kenworth).

Existing Surrounding Uses

Uses Immediately adjacent to the project parcel include: truck sales storage and service establishments to the north and northwest, a service station, and truck tire sales and repair facility to the southwest, a pet food processing and distribution facility to the south, and the Union Pacific Rail lines to the east.

Site Topography

The Pilot Flying J project site is relatively flat with elevations ranging from 21 to 26 feet above sea level.

HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.
- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

Adjoining Properties

The areas located north, south, and west of the Pilot Flying J project site are largely industrial and commercial businesses. The areas located east of the project site include the UPRR tracks and residential areas further east across the UPRR tracks.

Site Reconnaissance

Site reconnaissance was conducted by De Novo Planning Group on November 18th 2015. The site was observed to be currently used as a storage area for truck trailers and shipping containers. The property has been used for equipment storage since the 2004. No indication of spillage or staining was observed. However, because numerous trailers and shipping containers were present onsite much of the ground surface was not available for inspection.

Historical Use Information

Historical information was reviewed to develop a history of the previous uses on the proposed Pilot Flying J project site and surrounding area, in order to evaluate the Plan Area and adjoining properties for evidence of Recognized Environmental Conditions. Standard historical sources reviewed during the preparation of this report included the following, as available:

AERIAL PHOTOGRAPHS

Aerial photographs of the proposed Pilot Flying J project site and general vicinity were reviewed. The Pilot Flying J project site has been used for agricultural purposes up to the late 1990s. From 2002 to present, the eastern portion of the project site has remained vacant of structures and has been used primarily for the storage of truck trailers and shipping containers.

ENVIRONMENTAL RECORDS

De Novo Planning Group performed a search of local, state, and federal agency databases for the proposed annexation area and known contaminated sites in the vicinity. No parcels in the proposed annexation area (including the Pilot Flying J project site) were found to contain any known contamination.

The EPA Toxic Release Inventory (TRI) does not list data on disposal or other releases of toxic chemicals in the project area. (USEPA 2015). The nearest TRI site is located across Roth Road at 342 Roth Road approximately 0.2 miles south of the Pilot Flying J project site.

The CA Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. There are no sites listed in the database within the proposed annexation area. See Table 3.7-2 for a complete list of active sites within the City of Lathrop.

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. The proposed annexation area does not have any active or planned solid waste facilities listed in the database.

None of the records reviewed for the project area indicates that a Recognized Environmental Condition is associated with the proposed annexation area (including the Flying J project site).

DATABASES

There is a broad list of federal and state database that provide information for sites with varying potential for risk from the possible existence of hazardous materials. There are numerous redundancies among these various database listings. Below is a brief summary of each.

National Priorities List: The National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites is EPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas. The proposed annexation area is not listed in this database.

RCRIS System: The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. The proposed annexation area is not listed in this database.

CERCLIS Data: Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) is an EPA database that contains information on potential hazardous waste sites that have been reported to EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of CERCLA. CERCLIS contains sites that are either proposed for or on the NPL, as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The proposed annexation area is not listed in this database.

CORRACTS: Corrective Action Report (CORRACTS) is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity. The proposed annexation area is not listed in this database.

PADS System: PCB Activity Database System (PADS) is an EPA database that identifies generators, transporters, commercial storers, and/or brokers and disposers of polychlorinated biphynels (PCBs) who are required to notify EPA of such activities. The proposed annexation area is not listed in this database.

Cortese Database: The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks (USTs) having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (CAL-EPA) and are found in the EPA's GeoTracker database. The proposed annexation area is not listed in this database.

LUST Reports: The Leaking Underground Storage Tank (LUST) Incident Reports contain an inventory of reported leaking underground storage tank incidents. This information comes from the State Water Resources Control Board Leaking Underground Storage Tank Information System (LUSTIS). The Plan Area is not listed in this database. The nearest LUST site is located immediately north of the proposed annexation area at 10842 Harlan Road. The LUSTIS database indicates that the cleanup status is completed and that the case is closed (RB Case #: 391172, Loc Case #: 0001685).

UST Database: The Underground Storage Tank (UST) database lists registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The UST information comes from the State Water Resources Control Board's Hazardous Substance Storage Container Database. The proposed annexation area is not listed in this database. The nearest UST site is located immediately north of the project site at 10842 Harlan Road.

HIST UST Sites: The Hazardous Substance Storage Container Database is a historical listing of UST sites. The data source is the State Water Resources Control Board. The proposed annexation area is not listed in this database.

CA FID Information: The Facility Inventory Database (CA FID) lists active and inactive underground storage tank locations. This database is maintained by the State Water Resources Control Board. The proposed annexation area is not listed in this database.

Hazardous Material Sites

As noted above, the State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by the state, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements for providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to annually update the Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

GeoTracker is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Searches of the above resources and records

identified 41 active hazardous material sites in the City of Lathrop known to handle and store hazardous materials that are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping. Table 3.7-1 displays the known hazardous material sites in the City with a description of the hazards provided. Additionally, Table 3.7-2 displays the known hazardous material sites in San Joaquin County that are located within one-mile of the Pilot Flying J project site with a description of the hazards provided. No known hazardous sites are associated with the proposed annexation area. Several open cases are located near the Pilot Flying J project site including the Defense Distribution San Joaquin Ca-Sharpe located approximately one-quarter mile south of the project site in the City of Lathrop, and H & M Transport located one-quarter mile east of the project site within San Joaquin County.

TABLE 3.7-1: GEOTRACKER KNOWN ACTIVE HAZARDOUS MATERIAL RELEASE SITES IN THE CITY OF LATHROP

SITE NAME	*TYPE*	*CLEANUP STATUS*	*ADDRESS*
Carpenter Company Inc	LUST	Open	17100 Harlan Rd
Arco Station #6080	LUST	Open	85 Louise Ave
A & W Farms	LUST	Open	12965 Manthey Rd
Two Guys Food & Fuel	LUST	Open	147 Lathrop Rd
Super Store Industries	LUST	Open	16888 Mckinley Ave
Lathrop Chevron	LUST	Open	140 Lathrop Rd
Tower Mart #104	LUST	Open	192 Lathrop Rd
Defense Distribution San Joaquin Ca-Sharpe - *	Military	Open – Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – P-1a *	Military	Open – Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – P-1b *	Military	Open – Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – P-1c *	Military	Open – Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – P-5a *	Military	Open – Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – S-33/29 *	Military	Open – Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Groundwater Potable Supply *	Military	Open – Site Assessment	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – P-1g *	Military	Open – Remediation	Roth Road
Lathrop Agri Chemical Plant	Land Disposal	Open	16777 Howland
Lathrop Facility *	Land Disposal	Open	342 Roth
J.R. Simplot Company	Other, DTSC Cleanup Site	Open – Site Assessment	16777 Howland Road
Libbey-Owens-Ford – Lathrop Plant	Other	Open – Site Assessment	500 East Louise Ave
Occidental Chemical Agricultural Products Company	Other	Open – Remediation	16777 Howland Road
Channel Construction Along Shulte Road	Other	Open – Inactive	Shulte Road
D'arcy Parkway Road Extension*	Other	Open – Inactive	400-500 D'arcy Prkwy.
Hayre's Egg Producers	LUST	Open – Inactive	12565 S. Manthey Road
Lague Sales Salvage Yard	Other	Open – Inactive	2112 East Louise Ave.
Monierlife Tile *	Land Disposal	Open	342 Roth Road
J. R. Simplot Company	Other	Open – Verification Monitoring	16777 Howland Rd S
Phillips 66	LUST	Open – Eligible For Closure	16500 S. Harlan Road

SITE NAME	*TYPE*	*CLEANUP STATUS*	*ADDRESS*
Defense Distribution San Joaquin Ca-Sharpe – Site #12 Ust *	DTSC Cleanup Site	Open – Verification Monitoring	850 Roth Rd E
Circle-K #1205	LUST	Open – Verification Monitoring	16470 Cambridge Rd
Defense Distribution San Joaquin Ca-Sharpe – Groundwater Extraction Systems *	Military	Open – Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Groundwater Monitoring Reports *	Military	Open – Remediation	300 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – S-26 *	Military	Open – Remediation	Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – S-03 *	Military	Open – Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – S-30 *	Military	Open – Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Ou-2 – S-36 *	Military	Open – Remediation	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Bldg #271 *	Military	Open – Verification Monitoring	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Site#147 *	Military	Open – Verification Monitoring	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Site #07 *	Military	Open – Verification Monitoring	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Former Fueling Station *	Military	Open – Verification Monitoring	850 Roth Road
Defense Distribution San Joaquin Ca-Sharpe – Mw326 Cluster Source Area *	Military	Open – Site Assessment	Roth Road

SOURCE: SWRCB, GEOTRACKER, 2015

Note: LUST = Leaking Underground Storage Tank, DTSC = California Department of Toxic Substances Control. * site within ½ mile of project site.

TABLE 3.7-2: GEOTRACKER KNOWN ACTIVE HAZARDOUS MATERIAL RELEASE SITES IN SAN JOAQUIN COUNTY

SITE NAME	*TYPE*	*CLEANUP STATUS*	*ADDRESS*
H & M Transport	Cleanup Program Site	Open Site Assessment	707 East Roth Rd

SOURCE: SWRCB, GEOTRACKER, 2015

TABLE DESCRIBES SJC OPEN SITES WITHIN ONE-MILE OF PROJECT SITE NOT ALL COUNTY SITES

In addition to sites listed above, the proposed annexation area and the surrounding areas have several identified monitoring wells. No data has been submitted to the SWRCB for onsite and nearby monitoring wells. Monitoring wells identified are related to the Military Cleanup Site Defense Distribution San Joaquin Ca-Sharpe for groundwater monitoring of contaminate plumes form past operations.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Lathrop Planning Area is subject to various federal, state, and local regulations. The only roadway and transportation route approved for the transportation of explosives, poisonous inhalation hazards, and radioactive materials in the City of Lathrop Planning Area is Interstate 5.

In addition to area roadways, hazardous materials are routinely transported on Union Pacific Railroad lines that are make up the eastern boundary of the site. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of

Transportation Federal Railroad Administration found the UPRR company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001% chance of an accident. Risk of a railroad accident containing hazardous materials is considered much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The Union Pacific Railroad Company does implement a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

3.7.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the Environmental Protection Agency (EPA), Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Federal Hazardous Materials Transportation (HMT) Act

The United States Department of Transportation (DOT), along with the Federal Highway Administration and the Federal Railroad Administration, regulate the transportation and handling of hazardous materials through the Federal Hazardous Materials Transportation (HMT) Act and through the Resource Conservation and Recovery Act (RCRA). Through these regulations, Congress directed the United States Environmental Protection Agency (EPA) to create regulations to manage hazardous materials from "the cradle to the grave." Under this mandate, the EPA developed strict requirements for all aspects of hazardous materials management, including the treatment, storage, and disposal of hazardous substances. In addition to those federal requirements, states may develop more stringent requirements that are broader in scope than the federal regulations. In California, the California Department of Transportation (Caltrans) implements and the California Highway Patrol enforces these regulations. Carriers that violate these regulatory requirements subject themselves to possible civil and criminal liability.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety

Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal-EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

California Vehicle Code

The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

LOCAL

City of Lathrop General Plan

The City of Lathrop General Plan (City GP) does not specifically address the potential for existing hazardous materials in the Plan Area, but includes policies to regulate the extent and location of land uses that may generate hazardous materials and other public health impacts. The following policies under the Safety Goals and Policies section of the City GP would apply to the proposed project:

Policy No. 4: The City will continue to maintain and update emergency service plans, including plans for managing emergency operations, the handling of hazardous materials and the rapid cleanup of hazardous materials spills.

Policy No. 6: The City will seek to reduce the risks and potential for hazards to the public through planning and zoning practices and regulations which avoid hazardous land use relationships, and by the continued and timely adoption of new-edition building and fire codes.

Certified Unified Program Agency (CUPA)

The Cal-EPAdesignates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The San Joaquin County Department of Environmental Health is the CUPA designated for San Joaquin County. The San Joaquin County Department of Environmental Health is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

San Joaquin County 2009 Airport Land Use Compatibility Plan and 1993 Stockton Airport Land Use Plan

The fundamental purpose of the ALUC is to carry out the statutory responsibilities required by Sections 21670 et seq. of the California Public Utilities Code (PUC). The statutes describe these responsibilities as being "to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports. The powers and duties of the ALUC are (as enumerated within PUC Section 21674):

- To prepare and adopt an airport land use compatibility plan for each of the airports within the commission's jurisdiction.
- To review the plans, regulations, and other actions of local agencies and airport operators pursuant to PUC Section 21676.
- To assist local agencies in ensuring compatible land uses in the vicinity of all new airports and in the vicinity of existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses.
- To coordinate planning at the state, regional, and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety, and welfare.

San Joaquin County Airport Land Use Commission (ALUC)

The San Joaquin Council of Governments Board of Directors serves as the Airport Land Use Commission (ALUC) for San Joaquin County. The ALUC provides for the appropriate development of the areas surrounding the public airports in San Joaquin County. Depending on location and

type, proposed new land uses need to conform to the guidelines stipulated in the Airport Land Use Compatibility Plan (ALUCP). It is the responsibility of ALUC staff to work collaboratively with the incorporated cities and the County of San Joaquin, developers, and the public at-large to ensure that consistency is maintained between local land-use decision making process and the strategic areas surrounding each of the public access airports.

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- 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.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Risks associated with private airstrips resulting in a safety hazard for people residing or working in the project area were identified as no impact in the Initial Study. This topic will not be discussed further in this EIR; please refer to the Initial Study for further information on this topic.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the

release of hazardous materials into the environment (less than significant with mitigation)

Construction Phase: Construction equipment and materials would likely require the use of petroleum based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials at a construction site will pose a reasonable risk of release into the environment if not properly handled, stored, and transported. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources. This is a potentially significant impact. Mitigation Measure 3.7-1 requires a Soils Management Plan (SMP) to be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading permit. The SMP will establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP must be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.

Past agricultural and farming operations on the project site may have used agricultural chemicals including pesticides and herbicides as a standard practice. Although no contaminated soils have been identified, residual concentrations of pesticides may be present in soil as a result of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides, in farm soils. Of highest concern relative to agrichemicals are chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE). This is a potentially significant impact. Mitigation Measure 3.7-2 requires soil sampling for residual concentrations of agrichemicals that may be present in soil as a result of historic agricultural application and storage.

No areas of stained gravel were observed on the project site during site visits in October of 2015, however due to the extensive coverage of the site with trailers and storage containers much of the surface was not visible. Because the project site has been used for trucks and trailer storage, there is a potential for these activities to release contaminates including fuels and oils or other contaminate possibly stored in containers. Therefore, this is considered a potentially significant impact.

The existing industrial operations on the project site could have resulted in contamination of soil in some locations. Mitigation Measure 3.7-2 requires a hazardous waste specialist to be engaged to assess any stained areas found on the soil before grading and construction activities commence.

Implementation of the following mitigation measures will ensure that these potential impacts are reduced to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.7-1*: A Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health prior to the issuance of a grading*

permit. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.

***Mitigation Measure 3.7-2**: Prior to the issuance of grading permits, the project proponent shall have a qualified hazardous waste specialist assess the site for surface staining and if staining is found to be present, perform soil sampling to 1) test for concentrations of commercial or industrial chemicals that may be present as a result of storage activities on the project site and 2) test for residual concentrations of agrichemicals that may be present in soil as a result of historic agricultural application and storage. The results of the soil sampling shall be submitted to the City's Community Development Department and San Joaquin County Department of Environmental Health. If evidence of contaminated soils at levels that pose a risk to construction personnel or future users of the project site are encountered during the assessment ,any contaminated areas shall be remediated by the project applicant to reduce potential exposure to construction personnel and future users of the site to acceptable levels in accordance with recommendations made by San Joaquin County Department of Environmental Health, Regional Water Quality Control Board, Department of Toxic Substances Control, or other appropriate federal, state, or local regulatory agencies.*

Operational Phase: The operational phase of the proposed project would occur after construction is completed and business operators and their employees and customers move in to occupy the facilities on a day-to-day basis.

The proposed project permits commercial uses that will store, use and possibly generate a variety of hazardous materials (e.g., diesel fuels and gasoline). There is a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices. Hazardous material would be required to be transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The San Joaquin County Department of Environmental Health is the CUPA for San Joaquin County and is responsible for the implementation of statewide programs within the Plan Area including Hazardous Materials Business Plan (HMP) requirements, among numerous other programs. Implementation of this program involves permitting, inspecting, providing education/guidance, investigations, and enforcement. Consistency with local, state, and federal regulations related to the transport, storage, use, and disposal of hazardous materials ensures that the potential risk of upset and accident conditions from a release is minimized to the extent practical.

The proposed project does not involve uses or operations that would allow for the manufacture of hazardous materials; however, hazardous materials will be present via shipping to and from the project area in route to their destination. The transport of these hazardous materials on area roadways are regulated by the California Highway Patrol and Caltrans. The San Joaquin County Agricultural Commissioner is responsible for regulating agrichemicals in San Joaquin County. Farmers are required by law to notify the Commissioner's Office related to their agrichemical use. Consistency with local, state, and federal regulations related to agrichemical use ensures that the potential risk of upset and accident conditions from a release is minimized to the extent practical.

Implementation of the following mitigation measure will ensure that business operators on the project site consult with the San Joaquin County Department of Environmental Health for education/guidance related to specific requirements that their businesses must implement in the day-to-day operations. This includes the establishment of management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. It also includes consultation related to specific permits that a business may require in order to operate (i.e. permits of underground storage tanks if they are part of the business). While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to reduce risk to acceptable levels. Adherence to existing regulations, including but not limited to Title 49 Code of Federal Regulations Parts 100-185 (Hazardous Materials Regulations), CCR Titles 8, 22, and 26, and their enabling legislation set forth in California Health and Safety Code Chapter 6.95, and San Joaquin County Department of Environmental Health Hazardous Materials Business Plan requirements, would ensure compliance with safety standards related to the use and storage of hazardous materials and with the safety procedures mandated by applicable federal, state, and local laws and regulations. Compliance with applicable laws and regulations through the implementation of established safety practices, procedures, and reporting requirements would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials, and hazardous material release associated with implementation of the proposed project would be reduce to a ***less than significant*** level relative to this environmental topic.

MITIGATION MEASURES

Mitigation Measure 3.7-3*: Prior to the commencement of a business operation that involves the transport, storage, use, or disposal of a significant quantity hazardous material within the project site, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the San Joaquin County Department of Environmental Health. The HMBP shall establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The areas shall be designed with spillage catchments such that any accidental spillage is prevented from entering waterways. The business owner shall also consult with the San Joaquin County Department of Environmental Health to ensure that the particular business operations are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.*

Railroad: The Union Pacific Railroad poses a small risk of accidental spill during transportation of hazardous materials. The Railroad is subject to compliance with state and federal regulations. The Union Pacific Railroad company has developed and implemented a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232):

Security Requirements for Offerors and Transporters of Hazardous Materials. This plan implements measures to reduce accidental spills, and assures that accidental spillages are remediated. These treatments would avoid significant safety risk to future employees and customers in the Plan Area as well as minimize harm to the environment. Therefore, this is a ***less than significant*** impact.

Impact 3.7-2: Potential to 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)

The proposed project is anticipated to have businesses and operations that would emit hazardous emissions including Diesel Particulate Matter (DPM), and gasoline vapors. Additionally, the proposed project would handle, use, and store hazardous materials onsite that are related to refueling operations.

However, there are no existing or planned schools within a quarter mile of the project area. The closest schools include Joseph Widmer, Jr. Elementary School (1.25 miles south), and Central Valley Christian Academy (1.25 miles northeast). Therefore, implementation of the proposed project would have **no impact** with regard to this environmental topic.

Impact 3.7-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (less than significant)

The information in this section is based reviews of historical land uses, and environmental hazards database research. There is a broad list of federal and state database that provide information for sites with varying potential for risk from the possible existence of hazardous materials. Database research concluded that the proposed annexation area (including the Flying J project site) is not located on a site compiled pursuant to Government Code Section 65962.5. Implementation of the proposed project would have a **less than significant** impact with regards to this environmental issue.

Impact 3.7-4: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area

In California, potential hazards to airport operations are generally regulated by the Federal Aviation Administration (FAA) (FAR Part 77), with local planning and evaluation of proposed projects (in terms of a proposed project's compatibility in relationship to air and ground operations and the safety of the public) under the authority of the Airport Land Use Commission.

The ALUC policies determines a project's compatibility with respect to the ALUCP and notifies the lead agency of its recommendation. Legislation passed in the 1994 ALUP Handbook requires that when preparing an environmental impact report for any project situated within an airport influence area as defined in an ALUC compatibility plan, lead agencies should utilize the California Airport Land Use Planning Handbook as a technical resource with respect to airport noise and

safety compatibility issues. The FAA also evaluates projects located within two miles of a public use airport, and other projects that may pose a potential hazard for people residing or working in the project area, due to height, visual hazard, or the attraction of wildlife. The proposed project development would not occur within 2 miles of a public airport or in the vicinity of private airstrips.

However, the project site is located within the Stockton Airport Influence Area (AIA). The San Joaquin Council of Governments (SJCOG) has developed Project Review Guidelines for the Airport Land Use Commission. Airspace review is required for objects greater than 100 feet tall within the AIA. Taller objects may be acceptable if determined not to be obstructions. Implementation of the proposed project includes the construction of one 110 ft. tall pole sign with LED lights (advertising for interstate traffic), and one 100 ft. tall monopole for site lighting. Ultimately the FAA and SJCOG (ALUP) will determine if the project signage structure is compatible with the ALUCP. Mitigation Measure 3.7-4 requires the project to comply with all ALUC and FAA regulations and determinations regarding the siting and height of the proposed structure. Therefore this potential impact is reduce to ***less than significant***.

MITIGATION MEASURES

Mitigation Measure 3.7-4: *Prior to design and site plan approval for the proposed project, the applicant shall provide the Community Development Director with FAA and ALUC determinations. If the height of any structure (signage, lighting, etc.) is determined to result in airspace obstructions, the maximum height shall be limited as recommended by the reviewing agencies.*

Impact 3.7-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (less than significant)

The Office of Emergency Services (OES) maintains an Emergency Operations Plan (EOP) that serves as the official Emergency Plan for San Joaquin County. It includes planned operational functions and overall responsibilities of County Departments during an emergency situation. The Emergency Plan also contains a threat summary for San Joaquin County, which addresses the potential for natural, technological and human-caused disasters (County Code, Title 4-3007).

The County OES also prepared a Hazardous Materials Area Plan (§2720 H&S, 2008) that describes the hazardous materials response system developed to protect public health, prevent environmental damage and ensure proper use and disposal of hazardous materials. The plan establishes effective response capabilities to contain and control releases, establishes oversight of long-term cleanup and mitigation of residual releases, and integrates multi-jurisdiction and agency coordination. This plan is now implemented by the San Joaquin County Environmental Health Department.

The San Joaquin County Environmental Health Department maintains a Hazardous Materials Management Plan/ Hazardous Materials Business Plan (HMMP/HMBP). The HMMP/HMBP describes agency roles, strategies and processes for responding to emergencies involving

hazardous materials. The Environmental Health Department maintains a Hazardous Materials Database and Risk and Flood Maps available to the public on its website.

In San Joaquin County, all major roads are available for evacuation, depending on the location and type of emergency that arises. The proposed project does not include any actions that would impair or physically interfere with any of San Joaquin County's emergency plans or evacuation routes. Implementation of the proposed project would not impair the City's ability to utilize its emergency evacuation routes. Circulation to and from the project site would be maintained, and applicable emergency services would be notified of road closures. Construction activities are not expected to result in any significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency. Therefore Implementation of the proposed project would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.7-6: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The proposed annexation area is not designated by the California Department of Forestry and Fire Protection (Cal Fire) as a Fire Hazard Severity Zone. In addition, the location of the site makes it readily accessible by emergency personnel and vehicles in the event of a wildland fire. Therefore, this impact would have a ***less than significant*** impact with regards to this environmental issue.

This section describes the regulatory setting, regional hydrology and water quality, impacts associated with hydrology and water quality that are likely to result from project implementation, and measures to reduce potential impacts. This section is based in part on the following documents, reports and studies: *Comprehensive General Plan for the City of Lathrop* (City of Lathrop 2004), *City of Lathrop Comprehensive General Plan Draft General Plan Amendment of 2015 SB 5 200-Year Flood Protection* (City of Lathrop 2015), *General Plan Environmental Impact Report* (City of Lathrop 1991), *Lathrop Draft Municipal Services Review and Sphere of Influence Plan* (2nd Administrative Draft Lathrop MSR December 2015)*, California Water Plan Update 2013* (DWR 2013), *California's Groundwater Bulletin 118, San Joaquin Valley Groundwater Basin, Eastern San Joaquin Subbasin* (DWR 2006), *California's Groundwater* (DWR 2003), and *Eastern San Joaquin Groundwater Basin Groundwater Management Plan* (SJRGA 2013). Comments received during the NOP comment period regarding hydrology and water quality were from the Central Valley Regional Water Quality Control Board.

3.8.1 EXISTING SETTING

REGIONAL HYDROLOGY

San Joaquin County is located in the San Joaquin River watershed. The San Joaquin River is about 300 miles long. It begins in the Sierra Nevada mountain range on California's eastern border. The river runs down the western slope of the Sierra and flows roughly northwest through the Central Valley to where it meets the Sacramento River at the Sacramento-San Joaquin Delta, a 1,000-square-mile maze of channels and islands that drains more than 40 percent of the state's lands (SJRGA 2013).

Because the Central Valley receives relatively little rainfall (12 to 17 inches a year, falling mostly October through March), snowmelt runoff from the mountains is the main source of fresh water in the San Joaquin River. Over its 300-mile length, the San Joaquin River is fed by many other streams and rivers, most notably the Stanislaus, Tuolumne and Merced Rivers.

Most of the surface water in the upper San Joaquin River is stored and diverted at Millerton Lakes' Friant Dam, near Fresno. From Friant Dam, water is pumped north through the Madera Canal and south through the Friant-Kern canal to irrigation districts and other water retailers, which then deliver the water directly to the end users in the southern portion of the watershed.

In the central and northern portions of the watershed, many agricultural and municipal users receive water from irrigation districts, such as the Modesto, Merced, Oakdale, South San Joaquin, and Turlock Irrigation Districts. That water is provided through diversions from rivers that are tributary to the San Joaquin, such as the Mokelumne, Stanislaus, Tuolumne, and Merced rivers.

In an average year, about 1.5 million acre-feet of water is diverted from the San Joaquin River at Friant Dam, leaving little flow in the river until the Merced River joins the San Joaquin northwest of the City of Merced. Additional water also reaches the river via flows returning to the river from municipal wastewater treatment plants, as well as urban and agricultural runoff. The rest of the

area's water supply needs are met by importing water from northern California (via the Central Valley Project) and by pumping water from the groundwater basin (SJRGA 2013).

Climate

Summers in the region are warm and dry ranging from an average high in July of 93°F to an average low of approximately 59°F. Winters are cool and mild, with an average high of 53°F and a low of 37°F in January. The region has a fairly low annual precipitation, ranging from an average precipitation of 2.5 inches in the winter to zero in the summer.

Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

Hydrologic Region

San Joaquin County is located in the San Joaquin River Hydrological Region. The San Joaquin River is the principal river of the region, and all other streams of the region are tributary to it. The Mokelumne River and its tributary the Cosumnes River originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne rivers. The Merced River flows from the south central Sierra Nevada and enters the San Joaquin near the City of Newman. The Chowchilla and Fresno rivers also originate in the Sierra south of the Merced River and trend westward toward the San Joaquin River. Creeks originating in the Coast Range and draining eastward into the San Joaquin River include Del Puerto Creek, Orestimba Creek, and Panoche Creek. Del Puerto Creek enters the San Joaquin near the City of Patterson, and Orestimba Creek enters north of the City of Newman. During flood years, Panoche Creek may enter the San Joaquin River or the Fresno Slough near the town of Mendota. The Kings River is a stream of the Tulare Lake Hydrologic Region, but in flood years it may contribute to the San Joaquin River, flowing northward through the James Bypass and Fresno Slough to enter near the City of Mendota. The Mud, Salt, Berrenda, and Ash sloughs also add to the San Joaquin River, and numerous lesser streams and creeks also enter the system, originating in both the Sierra Nevada and the Coast Range. The entire San Joaquin river system drains northwesterly through the Delta to Suisun Bay (DWR 2013, pg. SJR-5).

The City of Lathrop and much of the surrounding area is located in the Eastern San Joaquin River Subbasin. This groundwater basin covers approximately 1,105 square miles and extends from the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east. The Eastern San Joaquin Subbasin is bounded on the south, southwest, and west by the Modesto, Delta-Mendota, and Tracy Subbasins, respectively and on the northwest and north by the Solano, South American, and Cosumnes Subbasins. The Solano and South American are subbasins of the Sacramento Valley Groundwater Basin (DWR 2006, pg. 1).

The proposed project is located in French Camp – San Joaquin River Watershed. See Figure 3.8-1.

Groundwater

The City of Lathrop is located in the Eastern San Joaquin River Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2003), the ESJGB is in a critical condition of overdraft. The estimated safe yield of the groundwater basin is approximately 618,000 AF/YR (0.87 AFY per acre, average) and the estimated overdraft is 113,000 AF/YR. The available groundwater supply for the City is projected to increase to 12,096 AFY by 2020. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County. Groundwater levels at City wells, however, have remained stable for the years 1989 to 2009, when taking into account seasonal variations and droughts (City of Lathrop, 2009a). Specific siting studies and hydrogeological assessments are recommended for new wells to minimize potential impacts (such as saltwater intrusion) while optimizing groundwater extraction.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGB-GMP. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable and the groundwater is typically unconfined.

The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the Lathrop area penetrate through the Victor formation into the Laguna formation.

Underlying Lathrop, the groundwater surface generally slopes from south to north, with the highest groundwater elevations occurring near Yosemite Avenue east of McKinley Avenue and the lowest groundwater elevations occurring along Roth Road. There are some localized depressions due to industrial and municipal groundwater pumping operations. Groundwater elevations in the fall, after the high-use summer months, average about 3 feet lower than groundwater elevations in the spring.

LOCAL SETTING

The topography of the proposed annexation area is relatively flat with a six foot elevation gain throughout the site. There are no rivers or other natural water courses that border the proposed annexation area. The closest natural waterway is the San Joaquin River, located approximately 2.2 miles west of the project site. The project site is currently an undeveloped lot used as a trailer

storage area. The proposed project is in the French Camp – San Joaquin River Watershed, which is part of the San Joaquin River watershed.

Groundwater

The groundwater basin used by the City of Lathrop is the Eastern San Joaquin Sub-basin of the Eastern San Joaquin County Groundwater Basin. The basin is located in the Sacramento-San Joaquin Delta sub-region, a part of the Central Valley aquifer system that occupies most of the large basin in central California between the Sierra Nevada and the Coastal Range Mountains. Prior to surface water supplies becoming available from the South County Surface Water Supply Project (SCSWSP), the City relied solely on local groundwater wells to meet municipal and industrial water demands.

Potable water will be supplied to the project site by the City of Lathrop. In 2010, approximately 43 percent, 6048 acre-feet per year (AFY), of the City's residential water supply was extracted from groundwater. By 2025 this is expected to increase to approximately 51 percent or 12,096 AFY. See Table 3.13-7 of this EIR for a complete accounting of groundwater demand in the City. The reader is referred to Section 3.13 Utilities for further discussion of water supply for the project.

Flooding

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

The proposed annexation area lies within the larger area known as the Delta Basin, which historically was a tidal marsh formed in an overflow area of the Sacramento and San Joaquin Rivers. During the early part of the 20th century, over 80 percent of the Delta was reclaimed through construction of levees. There are over 1,100 miles of man-made levees protecting land in the Delta from flooding. The City of Lathrop is also protected by levees. These levees are maintained by Reclamation District 0017 (RD17) for portions of the City east of the San Joaquin River, and are designated as "project levees" by the US Army Corps of Engineers (Corps).

The proposed annexation area is located in "Zone X, protected by levee", which by definition indicates an area protected by levees from the 1% annual chance flood. See Figure 3.8-2 for an overlay of FEMA Flood area boundaries. According to the FEMA Map Service Center, San Joaquin County GIS, and ArcGIS Online Imagery (as of December 2, 2015), the proposed annexation area is located in an "Area with reduced flood risk due to levee". However, the southeastern corner of the proposed project is nominally subject to a 200-year flood risk (Cities of Lathrop and Manteca, 2015).

The RD-17 levee system was improved circa 2009/10 with seepage berms and/or other improvements to increase the resistance of RD-17's levee system to under-seepage and through-seepage and bring the levee system into compliance with applicable Federal and State standards. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley

Flood Protection Board (CVFPB) to analyze 200-year protection. Currently, the City of Lathrop, the City of Manteca, and RD 17 are developing a program for design, funding, and improvement of the RD 17 levees, including the "non-project" levee located within Manteca city limits, to meet the Urban Levee Design Criteria (ULDC) and provide Urban Level of Flood Protection (ULOP). A technical evaluation completed in 2014 by KSN found that there were no ULDC deficiencies in height, geometry or other characteristics. The primary concern with respect to meeting the ULDC is potential for underseepage. The primary proposed remediation is the installation of cutoff walls in the existing levees together with other relatively minor improvements to correct levee top width, acquire right-of-way, and correct slope stability and existing penetration concerns. The cities are moving forward with the program to complete levee evaluations, secure construction funding, and then design and construct necessary improvements (City of Lathrop, 2015).

Drainage

Lathrop's stormwater drainage system is managed by the City's Public Works Department. The gravity based system consists of a collection and trunk pipelines, detention basins, pump stations, and surface infrastructure such as gutters, alleys, and storm ditches. Most of the stormwater detention basins are dedicated for stormwater detention and generally not used during non-rainfall periods. Stormwater is generally disposed by routing it through various interconnected detention basins and discharging it to the San Joaquin River. There are also retention basins scattered throughout the City.

Currently, runoff from within the proposed annexation area is collected in either of two nearby storm water retention basins, situated to the northwest and east of the project site. The larger of the two retention basins is located to the northwest of the proposed project site and the other is located adjacent to the project site, to the east and northeast. Water in these detention basins currently are held until they percolate into the ground. Ultimately, the Lathrop storm drainage master plan calls for retention basins to be converted to detention basins. After the peak storm has passed, these basins would flow through the storm drainage system to be discharged to the San Joaquin River.

Dam Failure

The proposed annexation area is located within four dam failure inundation areas, New Melones Lake, San Luis Reservoir, Lake McClure, and Tulloch Reservoir. See Figure 3.8-3 for a map overlay of the dam inundation areas within the vicinity of the proposed annexation area. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam

Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

New Melones Lake, approximately 40 miles from the proposed annexation area, is an artificial lake in the central Sierra Nevada foothills of Calaveras- and Tuolumne County, near Jamestown. This reservoir created by the construction of the New Melones Dam across the Stanislaus River has a 2,400,000 acre-foot capacity with a surface area of 12,500 acres. When full, the shoreline is more than 100 miles.

The *San Luis Reservoir*, approximately 53 miles from the proposed annexation area, is an artificial lake on San Luis Creek in the eastern slopes of the Diablo Range of Merced County, approximately 12 miles west of Los Banos. The reservoir stores water taken from the San Joaquin-Sacramento River Delta. Water is pumped uphill into the reservoir from the O'Neill Forebay which is fed by the California Aqueduct and is released back into the forebay to continue downstream along the aqueduct as needed for farm irrigation and other uses. Depending on water levels, the reservoir is approximately nine miles long from north to south at its longest point, and five miles wide. At the eastern end of the reservoir is the San Luis Dam, or the B.F. Sisk Dam, the fourth largest embankment dam in the United States, which allows for a total capacity of 2,041,000 acre feet.

Lake McClure, approximately 57 miles from the proposed annexation area, is an artificial lake in western Mariposa County, California, about 40 miles east of Modesto. It is formed by the New Exchequer Dam impounding the Merced River, a tributary of the San Joaquin River. The lake was first created by the original Exchequer Dam, built between 1924 and 1926, a concrete gravity arch dam. Exchequer Reservoir's original capacity was 281,000 acre-feet. New Exchequer Dam was built in 1967 to increase the reservoir's capacity to 1,032,000 acre-feet. It is a rock-fill dam with a reinforced concrete face, owned by the local Merced Irrigation District, which supplies northern Merced County farms with water for irrigation through its 750 mile network of canals. At the base of the dam is a *hydroelectric plant with a capacity of 94.5 megawatts.*

The *Tulloch Reservoir*, approximately 40 miles from the proposed annexation area, is an artificial lake in Calaveras and Tuolumne Counties. This reservoir created by the construction of the Tulloch Dam across the Stanislaus River has 68,400 acre-feet of capacity with a surface area of 1,280 acres. Tulloch Dam is a hydroelectric dam. The dam is part of the Stanislaus River Tri-Dam project cooperatively owned by the Oakdale and South San Joaquin Irrigation Districts, and was completed in 1958. It serves mainly for irrigation purposes but also has a power station with a capacity of 18 megawatts.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(d) Impaired Water Bodies: Section 303(d) of the federal Clean Water Act (CWA) requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within the San Joaquin County which are considered Section 303(d) impaired waterbodies. Those areas in the regional vicinity of the proposed annexation area that are impaired are referred to as Delta Waterways (Southern Portion) and French Camp Slough. The Delta Waterways water body includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source Unknown). The French Camp Slough water body runs for approximately 6.3 miles, and is listed as containing arsenic, azinphos-methyl (Guthion), Boron, Cadmium, Chloride, Chlorpyrifos, Chromium, Diazinon, E. Coli, Methidathion, Nickeln, Nitrate (NO_3), Dissolved Oxygen, Selenium, and Zinc.

3.8.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency, the US Environmental Protection Agency, the State Water Resources Board, and the Regional Water Quality Control Board. The following is an overview of the federal, state and local regulations that are applicable to the proposed project.

FEDERAL AND STATE

Clean Water Act (CWA)

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the CWA establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-001-DWQ-DWQ).

Federal Emergency Management Agency (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

200-Year Flood Protection in Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after July 2, 2016 if “adequate progress” towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use “adequate progress” as a condition to approve development after 2025.

California Water Code

The Federal CWA places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the States to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
>
> > (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
> >
> > (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
> >
> > (3) A person operating, or proposing to construct, an injection well.
>
> (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

National Pollutant Discharge Elimination System (NPDES)

NPDES permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal CWA and the CWA's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of

technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the CWA.

LOCAL

City of Lathrop General Plan

The Lathrop General Plan establishes the following goals and policies relative to hydrology and water quality in the General Plan:

COMMUNITY DEVELOPMENT ELEMENT (SECTION D)

Water, Sewerage, Drainage, and Flood Control:

The following policies seek to provide guidance related to water supply, sewerage and drainage/flood control.

Policy 1. The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. However, this preference allows for the creation of other special districts, including Irrigation Districts, especially if these districts can provide utility improvement financing that protects the City's existing rate payers. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.

Policy 2. Urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity.

Policy 3. Any Water, Wastewater and Recycled Water Master Plan update should provide for the eventual integration of the water well and distribution system serving the existing community with the system(s) needed to serve areas of urban expansion to avoid potential future problems of groundwater quality associated with the existing system.

Policy 4. In developing additional groundwater sources to meet requirements for firm water supply, the City will be required to meet State and Federal standards of water quality, including concern for such factors as taste, odor control, color, removal of any unique compounds of minerals identified through water testing, and need for disinfection and/or residual chlorination.

Policy 5. Pressurized water for fire suppression should be available at flows in the range of 1000 gpm (for all residential areas) to 3000 gpm (for commercial, industrial and institutional areas) for a period of 60 to 120 minutes over and above normal community

water uses. The City Fire Chief is to be consulted in establishing specific fire suppression plans for new development, including the need for automatic sprinkling systems in non-residential and multi-family residential developments and the need for above-ground storage to assure capacity for required periods of fire flow.

City of Lathrop General Plan Amendment of 2015

The Lathrop General Plan Amendment of 2015 updates the General Plan to incorporate a major update to Chapter 2.0 of the General Plan Safety Element. These updates to the General Plan would alter policies in order to protect the City from a 200-year flood, in accordance with Senate Bill 5 (SB 5). SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2015 if "adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use "adequate progress" as a condition to approve development after 2025.

Lathrop Municipal Code

CHAPTER 12.28 PROTECTION OF WATER COURSES

12.28.020 Rules and regulations.

A. It shall be unlawful for any person to interfere with, destroy or use in any manner whatsoever any levee, embankment, channel, dam, reservoir, rain or stream gauges, telephone line, piling; or other stream protection work constructed by the city or by any drainage district organized under the laws of the state, without having received a written permit therefor from the public works director, which permit shall be revocable whenever, in the opinion of the public works director the public interest and welfare require the revocation thereof. Application for the use of any levee, embankment, channel, dam or reservoir shall be made to the public works director, setting forth the particular use desired, and the purpose and duration thereof. The public works director shall investigate such applications and may impose such terms and conditions as may be necessary to insure the proper maintenance of the property for flood control and drainage purposes.

B. It shall be unlawful for any person to place on or cause to be placed in any drainage ditch, water course, channel or conduit, or upon any property over which the city or any drainage district has an easement for flood control or drainage purposes duly recorded in the office of the city clerk, any wires, fence, building or other structure, or any refuse, rubbish, tin cans or other matter that may impede, retard or change the direction of the flow of water in such drainage ditch, water course, channel or conduit, or that will catch or collect debris carried by such water, or is placed where the natural flow of the storm and flood waters would carry the same downstream to the damage and detriment of either private or public property adjacent to said drainage ditch, water course, channel or conduit.

C. It shall be unlawful for any person to change the drainage on his or her property so as to divert the drainage to the nearest public road, without first obtaining a permit to do so from the public works director.

D. It shall be unlawful for any person to fill or obstruct or maintain any fill or obstruction in any drainage ditch, water course, channel or conduit carrying storm or drainage water unless a permit to do so has been obtained from the public works director.

E. It shall be unlawful for any person to do anything to any drainage ditch, water course, channel or conduit carrying storm or drainage water that will in any manner obstruct or interfere with the flow of water through such ditches, water courses, channels or conduits unless a permit to do so has been obtained from the public works director.

F. It shall be unlawful for any person to level land in a manner which would flood adjacent properties or public roadways.

G. Every property owner, whether it be a person or his lessee or tenant, through whose property a drainage ditch, water course, channel or conduit carrying storm or drainage water passes, shall keep and maintain the same free from obstacles that will prevent or retard the flow of water through such ditch, water course, channel or conduit except that same may be filled or altered if a permit to do so has been first obtained pursuant to this chapter. (Prior code § 158.02)

CHAPTER 13.28 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

13.28.020 Purpose and intent.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the city of Lathrop, pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.) and the Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.). This chapter seeks to meet that purpose through the following objectives:

A. To comply with all federal and state laws, lawful standards and orders applicable to stormwater and urban runoff pollution control;

B. To prohibit any discharge which may interfere with the operation of, or cause any damage to the storm drain system or impair the beneficial use of the receiving waters;

C. To prohibit illicit discharges into the storm drain system;

D. To reduce non-stormwater discharge to the storm drain system to the maximum extent practicable;

E. Minimize increases in stormwater and runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of drainage channels;

F. Minimize nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality; and

G. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development. (Ord. 07-265 § 1)

13.28.130 Requirement to prevent, control and reduce stormwater pollutants.

A. Authorization to Adopt and Impose Best Management Practices (BMPs). The city may adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. Where best management practice requirements are promulgated by the city or any federal, state of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or a waters of the United States, every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

B. New Development and Redevelopment. The city may adopt requirements identifying appropriate design standards and best management practices to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The city shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this chapter.

C. Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections A and B of this section, any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering stormwater, the storm drain system, or waters of the United States shall implement best management practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

D. Maintenance Agreements. All structural and nonstructural permanent stormwater BMPs not in the control of the city of Lathrop shall have an enforceable maintenance agreement to ensure the system functions as designed. The agreement shall include any and all maintenance easements required to access and inspect the stormwater BMPs, and to perform routine maintenance as required. Such agreements shall specify the parties responsible for the proper maintenance of all stormwater BMPs.

City of Lathrop Stormwater Management Program

The City has an adopted a stormwater management program (SWMP) for compliance with requirements of the Phase 2 NPDES municipal stormwater permit. The SWMP is composed of six program elements developed to reduce contaminants discharged into receiving water bodies. The six Minimum Control Measure (MCM) elements of the SWMP are public education and outreach, public involvement/participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. For each MCM, the City has selected a suite of BMPs and measurable goals to address the specific stormwater problems identified within the city limits.

In association with the SWMP, the City adopted a Storm Water Ordinance, construction standards, and design review guidelines to reduce contaminants in stormwater runoff. Of particular relevance to the proposed project is the City's coordination of BMP review and implementation under the construction site runoff control program. New development and redevelopment control measures include development of structural controls, development of nonstructural controls, development of ordinances or regulatory mechanisms, and development of long-term operation and maintenance (O&M) practices.

Pollution prevention/good housekeeping for municipal operations addresses routine O&M activities for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm sewer system. The pollution prevention/good housekeeping program also includes a training component to prevent and reduce stormwater pollution from municipal operations. The pollution prevention/good housekeeping BMPs can be separated into two broad categories: source controls and materials management. Source controls are BMPs designed to prevent or reduce pollutants at the source and include BMPs such as storm drainage system maintenance, structural floatable controls, street maintenance staff training, flood control projects, and litter ordinances. Materials management BMPs are designed to reduce pollutants with nonstructural controls such as pesticide education and spill prevention control.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, run-off or flooding on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
- 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;
- Otherwise substantially degrade water quality;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami, or mudflow.

IMPACTS AND MITIGATION

Impact 3.8-1: The proposed project has the potential to violate water quality standards or waste discharge requirements during construction (less than significant)

Construction-Related Water Quality Impacts: According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the CWA, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the NPDES permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary*

soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"

Although the proposed annexation area is relatively small in scale, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a Stormwater Pollution Prevention Plan (SWPPP) containing BMPs to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.5-1 contained in Section 3.5 Geology and Soils and reprinted below, ensures compliance with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent

practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES (REPRINTED FROM SECTION 3.5 GEOLOGY AND SOILS)

Mitigation Measure 3.5-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Lathrop and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Impact 3.8-2: The proposed project has the potential to violate water quality standards or waste discharge requirements during operation (less than significant)

The long-term operations of the proposed project could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed project would result in new impervious areas associated with new asphalt and the Pilot Travel Center building. Normal activities at the project site would include the use of various automotive petroleum products (i.e. oil, grease, fuel) and common cooking hazardous materials. Diesel fuel exhaust from diesel trucks and associated truck refrigeration units (TRUs) would also cause air pollution that could affect water quality. Human activities have an effect on water quality when chemicals, heavy metals, hydrocarbons (auto emissions and car crank case oil), and other materials are transported with storm water into drainage systems. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

The proposed project would install storm drainage catch basins and storm water pipes throughout the project site that would route storm water to the retention basin located to the east of the site. Storm water would be gravity fed to catch basins, which would then route the storm water through the pipes to the nearby retention basin through an outfall pipe.

The ongoing operational phase of the proposed project requires discharge of stormwater into the retention basin. The water would percolate into the underlying groundwater. The discharge of

stormwater must be treated through BMPs prior to its discharge. The Lathrop Municipal Code provides rules and regulations to manage and control stormwater and discharge (Chapter 13.28). Section 13.28.120 requires compliance with all applicable NPDES permits. Additionally, Section 13.28.130 specifically provides requirement to prevent, control, and reduce stormwater pollutants. This includes requirements to implement BMPs to the extent they are technologically achievable to prevent and reduce pollutants. Under this requirement, the owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

In accordance with the City's Storm Water Master Plan (SWMP) and NPDES Stormwater Program (General Industrial Stormwater Permit), BMPs would be implemented to reduce the amount of pollution in stormwater discharged from the project site. The management of water quality through the requirement to obtain a General Industrial Stormwater Permit and implement appropriate BMPs would ensure that water quality does not degrade to levels that would violate water quality standards. These are existing regulatory requirements. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Impact 3.8.3: The proposed project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge (less than significant)

As described in the City's 2005 UWMP, groundwater pumping in Lathrop increased from 1,545 AFY in 1988 to a maximum of 3,471 AFY in 2004. In addition to the City potable water supply wells, there are water wells in the service area that serve private industrial facilities, and agriculture. There are also 83 private agricultural wells within or near the City. Municipal, industrial, and private (agricultural) demands combined results in an annual groundwater pumping range of approximately 4,430 to 4,530 AFY.

According to the City's 2005 UWMP, groundwater pumping is projected to increase to 9,076 AFY by the year 2030 and remain at that level unless the City alters its groundwater/surface water balance. At full buildout, the proposed project is anticipated to use approximately 16.5 AFY of water (See 3.13 Utilities Section of this EIR). This includes both surface and ground water. Groundwater used by the project is accounted for by water demand projections within the UWMP, since the proposed project is within the existing City Master Plan Water Service Area. Since the proposed project is consistent with water use projections provided in the 2005 UWMP, the UWMP was used to calculate groundwater usage by the project. Based on the City's commercial water demand factor, as found in the City's 2005 UWMP (page 4-2), and based on the approximately 51 percent of the City's water supply projected to come from groundwater in 2025 (see Table 7 of the UWMP), the proposed project would use approximately 8.3 AFY of groundwater.

According to the City of Lathrop December 2015 version of the *Municipal Services Review and Sphere of Influence Plan*, the use of groundwater throughout the region as a water supply source has created overdraft conditions and contamination of the groundwater aquifer. Overdraft occurs

when the rate of groundwater extraction exceeds the rate of groundwater recharge. According to the Department of Water Resources (DWR) Bulletin 118, the Eastern San Joaquin County Groundwater Basin is in a critical condition of overdraft due to extraction rates higher than the aquifer can safely yield. The safe yield of an aquifer is defined as the maximum rate of groundwater extraction that can be regularly withdrawn without causing adverse impacts to groundwater levels or quality. The estimated safe yield of the entire groundwater basin is approximately 618,000 acre feet per year (AFY). Regional groundwater pumping has caused the basin to be in a condition of overdraft. Groundwater levels have dramatically declined in the basin since the 1960s.

However, the proposed project does not add a large amount of new impervious surface to the City of Lathrop (the existing undeveloped portion of the proposed annexation area is relatively small), and the proposed project would use a small amount of groundwater (estimated at approximately 8.3 AFY) relative to the overall City's usage. The proposed project would have sufficient water supplies. Therefore, implementation of the proposed project would not interfere substantially with groundwater recharge or substantially deplete groundwater supplies. The proposed project would have a ***less than significant*** impact relative to this topic.

Impact 3.8-4: The proposed project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff (less than significant)

Currently, runoff from within the developed portion of the proposed annexation area is collected in a system of shallow retention basins nearby. Existing stormwater retention basins are located to the north and at the eastern edge of the project site. In the undeveloped portion of the proposed annexation area, where the proposed project would be developed, stormwater flows predominantly to the storm water retention basin located at the eastern edge of the project site.

The proposed project would install storm drainage catch basins and storm water pipes throughout the project site that would route stormwater to the eastern retention basin (see Project Description Figure 2-3). Stormwater would be gravity fed to catch basins that would route stormwater through pipes to the nearby retention basin through an outfall pipe. Once at the retention basis, water would percolate to underground groundwater stores.

The proposed project would not substantially change the existing drainage pattern at the site. Therefore, implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Impact 3.8.5 The proposed project has the potential to otherwise substantially degrade water quality (less than significant)

Water Quality Impacts from Discharges to 303(d) Listed Water Bodies: Section 303(d) of the federal Clean Water Act (CWA) requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby

the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within the San Joaquin County which are considered Section 303(d) impaired waterbodies. Those areas in the regional vicinity of the proposed annexation area that are impaired are referred as Delta Waterways (Southern Portion) by the Water Quality Control Monitoring Council, and French Camp Sough. The Delta Waterways water body includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source Unknown). The French Camp Slough water body runs for approximately 6.3 miles, and is listed as containing arsenic, azinphos-methyl (Guthion), Boron, Cadmium, Chloride, Chlorpyrifos, Chromium, Diazinon, E. Coli, Methidathion, Nickeln, Nitrate (NO_3), Dissolved Oxygen, Selenium, and Zinc.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.5-1 contained in Section 3.6 Geology and Soils requires an approved SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB.

The ongoing operational phase of the proposed project requires discharge of stormwater to a nearby stormwater retention basin through the outfall. In accordance with the City's Storm Water Master Plan (SWMP) and NPDES Stormwater Program (General Industrial Stormwater Permit), Mitigation Measure 3.3-5 and 3.3-6 contained in Section 3.3 Biological Resources would ensure that BMPs are implemented to reduce the amount of pollution in stormwater discharged from the project site into groundwater during the operational phase of the project. The management of water quality through obtaining a General Industrial Stormwater Permit and implementing BMPs is intended to ensure that water quality does not degrade to levels that would violate water quality standards.

The use of BMPs are intended to treat runoff close to the source during the construction and long term operational phase of the project reduce stormwater quality impacts. The mitigation measures listed below are existing regulator requirements. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURES

Implement **Mitigation Measure 3.5-1** (from Section 3.5 Geology and Soils) and **Mitigation Measures 3.3-5 and 3.3-6** (from Section 3.3 Biological Resources).

Impact 3.8.6 Place housing or structures that would impede/redirect flows within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (less than significant)

The proposed annexation area is located in "Zone X, protected by levee", which by definition indicates an area protected by levees from the 1% annual chance flood. According to the FEMA Map Service Center, San Joaquin County GIS, and ArcGIS Online Imagery (as of December 2, 2015), the proposed annexation area is located in an "Area with reduced flood risk due to levee". See Figure 3.8-2. However, the southeastern corner of the proposed project site is nominally subject to a 200-year flood risk (Kjeldsen, Sinnock & Neudeck, 2015). Nevertheless, the development of the proposed project would not place housing or structures in a flood hazard area because the new Travel Center building would not be built within a portion of the proposed annexation area that is subject to 200-year flood risk of greater than 3 feet in depth (Kjeldsen, Sinnock & Neudeck, 2015).

Furthermore, the closest levee system ("RD-17") was improved circa 2009/10 with seepage berms and/or other improvements to increase the resistance of RD-17's levee system to under-seepage and through-seepage and bring the levee system into compliance with applicable Federal and State standards. The cities are moving forward with the program to complete RD-17 levee evaluations, secure construction funding, and then design and construction necessary improvements (City of Lathrop, 2015).

As a result, the proposed project would have a ***less than significant*** impact relative to placing housing or structures within a 100-year or 200-year flood hazard area.

Impact 3.8.7 The proposed project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow (less than significant)

A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. Tsunami can cause catastrophic damage to shallow or exposed shorelines. The proposed annexation area is approximately 50 miles from San Francisco Bay and 70 miles from the coast, which is sufficiently distant to preclude effects from a tsunami.

Seiches are changes or oscillations of water levels within a confined water body. Seiches are caused by fluctuation in the atmosphere, tidal currents or earthquakes. The effect of this phenomenon is a standing wave that would occur when influences by the external causes. The proposed project is not adjacent to any river or lake, and the nearest natural water body, the San Joaquin River, is at a significantly lower elevation than the proposed annexation area.

A mudflow is a type of mass wasting or landslide, where earth and surface materials are rapidly transported downhill under the force of gravity. Mudflow events are caused by a combination of factors, including soil type, soil profile, precipitation, and slope. Mudflow may be triggered by heavy rainfall that the soil is not able to sufficiently drain or absorb. As a result of this super-saturation, soil and rock materials become unstable and eventually slide away from their existing location. Soils most susceptible to mudflow are saturated, loose, non-plastic, uniformly graded, and fine-grained sand deposits. The proposed annexation area is relatively flat making the potential of mudflows low.

The proposed annexation area is subject to flood inundation as a result of dam failure from four reservoirs/lakes. Figure 3.8-3 shows areas that are susceptible to dam inundation. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. As discussed previously, larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The proposed annexation area is subject to flood inundation as a result of levee failure. The levee adjacent to the project is maintained by Reclamation District 0017 (RD17). Levees in the City east of the San Joaquin River, including the proposed annexation area, are designated as “project levees” by the US Army Corps of Engineers (USACOE). Approximately five miles of levees located within the City are designated as “non-project levees”. The “non-project” levees are also maintained by local reclamation and levee maintenance districts. “Non-project” levees were not built to a common standard and have different heights and cross sections.

The RD 17 levee system was originally constructed in the 1960’s and substantially upgraded in 1988. In 1990 the RD 17 levee was accredited by FEMA, which removed large areas of Stockton, Lathrop, Manteca and the County from the 100-year floodplain.

Following the accreditation in 1990, standards for flood protection have been changing and in May 2007 FEMA extended an offer of a Provisionally Accredited Levee (PAL) Agreement for the RD 17 levee system. A PAL is a levee that meets the FEMA requirements for flood protection but requires additional supporting documentation. In August 2007, the Lathrop City Council authorized the City Manager to execute a Provisional Accredited Levee Agreement with FEMA for the RD 17 levee.

Since August 2007, RD 17 has been implementing improvements to the levee system and constructed a seepage berm (a bank of earth placed against the existing levee) along the east levee of the San Joaquin River between the SR-120 and I-5 interchange and the Union Pacific Rail Road right-of-way. The purpose of these improvements is to meet the flood protection requirements of FEMA and maintain the levee accreditation. The PAL Agreement expired in August 2009 and at that time FEMA determined based on the current condition of the levee and the additional supporting documentation, that the RD 17 levee will maintain its accreditation.

Regular inspection and maintenance by RD 17 ensure that the levees are kept in safe operating condition. As such, failure of the levee is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The proposed project would not result in the exposure people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow. This impact is considered ***less than significant***.

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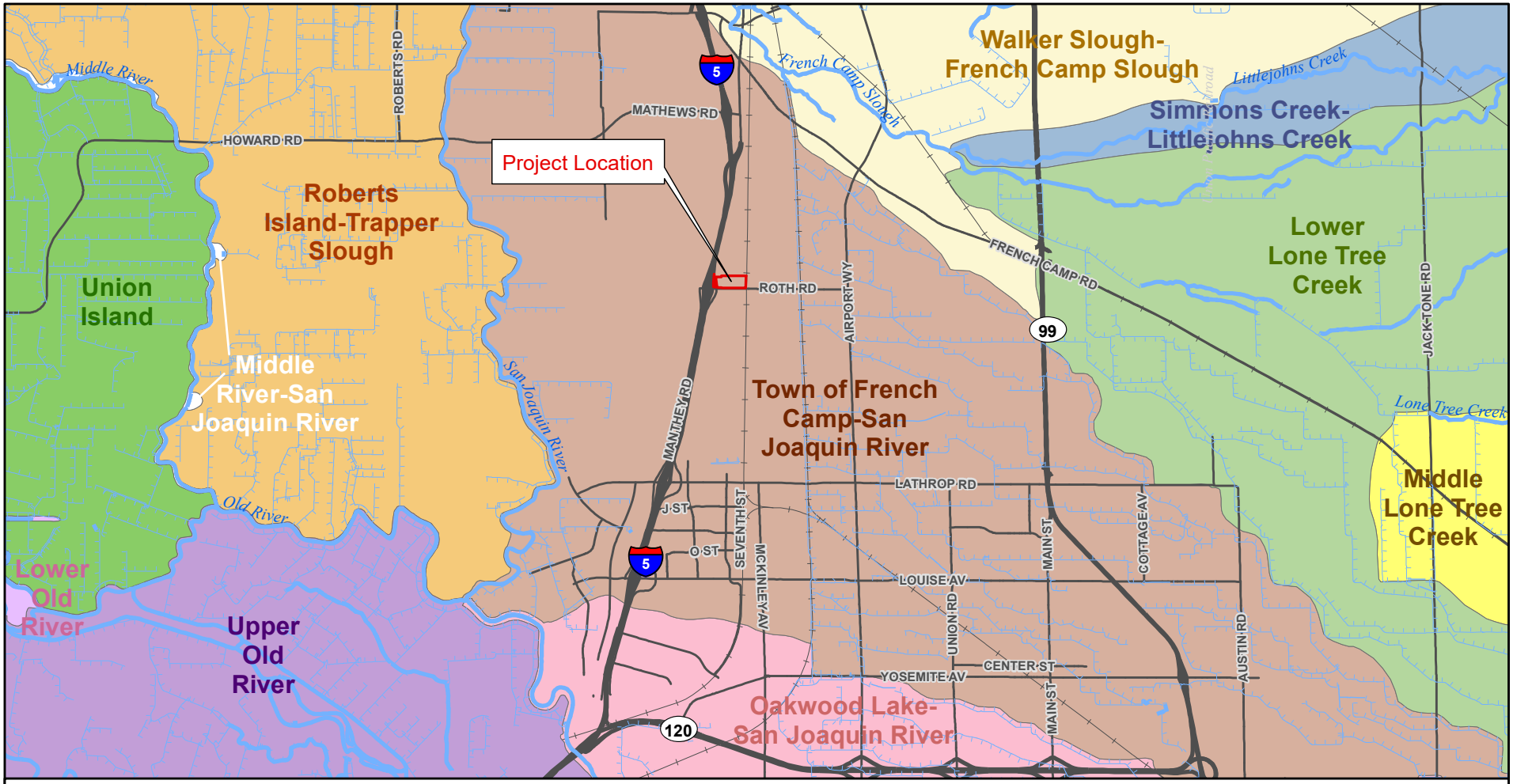

Cataloging Unit (HUC-12)

- Lower Lone Tree Creek
- Lower Old River
- Middle Lone Tree Creek
- Middle River-San Joaquin River
- Oakwood Lake-San Joaquin River
- Roberts Island-Trapper Slough
- Simmons Creek-Littlejohns Creek
- Town of French Camp-San Joaquin River
- Union Island
- Upper Old River
- Walker Slough-French Camp Slough

N

0 1 2

Miles

Sources: USGS Watershed Boundary Dataset (3/9/2015); USGS National Hydrography Dataset; San Joaquin County GIS. Map date: December 2, 2015.

PILOT FLYING J TRAVEL CENTER

Figure 3.8-1: Watersheds Map

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PILOT FLYING J TRAVEL CENTER

Figure 3.8-2: FEMA Flood Map

Data sources: FEMA Map Service Center 12/14/2014; San Joaquin County GIS; ArcGIS Online Imagery. Map date: January 17, 2016.

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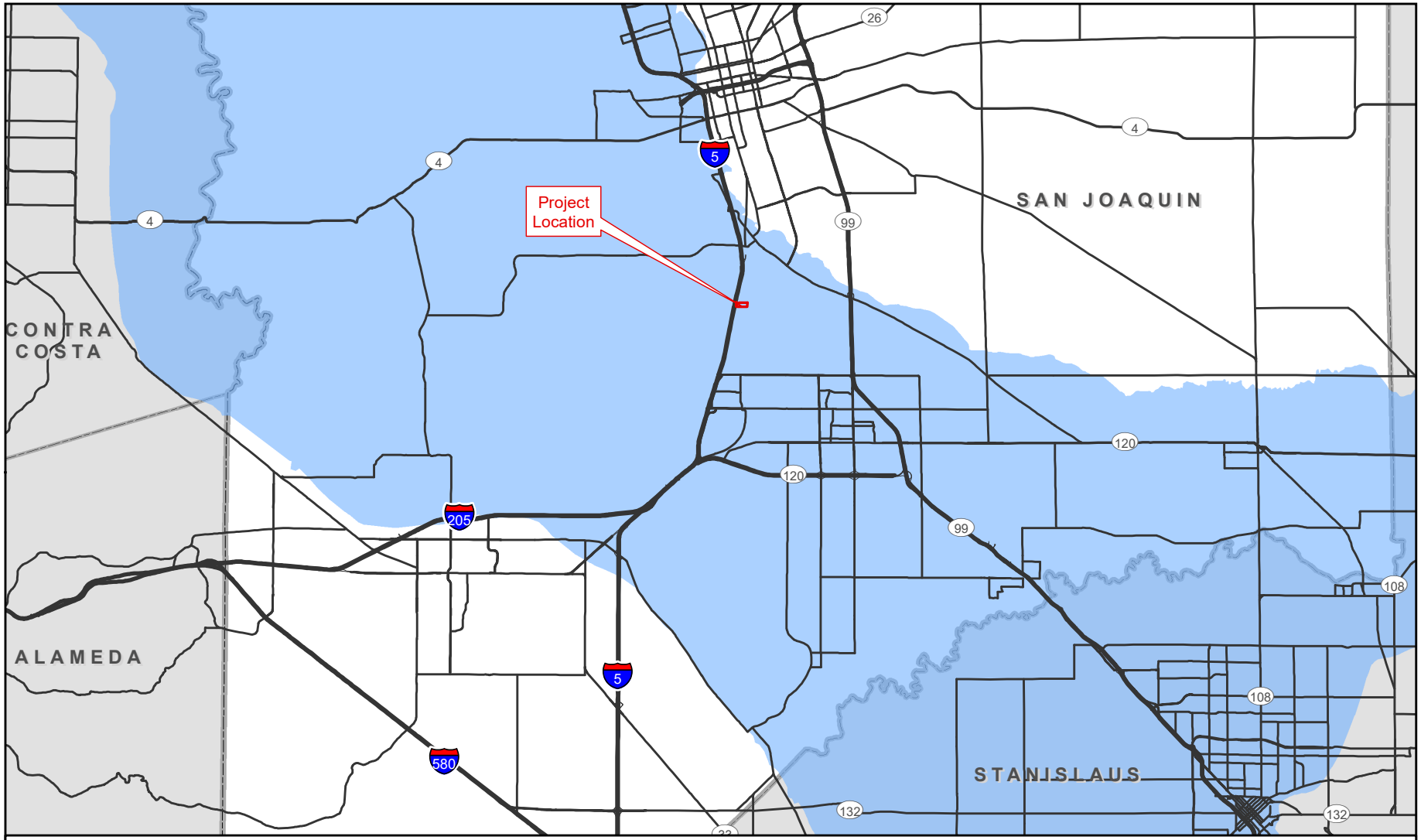

PILOT FLYING J TRAVEL CENTER

Figure 3.8-3: Dam Inundation Areas Map

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This section describes the existing land uses within the Pilot Flying J project site and surrounding area, describes the applicable land use regulations, and evaluates the environmental effects of implementation of the proposed project. The project area is within the City of Lathrop Sphere of Influence (SOI) and would be annexed into the City as part of the proposed project. Key policy issues to be considered include consistency with applicable policies and plans adopted to avoid or mitigate an environmental effect.

Information in this section is based on information provided by the Pilot Flying J project applicant in the project application package submitted to the City of Lathrop, including the proposed site plan and technical plans, site surveys conducted by De Novo Planning Group in 2015, and applicable land use and planning documents, including the following: *City of Lathrop Comprehensive General Plan* (Lathrop GP, 2004), City of Lathrop *General Plan Draft EIR* (Lathrop EIR), the City of Lathrop Municipal Code - Zoning (Title 17), the *San Joaquin County General Plan* (County GP), and the San Joaquin County Local Agency Formation Commission (LAFCo) Policies and Procedures Document.

One comment was received during the NOP review period regarding land use. The San Joaquin Council of Governments (SJCOG) submitted a letter regarding coverage pursuant to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) including SJMSCP Incidental Take Minimization Measures and mitigation requirement.

3.9.1 ENVIRONMENTAL SETTING

The total proposed annexation area consists of approximately 26 acres of land located in San Joaquin County, to the north of the City of Lathrop city limits and within the City's Sphere of Influence and General Plan area. The proposed Pilot Flying J project site is located on the easternmost 9 acres of the proposed annexation area.

PROJECT SETTING

PROJECT LOCATION

The proposed project includes the annexation of an area located just to the north of the City of Lathrop (the "proposed annexation area"), and the development of a new Pilot Flying J Travel Center to be located at the far eastern portion of the proposed annexation area (located at the "project site"). Figures 2-1 and 2-2 show the proposed project's regional location and vicinity. The proposed annexation area includes Assessors Partial Numbers (APNs) 193-330-30, 193-30-31, and 193-33-017, as shown in Figure 2-3. The project site is located within the eastern third of the parcel identified by APN 193-330-30 (APN 193-330-30 is hereafter identified as the "project parcel"). Figure 2-4 shows an aerial photo of the proposed annexation area and the project site. The project site is located north of Roth Road and approximately 1,000 feet east of Interstate 5 (I-5). The project site is bordered to the east by the existing Union Pacific Railroad (UPRR) tracks, and to the west by existing commercial area located within the central and western portions of the

project parcel. Additionally, the project site occupies approximately 9 acres of land, out of an approximately 24 acre parcel.

EXISTING SITE USES

The 9 acre project site currently consists of undeveloped land that is used as a trailer storage area. The western portion of the 24 acre project parcel that includes the project site currently operates as a commercial truck repair storage and sales facility (Papé Kenworth). Section 2.0 Figure 2-4 shows aerial imagery of the proposed annexation area and Flying J project site; the western portion of the proposed annexation area is not proposed for development as described in Section 2.0.

EXISTING SURROUNDING USES

Uses Immediately adjacent to the proposed annexation area include: truck sales storage and service establishments to the north and northwest, a service station and truck tire sales and repair facility to the southwest, a pet food processing and distribution facility to the south, and the Union Pacific Rail lines to the east.

GENERAL PLAN AND ZONING DESIGNATIONS

The proposed annexation area (including the Pilot Flying J project site) is currently located within San Joaquin County. The proposed annexation area is within the City of Lathrop SOI.

City of Lathrop General Plan Land Use Designation: The Pilot Flying J project site is designated Freeway Commercial (FC) by the City of Lathrop GP Land Use Map. The City's General Plan Land Use Map designations for the project site and surrounding area are shown in Figure 2-5.

San Joaquin County General Plan Land Use Designation: The County GP designates the Pilot Flying J project site General Industrial (I/G). The County GP Land Use designations for the project site and surrounding area are shown on Figure 2-6.

Surrounding Land Uses: Lands to the south and southwest of the Pilot Flying J project site (within the city limits) are designated for Limited Industrial (LI) and Freeway Commercial (FC) uses by the General Plan. Adjoining lands to the east and north of the project consist of County-designated General Industrial to the north and Limited Industrial to the east. Approximately one-third of a mile northeast of the Pilot Flying J project site includes County-designated residential uses including Very Low Density Residential (R/VL 1-2 dwelling units per acre) and Low Density Residential (R/L 2-6 dwelling units per acre).

3.9.2 REGULATORY SETTING

STATE

State of California Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations. In approving an annexation, the Local Agency Formation Commission (LAFCo) will consider the following factors:

- Population and population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; and the likelihood of significant growth in the area and in adjacent incorporated and unincorporated areas during the next ten years.
- The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; and the probable effect of the pro-posed incorporation, formation, annexation, exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas.
- The effect of the proposed action and of alternative actions on adjacent areas, on mutual social and economic interests, and on the local government structure of the county.
- The conformity of both the proposal and its anticipated effects with both the adopted commission policies on providing planned, orderly, and efficient patterns of urban development, and the policies and priorities set forth in Government Code section 56377.
- The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Government Code section 56016.
- The definiteness and certainty of the boundaries of the territory, nonconformance of proposed boundaries with lines of assessment or ownership, creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.
- Consistency with city or county general and specific plans.
- The sphere of influence of any local agency that may be applicable to the proposal being reviewed.
- The comments of any affected local agency.

- The ability of the newly formed or receiving entity to provide the services that are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change.
- Timely availability of water supplies adequate for projected needs as specified in Government Code section 65352.5.
- The extent to which the proposal will affect a city or cities and the county in achieving their respective fair shares of the regional housing needs, as determined by the appropriate council of governments consistent with Housing Element laws.
- Any information or comments from lawmakers.
- Any information relating to existing land use designations.

In addition to the above factors, LAFCo may also consider any resolution raising objections to the action that may be filed by an affected agency; and any other matters which the commission deems material.

LOCAL

City of Lathrop General Plan

While the proposed annexation area is currently in an unincorporated area and under the jurisdiction of San Joaquin County, it is located within the Sphere of Influence of the City of Lathrop. The applicant has proposed that the proposed annexation area be annexed into the City of Lathrop.

As noted above, General Plans are prepared under a mandate from the State of California, which requires each city and county to prepare and adopt a comprehensive, long-term general plan for its jurisdiction and any adjacent related lands. State law requires General Plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety. In addition to those components required by State law, the Lathrop GP also contains an optional recreation element. The elements have been combined into three "Super Elements" called the Community Development Element, the Resource Management Element, and the Hazard Management Element. They represent a functional consolidation which simplifies the task of element description by combining those elements which are closely related to each another. Consolidation also makes it easier to achieve internal consistency among elements as required by State Law (Lathrop GP, p. 1-4).

The General Plan functions as a “constitution” for the City of Lathrop and reflects the long-range aspirations of physical form and amenity and provides guidance to the substance of developmental regulations and other programs of the City Council. The Lathrop GP is comprehensive, long-range and general (Lathrop GP, p. 1-2). The area covered by the General Plan

has three significant geographic dimensions called Sub-Plan Areas (SPA). Each of the SPAs exhibits some differences in developmental policies and proposals.

General Plan Land Use Map: The Lathrop GP Land Use Map portrays the ultimate uses of land in the City of Lathrop through land use designations. The GP Land Use Map depicts the three Sub-Plan Areas; the proposed annexation area is located in Sub-Plan Area #1, which comprises areas east of Interstate-5 within the existing SOI adopted by LAFCo. With the exception of lands held for industrial use, the SPA #1 is substantially developed.

The GP Land Use Map designates the Plan Area as Freeway Commercial (FC). Below is a description of this land use designation:

Freeway Commercial: The allowed building density is generally 1-2 stories and building intensity of up to 60% site area coverage is allowed. This classification of commercial activity caters to uses which serve the regional market for specialized sales and service activities as well as uses which cater more strictly to the needs of the highway traveler. Specialized activities might include factory store centers, discount centers for home furniture, appliances, home improvement and sports, and commercial recreation centers for such activities such as bowling, skating, tennis, racquetball, water-oriented amusements and miniature golf. Uses which cater to the highway traveler include motels, restaurants, auto and truck sales and service, fuel stations, auto repair, RV sales and service, boat sales and service, sports equipment, bank service, truck stops and terminals, bus stops, and facilities for overnight camping and RV parking.

City of Lathrop General Plan Policies: General Plan policies applicable to land use are summarized below. General Plan policies associated with specific environmental topics (aesthetics, air quality, agriculture, biological resources, cultural resources, geology/soils/mineral resources, hazards, hydrology/water quality, noise, public services/recreation, transportation, utilities, etc.) are discussed in the relevant chapters of this EIR.

Annexation through Phased Development:

The annexation of lands to the outer boundaries of urbanization depicted by the General Plan Diagram is to be pursued through development phasing which seeks to avoid a disjointed pattern of urbanization, to avoid creating unnecessary conflicts with continuing agricultural operations, and to avoid adverse impacts on the provision and maintenance of public services and facilities. Annexation is not intended as a means to foster the premature development of lands within the Lathrop Planning Area. However, annexation may be viewed as an opportunity to assure that land will ultimately be developed in accordance with policies of the Lathrop GP even though development soon after annexation may not be intended either by the landowner or the City (Lathrop GP, p.2-13).

Achieving Visual and Functional Quality in New Development:

> **Policy 1:** Architectural design review should be required of all Planned Developments (PD's), and of all multi-family, office, commercial, institutional and industrial uses.

Commercial Development:

Policy 4: Proposals for the classifications of retail activity described in Part IV-A of the Plan are to be considered as offering flexibility for ingenuity and innovation in the selection, promotion, design and development of commercial centers and uses.

County of San Joaquin General Plan

The County GP has a policy of growth accommodation with the caveat that in order for the growth to occur, the property must be annexed and financial mechanisms in place to ensure adequate urban services are provided. The County GP has directed most of the anticipated development to designated urban communities. The City of Lathrop is a designated urban community in the County GP (County GP, p. IV-2).

The proposed annexation area is currently located in the planning jurisdiction of San Joaquin County, and is designated, and zoned for General Industrial (I/G) uses by the County of San Joaquin. This designation provides for a full range of industrial activities whose location and operation tend to have moderate to high nuisance characteristics and therefore require segregation from other land uses. Typical uses include manufacturing, distribution, storage, and wholesaling.

County of San Joaquin General Plan Land Use Map: The Land Use Map portrays the ultimate uses of land in San Joaquin County through land use designations. The project applicant will be requesting that the proposed annexation area be annexed to the City of Lathrop to eliminate the conflict with all County land use designations and to permit the area to be developed under city standards.

San Joaquin Local Agency Formation Commission (LAFCo)

The San Joaquin LAFCo is responsible for coordinating orderly reorganization to local jurisdictional boundaries, including annexations. Annexation of the Plan Area to the City of Lathrop is subject to LAFCo approval, and LAFCo will review the proposed annexation for consistency with LAFCo's Annexation Policies and Procedures. An annexation can only be approved if the applicable Municipal Services Review (MSR) and Plan for Services demonstrate that adequate services can be provided to the annexed area. An MSR, produced as part of a LAFCo's regular review of municipal services, consists of a written statement of its determinations regarding infrastructure, growth and population projections, financing, cost avoidance, rate restructuring, shared facilities, government structure options, management efficiency, and local accountability and governance. An annexation proposal must include a Plan for Services consistent with the applicable MSR and must demonstrate that the City is capable of providing the required services. The City must pre-zone the lands to be annexed and subsequent changes to the General Plan land use designation and zoning are prohibited for two years.

San Joaquin LAFCo has adopted Policies and Procedures for Annexation and Detachment to and from all agencies within their jurisdiction. LAFCo has also adopted Procedures for the California Environmental Quality Act in accordance with the California Code of Regulations (Chapter 3, Title

14 Section 15022), which requires that each public agency adopt objectives, criteria, and specific procedures for administering its responsibilities under CEQA. Below is a brief discussion of San Joaquin LAFCo Policies and Procedures.

LAFCO CHANGE OF ORGANIZATION POLICIES AND PROCEDURES (INCLUDING ANNEXATIONS AND REORGANIZATIONS) (AS AMENDED 12/14/12)

General Standards for Annexation and Detachment

These standards govern San Joaquin LAFCo determinations regarding annexations and detachments to and from all agencies. The annexations or detachments must be consistent with the general policies set forth in these Policies and Procedures.

1. Spheres and Municipal Service Reviews

   The annexation or detachment must be consistent with the internal planning horizon of the sphere of influence. The land subject to annexation shall normally lie within the first planning increment (5-10 year) boundary. The annexation must also consider the applicable Municipal Service Review. An annexation shall be approved only if the Municipal Services Review and the Sphere of Influence Plan demonstrates that adequate services can be provided with the timeframe needed by the inhabitants of the annexed area. If detachment occurs, the sphere will be modified. LAFCo generally will not allow spheres of influence to be amended concurrently with annexation proposals.

   Proposed annexations of land that lie outside of the first planning horizon (5-10 year) are presumed to be inconsistent with the Sphere Plan. In such a case the agency must first request LAFCo to consider a sphere amendment pursuant to the above policies. If the amendment is approved, the agency may then proceed with the annexation proposal. A change of organization or reorganization will not be approved solely because an area falls within the SOI of any agency.

   As an exception to the presumed inconsistency mentioned above, Master Plan and Specific Plan developments may span several planning horizons of the sphere of influence. Annexation of the entire project area may be desirable in order to comprehensively plan and finance infrastructure and provide for amenity-based improvements. In these cases, no amendment of the planning horizon is necessary provided project phasing is recognized in the Sphere of Influence Plan.

2. Plan for Services

   Every proposal must include a Plan for Services that addresses the items identified in Section 56653 of the Government Code. The Plan for Services must be consistent with the Municipal Service Review of the Agency. Proponents must demonstrate that the city or special district is capable of meeting the need for services.

3. Contiguity

Territory proposed to be annexed to a city must be contiguous to the annexing city or district unless specifically allowed by statute. Territory is not contiguous if the only connection is a strip of land more than 300 feet long and less than 200 wide, that width to be exclusive of highways. The boundaries of a proposed annexation or reorganization must not create or result in areas that are difficult to serve.

4. Development within Jurisdiction

   Development of existing vacant or non-prime agricultural lands for urban uses within the existing jurisdiction or within the sphere of influence should be encouraged before any proposal is approved which would allow for or lead to the development of existing open space lands for non-open space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency. (Section 56377)

5. Progressive Urban Pattern

   Annexations to agencies providing urban services shall be progressive steps toward filling in the territory designated by the affected agency's adopted sphere of influence. Proposed growth shall be from inner toward outer areas.

6. Piecemeal Annexation Prohibited

   LAFCo requires annexations and detachments to be consistent with the schedule for annexation that is contained in the agency's Sphere of Influence Plan. LAFCo will modify small piece-meal or irregular annexations, to include additional territory in order to promote orderly annexation and logical boundaries, while maintaining a viable proposal. In such cases, detailed development plans may not be required for those additional areas but compliance with CEQA is required.

7. Annexations to Eliminate Islands

   Proposals to annex islands or to otherwise correct illogical distortion of boundaries will normally be approved unless they would violate another provision of these standards. In order to avoid the creation of an island or to encourage the elimination an existing island, detailed development plans may not be required for the remnant areas.

8. Annexations that Create Islands

   An annexation will not be approved if it will result in the creation of an island of unincorporated territory of otherwise cause or further the distortion of existing boundaries. The Commission may nevertheless approve such an annexation where it finds that the application of this policy would be detrimental to the orderly development of the community and that a reasonable effort has been made to include the island in the annexation but that inclusion is not feasible at this time.

9. Substantially Surrounded

   For the purpose of applying the provisions of the Cortese-Knox-Hertzberg Act regarding island annexation without protest hearings (Section 56375.5), the subject territory of an annexation proposal shall be deemed "substantially surrounded" if it is within the sphere of influence of the affected city and two-thirds (66-2/3%) of its boundary is surrounded by the affected city.

10. Definite and Certain Boundaries

    All boundaries shall be definite and certain and conform to lines of assessment or ownership. The Commission's approval of boundary change proposals containing split parcels will typically be subject to a condition requiring the recordation of a parcel map, lot line adjustment or other instrument to avoid creating remnants of legal lots.

11. Service Requirements

    An annexation shall not be approved merely to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services or service more basic to public health and welfare.

12. Adverse Impact of Annexation on the Other Agencies

    LAFCo will consider any significant adverse effects upon other service recipients or other agencies serving the area and may condition any approval to mitigate such impacts. Significant adverse effects shall include the effect of proposals that negatively impact special districts' budgets or services or require the continuation of services without the provision of adequate funding. LAFCo will not approve detachments from special districts or annexations that fail to provide adequate mitigation of the adverse impact on the district. LAFCo may determine an appropriate temporary mitigation, if any, and impose that temporary mitigation to the extent it is within its powers. If the needed mitigation is not within LAFCo's authority and approval would, in the opinion of the Commission, seriously impair the District's operation, the Commission may choose to deny the application.

13. District's Proposal to Provide new, different, or Divestiture of a Particular Function or Class of Services

    In addition to the plan for services specified in Section 2 of these Policies and Procedures any application for a new, different, or divestiture of a service shall also include the requirements outlined in Section 56824.12 of the Government Code. Applications for such request will be considered a change of organization and shall follow the requirements of such an application as outlined in the Cortese-Knox-Hertzberg Act and within these policies and procedures. The factors enumerated in Sections 56668 and 56824.14 of the Government Code shall be considered by the Commission at the time of consideration of the application for such functions.

14. Disadvantaged Unincorporated Communities

    Disadvantaged Unincorporated Communities (DUCs) are those territories shown in Exhibit A or as may be shown in a city municipal service review and sphere of influence plan.

    The Commission shall not approve an annexation to a city or any territory greater than 10 acres where there exists a disadvantaged unincorporated community (DUC) that is contiguous to the area of proposed annexation, unless a concurrent application to annex all or a portion of the DUC to the subject city has been filed. An application to annex a DUC shall not be required if either of the following applies:

    1. A prior application for annexation of the territory has been made in the preceding five years.

    2. The Commission finds, based upon written evidence, that a majority of the registered voters within the DUC are opposed to annexation.

       Written evidence can be a scientific survey conducted by an academic institution or professional polling company.

15. Protest Procedures

    The Commission delegates the conducting authority functions and responsibilities to the LAFCo Executive Officer pursuant to Government Code Section 57000.

City Annexations

1. Annexation of Streets

   Annexations shall reflect the logical allocation of streets and rights of way as follows:

   - Territory should be included within the annexation to assure that the city reasonably assumes the burden of providing adequate roads to the property to be annexed. LAFCo will require cities to annex streets where adjacent lands that are in the city will generate additional traffic or where the annexation will isolate sections of county road. Cities shall include all contiguous public roads that can be included without fragmenting governmental responsibility by alternating city and county road jurisdiction over short section of the same roadway.

   - When a street is a boundary line between two cities the centerline of the street may be used as the boundary or may follow a boundary reached by agreement of the affected cities.

2. Pre-zoning Required

   The Cortese-Knox-Hertzberg Act requires the city to pre-zone territory to be annexed, and prohibits subsequent changes to the General Plan and /or pre-zoning designations for a period of two years after completion of the annexation, unless the city council makes a finding at a public hearing consistent with the provisions of Governments Code Section

56375(e). In instances where LAFCo amends a proposal to include additional territory, the Commission's approval of the annexation will be conditioned upon the pre-zoning of the new territory.

LAFCo Procedures for the California Environmental Quality Act (Adopted June 20, 2007)

LAFCO AS RESPONSIBLE AGENCY

When LAFCo is a Responsible Agency, the Commission shall certify that it has reviewed the Lead Agency's environmental documents and, if required, adopt findings for approval and statements of overriding considerations in accordance with Sections 15091 and 15903 of the CEQA Guidelines.

1. Consultation: The Executive Officer shall respond to consultation by the Lead Agency to assure that the environmental document will be adequate for LAFCo's use. The Executive Officer shall reply certified mail within 30 days after receiving a Notice of Preparation from the Lead Agency.

2. Comments: The Executive Officer shall submit comments to the Lead Agency on draft EIRs and Negative Declarations concerning the adequacy or appropriateness of the document. The comments shall be limited to those project activities which are related to LAFCo's area of expertise or which will be required to be considered by LAFCo.

3. Adequacy of EIR or Negative Declaration: If the Executive Officer finds that the Negative Declaration or EIR prepared by the Lead Agency is not adequate for LAFCo use, the Executive Officer shall bring the matter to the Commission prior to 30 days after the Lead Agency files a Notice of Determination.

4. Final EIR or Negative Declaration: The Executive Officer shall provide the final EIR or Negative Declaration to Commissioners prior to, or along with, the Staff Report.

5. Findings and Statements: The Executive Officer shall prepare, or cause to be prepared, "draft" Findings and Statements, findings for approval, and statements of overriding considerations for Commission consideration.

6. Notice of Determination: The Executive Officer shall file a Notice of Determination within 5 working days after deciding to carry out or approve the project.

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMCP)

The SJMSCP provides comprehensive measures for compensation and avoidance of impacts on various biological resources, including agricultural land. One of the primary goals of the SJMSCP is to preserve productive agriculture where that goal is compatible with protecting and preserving lands with biological resources and habitat. The SJMSCP is administered by the San Joaquin Council of Governments (SJCOG). Projects pay fees to SJCOG on a per-acre basis for designated agricultural lands open space and habitat that are converted to urban use. SJCOG then uses these funds to

purchase conservation easements on agricultural and habitat lands in the region. The purchase of conservation easements allow the landowners to retain ownership of the land and continue agricultural operations, essentially preserving such lands in perpetuity. Additionally, the SJMCP provides Incidental Take Minimization Measures (ITMMs) issued to projects. The Plan allows SJMSCP Permittees (SJCOG, Inc., San Joaquin County and the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton and Tracy) to issue Incidental Take Permits or allows project applicants to mitigate for impacts to SJMSCP Covered Species resulting from Open Space land conversion resulting from covered projects. Once an Incidental Take Permit is issued it allows the project applicant to unintentionally "Take" a threatened or endangered species listed under the Federal and California Endangered Species Act. The Pilot Flying J project will likely need to go through the Unmapped Land Use Project process. This process will seeks coverage under the SJMSCP "*Section 8.2.1(10) Checklist for Unmapped SJMSCP Projects*." The applicant must provide supporting documentation for SJCOG to review and confirm that the proposed project is consistent with the SJMSCP and the Biological Opinion. If the Habitat Technical Advisory Committee confirms that the proposed project is consistent with the SJMSCP, they will recommend to the Joint Powers Authority that the project receive coverage under the SJMSCP.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on land use and planning if it will:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

The following topic was found to have a less than significant impact or no impact during the preparation of the Initial Study (IS) for the proposed project. The IS determined this CEQA topic is not relevant to the proposed project and does not require further analysis.

- Physically divide an established community

IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: The proposed project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect (less than significant)

CONSISTENCY WITH SAN JOAQUIN COUNTY LAFCO

The project site is currently in an unincorporated portion of San Joaquin County adjacent to the City of Lathrop's city limits and within the City's Sphere of Influence (SOI). The proposed project requires annexation of the project site into the city limits. As part of the annexation, a larger approximately 26-acre proposed annexation area will be annexed; no development or changes in land use is proposed for the remainder of the annexation area.

LAFCo is serving as a responsible agency for this EIR pursuant to their *LAFCo Procedures for the California Environmental Quality Act (Adopted June 20, 2007).* When LAFCo is a Responsible Agency under CEQA, in order to approve the annexation, the Commission will certify that it has reviewed the Lead Agency's environmental documents and, if required, adopt findings for approval and statements of overriding considerations in accordance with Sections 15091 and 15903 of the CEQA Guidelines. The City of Lathrop has consulted LAFCo. The consultation process included sending LAFCo a copy of the Notice of Preparation during the 30-day public review period. LAFCo will also be sent a copy of the Draft EIR during the 45-day public review period and the Final EIR for their use in the annexation process. If the Executive Officer determines that the Draft and Final EIR are adequate for their use, he/she will prepare, or cause to be prepared, "draft" Findings and Statements, findings for approval, and statements of overriding considerations for LAFCo Commission consideration. If the LAFCo Commission approves the annexation, the Executive Officer will file a Notice of Determination within five working days after deciding to approve the annexation.

The San Joaquin LAFCo will review the proposed annexation for consistency with the *LAFCo Change of Organization Policies and Procedures (Including Annexations and Reorganizations)*. These policies and procedures govern San Joaquin LAFCo determinations regarding annexations to all agencies. The following policies will be reviewed as part of the annexation process by the San Joaquin LAFCo.

GENERAL STANDARDS FOR ANNEXATION AND DETACHMENT

1. Spheres and Municipal Service Reviews: This policy requires an annexation to be consistent with the internal planning horizon of the SOI, which means that the land would normally lie within the first planning increment (5-10 year) boundary. The annexation must also only be approved if the Municipal Services Review and the SOI Plan demonstrates that adequate services can be provided with the timeframe needed by the annexed area. Proposed annexations that lie outside of the first planning increment (5-10 year) boundary are presumed to be inconsistent with the Sphere Plan and must first request a sphere

amendment prior to proceeding with the annexation. The *Lathrop Municipal Services Review and Sphere of Influence Plan* does not identify the Plan Area within the first planning increment; therefore, a sphere amendment prior to proceeding with the annexation may be required. Ultimately, LAFCo will decide whether the proposed annexation would first require an SOI amendment. The proposed annexation would likely require an update to the *Lathrop Municipal Service Review and Sphere of Influence Plan* in order to approve the annexation.

2. Plan for Services: This policy states that every proposal must include a Plan for Services that addresses the items identified in Section 56653 of the Government Code. The Plan for Services must be consistent with the Municipal Service Review of the Agency.

   The Draft EIR assesses service capacity and demands for these services. There are not any service deficiencies noted by the City of Lathrop, or contained within this EIR that are anticipated to occur after installation of infrastructure. The proposed annexation area is within the Lathrop Water Service Area boundary, and the Wastewater Service Area boundary as defined by LAFCo, however, the proposed annexation may require an update to the *Lathrop Municipal Service Review and Sphere of Influence Plan* in order to ensure consistency with this policy.

3. Contiguity: This policy requires the land to be annexed to be contiguous to the city. Territory is not contiguous if the only connection is a strip of land more than 300 feet long and less than 200 wide, that width to be exclusive of highways. The boundaries of a proposed annexation or reorganization must not create or result in areas that are difficult to serve.

   The proposed annexation area is contiguous to the Lathrop city limits along the southern boundary of the project area. The additional land located to the west of the Flying J Travel Center would also be included in the annexation, as described in Section 2.0, to provide for a logical development and annexation pattern within the area. Additional land proposed to be annexed includes the remaining portion of the 24.5-acre parcel on which the project site is located, a 1.97 acre parcel (APN 193-330-31) located adjacent to the northwest portion of the project site, and a 1.18 acre parcel (APN 193-330-17) located west of the project site across Harlan Road. Other than development of the Pilot Flying J Travel Center on the approximately 9- acre site, all other uses in the annexation area would remain unchanged; no development of these areas has been proposed as a part of this project.

4. Development within Jurisdiction: This policy encourages development of existing vacant or non-prime agricultural lands for urban uses within the existing jurisdiction or SOI before approval that would lead to the development of existing open space lands for non-open space uses.

   The proposed annexation area is within the SOI: lands within the project area are designated for development under the General Plan. Additionally, there are no agricultural

resources located on or adjacent to the proposed annexation area. There are no Williamson Act contracts on, or adjacent to the project site, and the Department of Conservation Farmland Mapping and Monitoring Program (FMMP) does not delineate any important farmland on or adjacent to the project site. The proposed annexation area (including the proposed Pilot Flying J project site) is not designated by the City of Lathrop, or San Joaquin County for agricultural uses. The Pilot Flying J project site is a portion of a larger underutilized parcel currently used for commercial purposes. The proposed project would not result in the development of existing open space lands for non-open space uses.

5. Progressive Urban Pattern: This policy states that annexations shall be progressive steps toward filling in the territory designated by the SOI. Proposed growth shall be from inner toward outer areas.

   The proposed annexation area is within the SOI and is designated for urban development under the General Plan. The proposed project would develop the southeastern most portion of the proposed annexation area (adjacent to the Lathrop city limits) and continues the pattern of urbanization, including commercial highway uses, that occurs within the City limits to the south of the proposed annexation area.

6. Piecemeal Annexation Prohibited: This policy requires annexations to be consistent with the schedule for annexation that is contained in the agency's Sphere of Influence Plan. LAFCo will modify small piece-meal or irregular annexations, to include additional territory in order to promote orderly annexation and logical boundaries, while maintaining a viable proposal. In such cases, detailed development plans may not be required for those additional areas but compliance with CEQA is required.

   Annexation of the Plan Area is contiguous with the city limits. Additionally, parcels in addition to the proposed Flying J Travel Center site are also proposed for annexation into the City of Lathrop to provide for a logical and orderly development pattern.

7. Annexations to Eliminate Islands: This policy states that proposals to annex islands or to otherwise correct illogical distortion of boundaries will normally be approved unless they would violate another provision of these standards. In order to avoid the creation of an island or to encourage the elimination an existing island, detailed development plans may not be required for the remnant areas.

   The proposed annexation includes lands contiguous with the current city limits and connected partials within the SOI. Parcels proposed for annexation do not involve the creation of or the elimination of islands.

8. Annexations that Create Islands: This policy states that an annexation will not be approved if it will result in the creation of an island of unincorporated territory of otherwise cause or further the distortion of existing boundaries. The Commission may nevertheless approve such an annexation where it finds that the application of this policy would be detrimental

to the orderly development of the community and that a reasonable effort has been made to include the island in the annexation but that inclusion is not feasible at this time.

The proposed annexation includes lands contiguous with the current city limits and connected partials within the SOI. Parcels proposed for annexation do not involve the creation of islands.

9. Substantially Surrounded: This policy states that for the purpose of applying the provisions of the Cortese-Knox-Hertzberg Act regarding island annexation without protest hearings (Section 56375.5), the subject territory of an annexation proposal shall be deemed "substantially surrounded" if it is within the sphere of influence of the affected city and two-thirds (66-2/3%) of its boundary is surrounded by the affected city.

   As previously stated, the proposed annexation does not involve island annexation. Therefore, this policy is not relevant to the proposed annexation.

10. Definite and Certain Boundaries: This policy states that all boundaries shall be definite and certain and conform to lines of assessment or ownership. The Commission's approval of boundary change proposals containing split parcels will typically be subject to a condition requiring the recordation of a parcel map, lot line adjustment or other instrument to avoid creating remnants of legal lots.

    The proposed annexation boundaries are definite and certain and conform to lines of ownership.

11. Service Requirements: This policy states that an annexation shall not be approved merely to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services or service more basic to public health and welfare.

    The proposed annexation is not merely to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services or service more basic to public health and welfare. As stated further in the Public Services (Section 3.11) and Utilities (Section 3.13), the City had adequate service capacity to serve the proposed project without reducing the adequacy of services elsewhere. Therefore, the proposed annexation is consistent with this policy.

12. Adverse Impact of Annexation on the Other Agencies: This policy states that LAFCo will consider any significant adverse effects upon other service recipients or other agencies serving the area and may condition any approval to mitigate such impacts. Significant adverse effects shall include the effect of proposals that negatively impact special districts' budgets or services or require the continuation of services without the provision of adequate funding. LAFCo will not approve annexations that fail to provide adequate mitigation of the adverse impact on the district. LAFCo may determine an appropriate temporary mitigation, if any, and impose that temporary mitigation to the extent it is

within its powers. If the needed mitigation is not within LAFCo's authority and approval would, in the opinion of the Commission, seriously impair the District's operation, the Commission may choose to deny the application.

This EIR includes an assessment of the impacts of the proposed project and proposed annexation on service agencies. The proposed Flying J Travel Center and proposed annexation would not result in any significant, adverse impacts to any of the service agencies such that it would seriously impair operation.

13. District's Proposal to Provide new, different, or Divestiture of a Particular Function or Class of Services: This policy relates to proposals for new, different, or divestiture of services, which is not relevant to the proposed annexation.

14. Disadvantaged Unincorporated Communities: This policy prohibits an annexation where a Disadvantaged Unincorporated Community (DUC) is contiguous to the area of proposed annexation, unless a concurrent application to annex all or a portion of the DUC to the subject city has been filed. The Plan Area is not within or contiguous to an area designated as a DUC. This policy is not relevant to the proposed annexation.

CITY ANNEXATIONS

1. Annexation of Streets: This policy states that annexations shall reflect the logical allocation of streets and rights of way to assure that the city reasonably assumes the burden of providing adequate roads to the property to be annexed. LAFCo will require cities to annex streets where adjacent lands that are in the city will generate additional traffic or where the annexation will isolate sections of county road. Cities shall include all contiguous public roads that can be included without fragmenting governmental responsibility by alternating city and county road jurisdiction over short section of the same roadway. When a street is a boundary line between two cities the centerline of the street may be used as the boundary or may follow a boundary reached by agreement of the affected cities.

2. Pre-zoning Required: This policy states that the Cortese-Knox-Hertzberg Act requires the city to pre-zone territory to be annexed, and prohibits subsequent changes to the General Plan and /or pre-zoning designations for a period of two years after completion of the annexation.

   The proposed project includes the adoption of pre- zoning for the proposed annexation area, which will serve to regulate the uses of land and structures within the project area. The area will be pre-zoned to the zoning district Highway Commercial and will be subject to the development standards as described in the Zoning Ordinance. The Zoning Ordinance is proposed to ensure consistency between land use and zoning designations. The proposed annexation is consistent with this policy.

The policies discussed above are intended to ensure orderly reorganization to local jurisdictional boundaries, including annexations. Ultimately, LAFCo will determine whether the proposed

annexation would first require an SOI amendment to address the timing of the annexation and also whether an update to the *Lathrop Municipal Service Review and Sphere of Influence Plan* is needed in order to approve the annexation. This LAFCo policy was not specifically adopted to avoid or mitigate an environmental effect, rather it is intended to ensure orderly and logical reorganization to local jurisdiction boundaries, including annexations. The proposed project is consistent with LAFCo policies adopted to address environmental impacts, specifically impacts to agricultural lands and public services. As such, implementation of the proposed project will have a ***less than significant*** impact relative to this topic.

CONSISTENCY WITH THE SAN JOAQUIN COUNTY GENERAL PLAN

The proposed project would annex the proposed annexation area into the City of Lathrop. At such time, the County GP would no longer regulate development on the project site or remaining proposed annexation area. Therefore, implementation of the proposed project, including the annexation, would have a ***less than significant*** impact relative to the County GP.

CONSISTENCY WITH THE CITY OF LATHROP GENERAL PLAN

The proposed project would result in the annexation of a total of three parcels totaling approximately 26 acres into the City of Lathrop. The proposed project is consistent with the City's land use designation and the Lathrop GP Land Use Map, which designates the entire annexation area as Freeway Commercial (FC). Consistency with the General Plan's land use and environmental requirements and policies are addressed in each individual section of this EIR. As such, implementation of the proposed project will have a ***less than significant*** impact relative to this topic.

CONSISTENCY WITH THE CITY OF LATHROP ZONING ORDINANCE AND MAP

The Zoning Ordinance has been established to promote and protect the public health, safety, and general welfare of the community. Among the various objectives of the Zoning Ordinance include the promotion of development at appropriate densities/ floor area ratios in order to conserve and enhance the City's physical scale and character as defined in the General Plan. The City of Lathrop's Zoning Ordinance includes land use, development densities and development standards.

The proposed project includes the pre-zoning of the project area. The City's pre-zoning will follow the land use designation intent of General Plan Land Use Map (Freeway Commercial), as such the site will be zoned Highway Commercial (CH). The pre-zoning would go into effect upon annexation into the City of Lathrop.

The pre-zoned Highway Commercial (CH) Zoning District (Section 17.44.050) would require a Zoning Code Text Amendment to include Travel Plaza and/or Truck Stop as a Conditional Use under the existing zoning requirements. Additionally, the current Zoning Code (Section 17.84.100 Master Signage Program) would require a Zoning Code Text Amendment to allow the two detached signs up to 110 feet high on the project site. However, the City of Lathrop is currently processing Municipal Code Text Amendment No. TA-16-18. The intent of this effort by the City is to adopt various amendments to the Lathrop Municipal Code (LMC) to modernize, simplify, and

streamline the Zoning, Title 17 of the LMC. This update includes integration of current City policies, State and Federal law, and best practices within the planning profession. The two relevant amendments are as follows:

- Section 17.44.050 (Highway Commercial): To modify, add, delete certain uses related to assembly uses, recycling center, massage establishment and travel plaza or truck stop.
- Section 17.84.100 (Master Signage Plans): To clarify and update the requirements of the Master Sign Plan process.

The Municipal Code Text Amendment No. TA-16-18 is anticipated to be approved prior to this EIR being presented to the City Council for their consideration. As such, at this time it is anticipated that the City initiated Municipal Code Text Amendment No. TA-16-18 would negate any need to process zoning text amendments for the proposed project.

Consistency with the Lathrop Municipal Code, including the Zoning Ordinance, is addressed in each individual section of this EIR. Implementation of the proposed project will have a ***less than significant*** impact relative to this topic.

Impact 3.9-2: The proposed project has the potential to conflict with an applicable habitat conservation plan or natural community conservation plan (less than significant)

SAN JOAQUIN COUNTY MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

The City of Lathrop adopted the SJMSCP in January 2001 and signed the implementation agreement in 2002. The City's participation allows projects within Lathrop's jurisdiction to seek coverage under the SJMSCP for impacts to endangered, threatened, and species of special concern.

As described in greater detail under Impact 3.3-10 in Section 3.3 (Biological Resources), the proposed project is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The proposed project includes the annexation of land into an existing incorporated city limits and is located immediately adjacent to the boundaries of the defined community, which falls into the category of an unmapped land use under the SJMSCP. Projects in this category are subject to a case-by-case review by the Habitat Technical Advisory Committee (HTAC) to ensure that the biological impacts of the proposed project are within the parameters established by the SJMSCP and the Biological Opinion.

"Unmapped Land Use Projects" that seek coverage under the SJMSCP are required to complete the "*Section 8.2.1(10) Checklist for Unmapped SJMSCP Projects*" with supporting documentation for SJCOG to review and confirm that the proposed project is consistent with the SJMSCP and the Biological Opinion. If the HTAC confirms that the proposed project is consistent with the SJMSCP, they will recommend to the Joint Powers Authority that the project receive coverage under the SJMSCP.

Findings to be determined by SJMSCP biologist require the following steps to satisfy SJMSCP requirements:

- Schedule a SJMSCP Biologist to perform a pre-construction survey prior to any ground disturbance.
- SJMSCP Incidental take Minimization Measures and mitigation requirement.

The project proponent is required to comply with SJMSCP Incidental Take Minimization Measures and mitigation requirement and schedule a SJMSCP Biologist to perform a pre-construction survey prior to any ground disturbance. Prior to issuance of grading permits the project proponent will be required to coordinate with SJCOG and will be responsible for the appropriate coverage, permits, compensatory mitigation or fees, and project specific avoidance, minimization, and mitigation measures as defined within the SJMSCP. The proposed project does not conflict with the implementation of the SJMSCP and has appropriate mitigation measures (detailed in Section 3.3) to ensure compliance and consistency with the SJMSCP. Therefore, Implementation of the proposed project would have a ***less than significant*** impact relative to compliance with the SJMSCP.

This section provides a general description of the existing noise sources in the project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts.

3.10.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise

exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dB penalty for evening noise. Table 3.10-1 lists several examples of the noise levels associated with common situations.

TABLE 3.10-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2009.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for the primary project-area roadways. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic study prepared for the project (Fehr & Peers, December 2015). Day/night traffic distributions were based upon continuous hourly noise measurement data collected and file data for similar roadways. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. The location of the continuous noise monitoring site is shown on Figure 3.10-1. Table 3.10-2 shows the results of this analysis. Appendix A provides the complete inputs and results for the FHWA traffic noise modeling.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated

roadways, or elevated receivers. The distances reported in Table 3.10-2 are generally considered to be conservative estimates of noise exposure along the project-area roadways.

TABLE 3.10-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY	*SEGMENT*	*NOISE LEVEL AT CLOSEST RECEPTORS (L_{DN}), DB*	*DISTANCES TO TRAFFIC NOISE CONTOURS, L_{DN} (FEET)*		
			70 DB	*65 DB*	*60 DB*
Roth Road	East of McKinley Ave.	70.3	105	226	486
McKinley Ave.	North of Roth Road	60.7	12	26	56

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. EXISTING NOISE LEVELS ARE BASED ON PREDICTIONS, NOT FULL MEASUREMENTS.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS., CALTRANS AND J.C. BRENNAN & ASSOCIATES, INC. 2015.

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document existing ambient noise levels in the proposed annexation area. Continuous 24-hour noise monitoring was conducted at one site to record day-night statistical noise level trends. The 24-hour noise measurement was supplemented with short-term noise measurements at one additional location at two different times of day. The data collected included the hourly average (L_{eq}), median (L_{50}), and the maximum level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.10-3. Figure 3.10-1 shows the locations of the noise monitoring sites. The complete noise monitoring results are contained in Appendix B.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 and Model 824 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

TABLE 3.10-3: EXISTING AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	LDN (DBA)	MEASURED HOURLY NOISE LEVELS, DBA					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM – 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
A	South center on Project Site – 80 feet from centerline of Roth Road, 350 feet to center of Diamond Pet Foods. Roth Road and Diamond Pet Foods are primary noise sources.	Tue/Wed 10/27/15 – 10/28/15	69	68	79	67	67	80
1	East side of South McKinley Ave. at Residential uses.	5:14 pm – 10/27/15	65	59	81	Traffic on S. McKinley, Roth Road, and Diamond Pet Foods are primary noise sources		
		7:29 pm – 10/28/15	65	62	77			

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. - 2015

The results of the community noise survey shown in Table 3.10-3 indicate that existing transportation noise sources were a major contributor of ambient noise in the project vicinity. Additionally, stationary noise from Diamond Pet Foods to the south was also a dominant noise source in the proposed annexation area. Train activity on the adjacent UPRR line was not observed during visits to the site but would likely contribute to the ambient noise environment during train passages, especially when sounding warning horns at the Roth Road at-grade crossing.

3.10.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance criteria section.

California State Building Codes

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings

which house people, including hotels, motels, dormitories, apartment houses and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room.

Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment

CITY OF LATHROP

City of Lathrop General Plan

For the purposes of evaluating noise impacts due to new projects, the goals and policies of the City of Lathrop General Plan Noise Element are used. The Noise Element outlines the following Goals and Policies:

Goals

The Goals of the Noise Element of the General Plan are to protect citizens from the harmful effects of exposure to excessive noise, and to protect the economic base of the City by preventing the encroachment of incompatible land uses near noise-producing roadways, industries, the railroad, and other sources.

Policies

The following policies reflect the commitment of the City to the noise-related goals outlined above:

1. Areas within the City shall be designated as noise-impacted if exposed to existing or projected future noise levels exterior to buildings exceeding 60 dB CNEL or the performance standards pre scribed in Table VI-1.

2. New development of residential or other noise sensitive land uses will not be permitted in noise impacted areas unless effective mitigation measures are incorporated into project designs to reduce noise to the following levels:

FIGURE VI-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

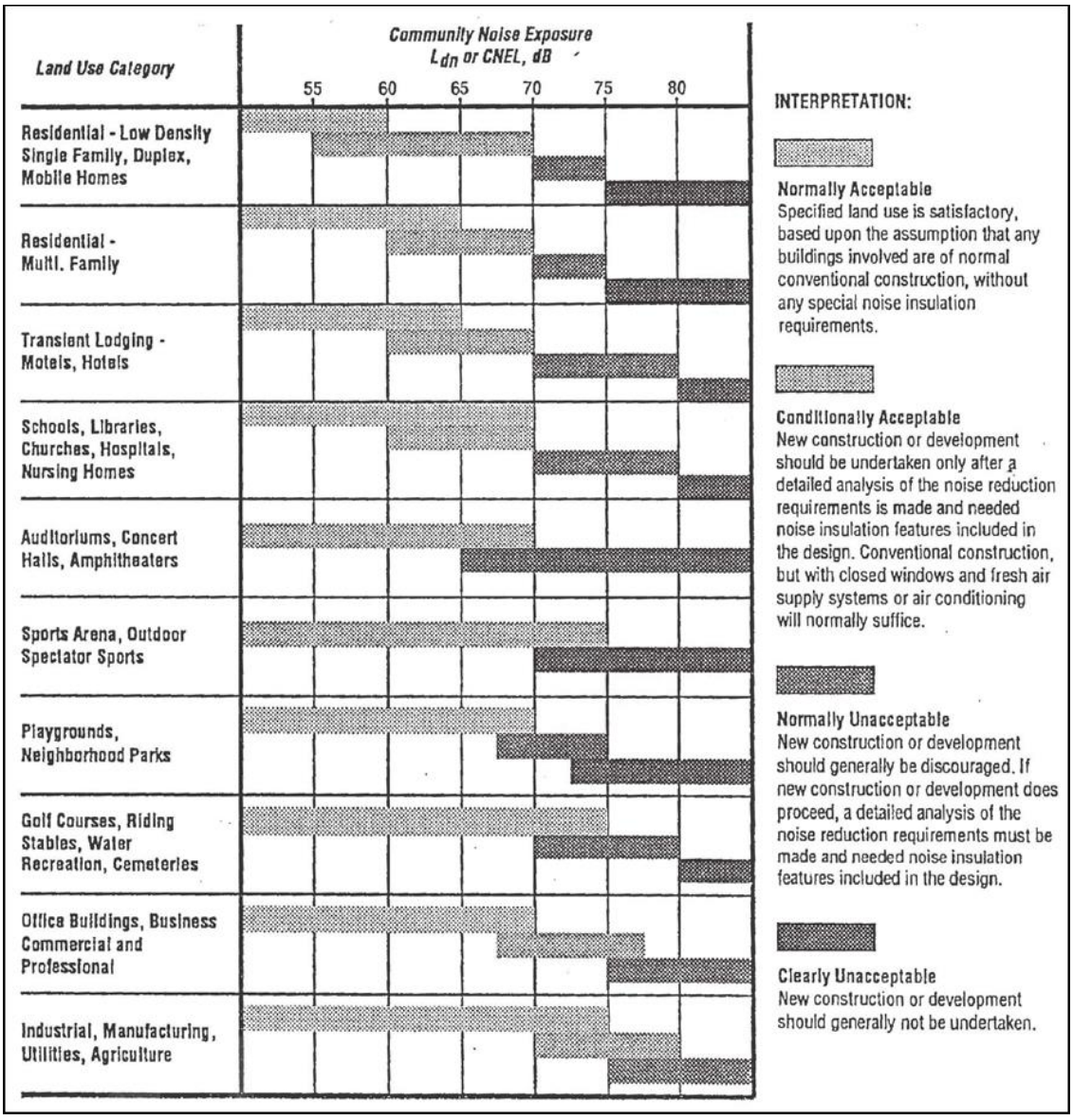


TABLE VI-1: EXTERIOR HOURLY NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES

*EXTERIOR NOISE LEVEL STANDARDS**						
RECEIVING LAND USE	*NIGHTTIME (10 PM – 7 AM)*			*DAYTIME (7 AM – 10 PM)*		
	RS	*S*	*U*	*RS*	*S*	*U*
One and Two Family Residential	40 dB	45 dB	50 dB	50 dB	55 dB	60 dB
Multi-Family Residential	45 dB	50 dB	55 dB	50 dB	55 dB	60 dB
Public Space	50 dB	55 dB	60 dB	50 dB	55 dB	60 dB
Limited Commercial		55 dB			60 dB	
Commercial		60 dB			65 dB	
Light Industrial		70 dB			70 dB	
Heavy Industrial		75 dB			75 dB	

RS-Rural Suburban, S-Suburban, U-Urban			
Nighttime 10 pm – 7 am	Noise Category	Cumulative # of min/1-Hour period	Daytime 7am – 10 pm
45 dB	1	30	55
50 dB	2	15	60
55 dB	3	5	65
60 dB	4	1	70
65 dB	5	0	75

**EACH OF THE NOISE LEVEL STANDARDS SPECIFIED IN TABLE VI-1 SHALL BE REDUCED BY FIVE (5) DB FOR PURE TONE NOISES, NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC, OR FOR RECURRING IMPULSIVE NOISES. THE STANDARDS SHOULD BE APPLIED AT A RESIDENTIAL OR OTHER NOISE-SENSITIVE LAND USE AND NOT ON THE PROPERTY OF A NOISE-GENERATING LAND USE. NIGHTTIME AND DAYTIME STANDARDS ARE MEASURED BY DB.*

2a. Noise sources preempted from local control, such as railroad and highway traffic:

- 60 dB CNEL or less in outdoor activity areas;
- 45 dB CNEL within interior living spaces or other noise-sensitive interior spaces.
- Where it is not possible to achieve reductions of exterior noise to 60 dB CNEL or less by using the best available and practical noise reduction technology, an exterior noise level of up to 65 dB CNEL will be allowed.
- Under no circumstances will interior noise levels be allowed to exceed 45 dB CNEL with windows and doors closed.

2b. For noise from other sources, such as local industries:

- 60 dB CNEL or less in outdoor activity areas;
- 45 dB CNEL or less within interior living spaces, plus the performance standards contained in Table VI-1.

3. New development of industrial, commercial or other noise generating land uses will not be permitted if resulting noise levels will exceed 60 dB CNEL in areas containing residential or other noise-sensitive land uses. Additionally, new noise generating land uses which are not preempted from local noise regulation by the State of California will not be permitted if resulting noise levels will exceed the performance standards contained in Table VI-1 in areas containing residential or other noise-sensitive land uses.

4. Noise level criteria applied to land uses other than residential or other noise-sensitive uses shall be consistent with the recommendations of the California Office of Noise Control.

City of Lathrop Noise Ordinance

The City of Lathrop Noise Ordinance sets limits for community noise exposure, similar to those outlined above in the General Plan Noise Element. The Noise Ordinance standards are contained in Section 8.20.040 of the Lathrop Municipal Code. Construction activities are exempt from these regulations, when conducted according to Section 8.20.110, as outlined below.

Sound Level A, Decibels
Community Environment Classification

Zone	Time	Very Quiet	Slightly Quiet	Noisy
		(rural, suburban)	(suburban, urban)	(urban)
R1 and R2	10 pm to 7 am	40	45	50
	7 pm to 10 pm	45	50	55
	7 am to 7 pm	50	55	60
R3 and R4	10 pm to 7 am	45	50	55
	7 am to 10 pm	50	55	60
Commercial	10 pm to 7 am	50	55	60
	7 am to 10 pm	55	60	65
M1	anytime	70	70	70
M2	anytime	75	75	75

8.20.110 CONSTRUCTION OF BUILDINGS AND PROJECTS.

It shall be unlawful for any person within a residential zone or within a radius of five hundred (500) feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of ten p.m. of one day and seven a.m. of the next day, or eleven p.m. and nine a.m. Fridays, Saturdays and legal holidays, in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless beforehand a permit therefore has been duly obtained from the office or body of the city having the function to issue permits of this kind. No permit shall be required to perform emergency work as defined in Sections 8.20.010 through 8.20.040. (Prior code § 99.40)

San Joaquin County

The San Joaquin County Development Regulations, Section 9-1025.9(b) establishes land use noise level standards for new non-transportation or "stationary" noise sources, as outlined below. These standards may apply to the existing Oakwood Lakes Subdivision located in San Joaquin County, immediately south of Plan Area.

9-1025.9(B) STATIONARY NOISE SOURCES

Proposed projects that will create new stationary noise sources shall be required to mitigate the noise levels from these stationary noise sources so as not to exceed the noise level standards specified in Table 9-1025.9, Part II.

PART II
STATIONARY NOISE SOURCES

	Outdoor Activity Areas[1] Daytime[2] (7 a.m. to 10 p.m.)	Outdoor Activity Areas[1] Nighttime[2] (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (Leq), dB	50	45
Maximum Sound Level (Lmax), dB	70	65

1 Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.

2 Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.

(Ord. 3675; Ord. 4036 § 2(part), 1999)

SOURCE: SAN JOAQUIN COUNTY DEVELOPMENT REGULATIONS: TABLE 9-1025.9, PART II

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project;
- 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, expose people residing or working in the project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The project is not located within two miles of a public or private airport or airstrip. Therefore, airport and airport noise is not discussed further in this analysis.

NOISE STANDARDS

The noise standards applicable to the project include the relevant portions of the City of Lathrop General Plan and San Joaquin County Development Code, as described in the Regulatory Framework section above, and the following standards.

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. Table 3.10-4 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the Ldn.

TABLE 3.10-4: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, LDN	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

Based on the Table 3.10-4 data, an increase in the traffic noise level of 3.0 dB or more would be significant where the pre-project noise level are within 60-65 dB Ldn. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB Ldn. The rationale for the Table 3.10-4 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Lathrop does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.10-5 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could also occur is noted as 0.1 in/sec p.p.v.

TABLE 3.10-5: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN/SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORNE VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: The proposed project has the potential to increase traffic noise levels at existing receptors (significant and unavoidable)

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic volumes provided by Fehr & Peers. The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict L_{dn}/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Table 3.10-6 shows the noise levels associated with traffic on the local roadway network under the existing and existing plus project traffic conditions. Table 3.10-6 shows the noise levels associated with traffic on the local roadway network under the cumulative and cumulative plus project traffic conditions. As indicated by Table 3.10-6 and Table 3.10-7, the related noise level increases under development of the proposed project are predicted to range between 0.1 to 0.2 dB. The Table 3.10-6 and Table 3.10-7 data indicate that some noise sensitive receptors located along the proposed annexation- area roadways are currently exposed to exterior traffic noise levels

exceeding the City of Lathrop 60 dB L_{dn}/CNEL exterior noise level standard for residential uses. These receptors will continue to experience elevated exterior noise levels with implementation of the proposed project.

The project's contribution to existing traffic noise increases is predicted to be 0.2 dB, or less. This is less than the FICON substantial increase criteria of 1.5-5 dB. Therefore, the increase of 0.2 dB L_{dn} caused by the proposed project is considered less than significant relative to the substantial increase threshold. However, as indicated the existing noise levels exceed the City of Lathrop 60 dB L_{dn}/CNEL exterior noise level standard for residential uses and these receptors will continue to experience elevated exterior noise levels with implementation of the proposed project. While this existing condition is not directly caused by the proposed project, the proposed project will contribute to the exceedance. This is considered a ***significant and unavoidable*** impact.

TABLE 3.10-6: EXISTING TRAFFIC NOISE LEVELS VS. EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO EXITING + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		EXISTING	EXISTING + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}	60 DB L_{DN}
Roth Road	East of McKinley Ave.	70.3	70.5	0.2	107	232	499
McKinley Ave.	North of Roth Road	60.7	60.8	0.1	12	26	56

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND J.C. BRENNAN & ASSOCIATES, INC. 2015.

TABLE 3.10-7: CUMULATIVE TRAFFIC NOISE LEVELS VS. CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO CUMULATIVE + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}	60 DB L_{DN}
Roth Road	East of McKinley Ave.	73.2	73.5	0.2	172	372	800
McKinley Ave.	North of Roth Road	62.3	62.5	0.2	16	34	73

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND J.C. BRENNAN & ASSOCIATES, INC. 2015.

Impact 3.10-2: The proposed project has the potential to increase noise levels associated with construction activities (less than significant)

The site improvements and building construction would include the use of heavy equipment and impact tools that can generate noise. Table 3.10-8 provides a list of the types of equipment which may be associated with construction activities and the associated noise levels.

TABLE 3.10-8: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, L_{MAX} dB					DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 300'	NOISE LEVEL AT 400'	70 dB L_{MAX} CONTOUR	65 dB L_{MAX} CONTOUR
Backhoe	78	72	66	62	60	126	223
Compactor	83	77	71	67	65	223	397
Compressor (air)	78	72	66	62	60	126	223
Concrete Saw	90	84	78	74	72	500	889
Dozer	82	76	70	66	64	199	354
Dump Truck	76	70	64	60	58	100	177
Excavator	81	75	69	65	63	177	315
Generator	81	75	69	65	63	177	315
Jackhammer	89	83	77	73	71	446	792
Pneumatic Tools	85	79	73	69	67	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. J.C. BRENNAN & ASSOCIATES, INC. 2015.

Activities involved in project construction would typically generate maximum noise levels ranging from 78 to 90 dB at a distance of 50 feet. The nearest residential receptors would be located 300 feet or more from construction activities occurring at the east boundary of the project site. At this distance, construction related activities are predicted to generate maximum noise levels ranging between 62-74 dB L_{max}. Based upon the daytime maximum noise levels of 77-81 dB L_{max}, maximum noise levels due to project construction are predicted to be less than existing maximum noise levels at the nearest sensitive receptors. This would be a ***less than significant*** impact relative to this topic.

Impact 3.10-3: The proposed project has the potential to increase noise vibration in association with construction activities (less than significant)

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and roadway/parking lot construction occurs. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 300 feet or further from the project site. At this distance construction vibrations are not predicted to exceed

acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 3.10-9 shows the typical vibration levels produced by construction equipment.

TABLE 3.10-9: VIBRATION LEVELS FOR VARYING CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

The Table 3.10-9 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 100 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the proposed project would have a ***less than significant*** impact.

Impact 3.10-4: The proposed project has the potential to increase stationary noise at sensitive receptors (less than significant)

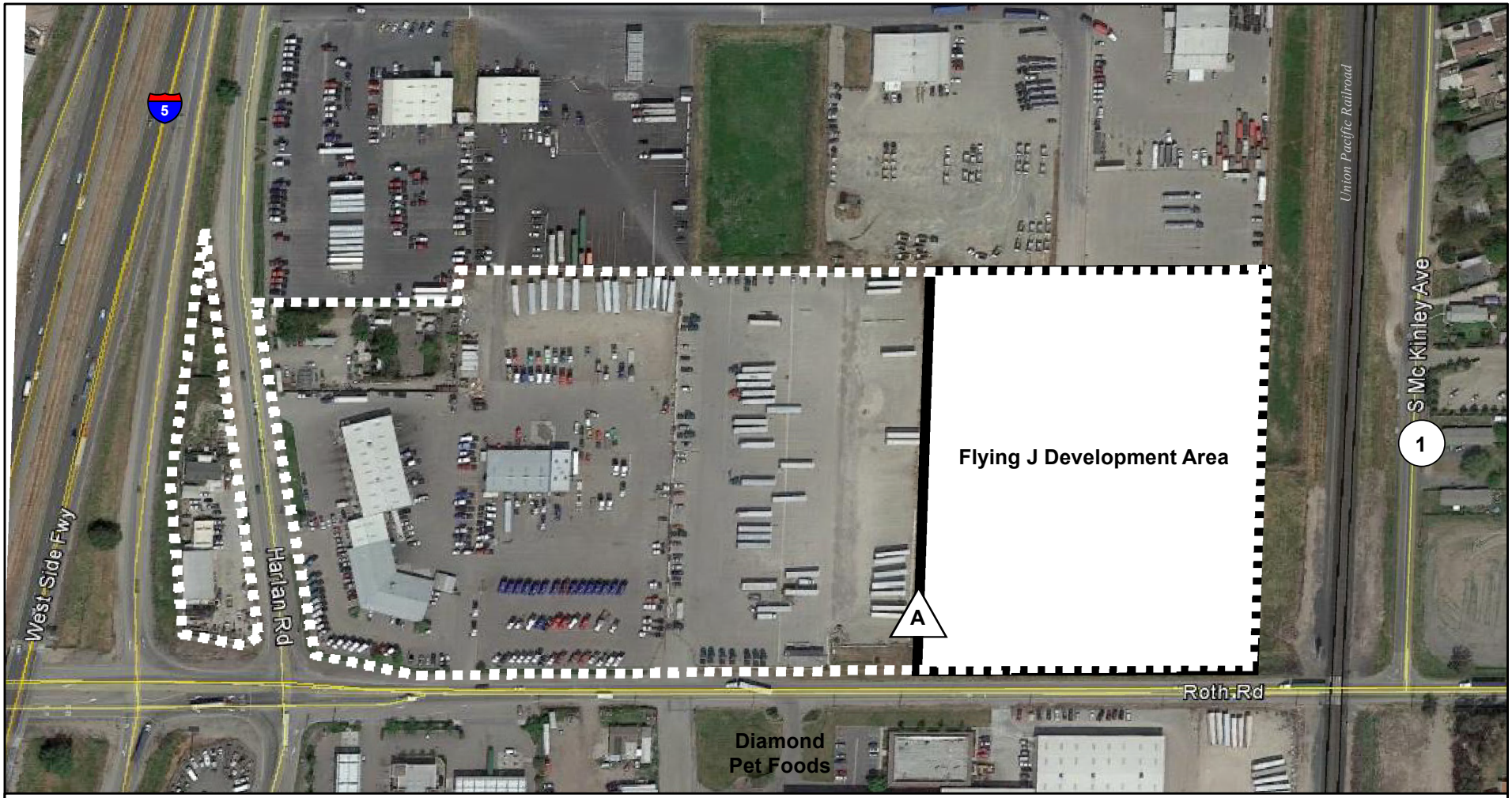
The nearest existing sensitive receptors includes single-family and multi-family residences east of S. McKinley Avenue, as shown on Figure 3.10-1. The proposed project could generate noise levels from on-site activities which could exceed the City's noise standards at existing residential uses. Such activities may include truck circulation, idling trucks, vehicle fueling, and parking lot circulation.

On-site noise sources were evaluated through noise measurements conducted at a similar truck stop in Ripon, California. The noise measurements were conducted on February 3rd and 4th, 2015. Noise level measurements included both short-term and continuous 24-hour noise level measurements. Noise measurements were conducted at varying distances from the truck parking areas (rest areas) and fueling areas. The results of the noise level measurements indicated that the primary noise sources are the truck circulation on the site and idling of trucks at the rest areas during the morning hours. Based upon the continuous noise measurement results, a noise level of

approximately 68 dB L_{eq} can be expected at a distance of 100 feet from the center of the truck parking areas. The nearest residences are located at a distance of approximately 540 feet from the center of the truck parking and fueling area. The calculated hourly L_{eq} is 53 dB at the nearest residences to the east.

The predicted noise level of 53 dB L_{eq} would comply with the City of Lathrop daytime noise level standard of 60 dB for residential uses. The 53 dB L_{eq} noise level would comply with the City's 70 dB L_{eq} noise standard for Light Industrial zoned properties.

It should be noted that the existing ambient noise levels at the nearest residential uses substantially exceed 50 dB L_{eq} due to traffic on the local roadway network and existing surrounding industrial uses. One substantial source of ambient noise is the Diamond Pet Foods facility which was measured to generate a steady noise level of 65 dB at a distance of 350 feet. At the residential uses east of S. McKinley Avenue, the noise level from Diamond Pet Foods is approximately 56 dB L_{eq} during nighttime hours, not accounting for any additional ambient noise from traffic or other surrounding uses. Therefore, application of a nighttime noise level standard of 50-55 dB L_{eq} at this location would be less than existing ambient noise and is not warranted. The project's contribution of 53 dB L_{eq} to the existing ambient noise environment of approximately 56 dB L_{eq} would increase ambient noise by 1.8 dB. This increase is substantially less than the 3-5 dB required to be perceptible. Therefore, there would be a ***less than significant*** impact relative to stationary sources of noise and sensitive noise receptors.



PILOT FLYING J TRAVEL CENTER

Figure 3.10-1: Noise Measurement Sites

24-hr Noise Measurement Location

Short-term Noise Measurement Location

N

0 100 200

Feet

1:3,000

Source: J.C. Brennan & Associates, December 2015. Map date: December 14, 2015.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, and other public facilities. The information in this section is derived from the *City of Lathrop General Plan* (Lathrop 2004), *City of Lathrop General Plan Environmental Impact Report (*Lathrop 1991), *Lathrop Municipal Services Review and Sphere of Influence Plan (Lathrop MSR 2009)*, *Lathrop Draft Municipal Services Review and Sphere of Influence Plan* (2nd Administrative Draft Lathrop MSR December 2015), Lathrop Police Department *Staffing* (Sheriff-Lathrop Police Contract 2015-2016), Lathrop Police Department *Activity Report* (LPD 2015), and the *Lathrop-Manteca Fire District Master Plan* (LMFPD 2006).

As discussed in in the Initial Study prepared for the proposed project, implementation of the project would not lead to population growth and would not increase the use of existing recreational facilities or trigger the need for new or expanded school or recreation facilities. As such, this CEQA topic will not be further discussed.

No comments regarding public services and recreation were received during the public review period or scoping meeting for the Notice of Preparation.

3.11.1 EXISTING CONDITIONS

CITY OF LATHROP SERVICES

City of Lathrop Police Department

Police protection services would be provided by the City of Lathrop Police Department (LPD), which contracts with the San Joaquin County Sheriff's Department for police protection services. The LPD acts as a division of the Sheriff's Department, with those deputies assigned to the City only working in the City limits and receiving specialized training reflective of the needs of an incorporated city. The LPD is located at 15597 South Seventh Street in Lathrop, approximately 2 ½ miles south of the project area. Lathrop Police Services is staffed 24 hours a day in a series of 3 patrol shifts with a minimum of 2 patrol officers per shift. Minimum staffing levels are set at 6 officers per day. Lathrop Police Services has 26 sworn officers, including 1 captain serving as police chief, 1 lieutenant, 3 sergeants, 1 detective, 20 deputy sheriffs and 3 civilian staff. If needed, additional assistance can be summoned under a mutual aid agreement with surrounding cities and the County. Existing police staffing levels in the City are approximately 1.31 per 1,000 residents. The current city-wide priority 1 average response time is 4 minutes. Priority 1 calls are where a threat is posed to life or a crime of violence.

Table 3.11-1 shows the recent crime statistics for the City of Lathrop from 2010 through 2015. As is shown, both total violent crime and total property crime has decreased significantly in the City during this period.

TABLE 3.11-1: LATHROP POLICE DEPARTMENT CRIME STATISTICS (2010-2015)

CATEGORY/CRIME	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*
Total Violent Crimes	52	55	50	48	44	31
Homicide	1	1	2	1	1	1
Rape	2	2	4	5	2	1
Robbery	25	26	20	26	17	14
Assault	24	25	24	17	24	16
Total Property Crimes	712	684	631	709	727	320
Burglary	312	323	274	293	279	111
Motor Vehicle Theft	71	77	71	95	89	33
Larceny	324	281	281	316	365	174
Arson	5	3	5	1	3	2

SOURCE: LPD 2010-2015 ACTIVITY REPORTS

FIRE PROTECTION SERVICES

Lathrop-Manteca Fire Protection District

The Lathrop Sphere of Influence (SOI) is covered by two independent Fire Protection Districts, the Lathrop-Manteca Fire Protection District (LMFD) and French Camp-McKinley Fire District (French Camp). The Lathrop-Manteca Fire Protection District provides fire protection services for all lands within the City of Lathrop being primarily lands south of Roth Road in addition to providing service to some 84.7 square miles of rural area around Manteca in the southern San Joaquin County area.

The project is currently within the service area of the French Camp-McKinley Fire District (French Camp). French Camp maintains one Fire Station located at 310 East French Camp Road. This station is staffed by 2 engine companies and is staffed 24-hours per day. The French Camp station consists of 16 employees, of which 7 are line staff and 9 are reserve personnel. The French Camp and Montezuma Fire Protection Districts rotate Fire Chiefs in order to provide coverage for the respective Fire Stations. The fire district is organized to maintain three personnel with automatic aid agreements with other agencies. The District receives about 1,000 calls per year. The Fire District responds, not only to fires of all types, but also medical emergencies, traffic accidents, and river rescues. The Fire District is an active member of the San Joaquin County Hazardous Materials Response Team. The Fire District is also part of the Urban Search and Rescue Team.

The Insurance Services Office (ISO) Public Classification Program rates the French Camp in their November 23, 2010 report, as a community classification of 4/8b for the District. The ISO ratings are on a scale of 1-10 with 1 being the highest rating. The ISO rating measures individual fire protection agencies against a National Fire Suppression Rating Schedule which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm responses and initial attack, and adequacy of the local water supply for the fire suppression purposes.

OTHER SERVICES

Library Services

The Lathrop Branch Library is located at 450 Spartan Way. The Lathrop Branch Library is equipped with computers for electronic resources, limited reference books and magazines. The Lathrop Branch Library also has a Librarian from the Stockton-San Joaquin County Public Library available to assist customers.

3.11.2 REGULATORY SETTING

STATE

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

EMERGENCY RESPONSE/EVACUATION PLANS

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building

Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

LOCAL

City of Lathrop General Plan

The City of Lathrop General Plan contains the following goals and policies that are relevant to public services and recreation:

SAFETY GOALS AND POLICIES

Goal No. 7: Goals for achieving and maintaining safety from seismic events include preventing serious injury, loss of life, serious damage to critical facilities involving large assemblies of people, and loss of continuity in providing services.

Policy 3: The present building height limit of 50 feet shall be maintained, with a maximum of four stories. This policy shall stay in force until such time that high-rise construction is desired and capability for evacuation and fire fighting in upper stories is possible through the availability of appropriate equipment.

Goal No. 8: It is the goal of the General Plan to provide for public safety, including:

- The reduction of loss of life or property due to crime, fire, earthquake, flooding, or other disasters or hazards.
- The provision of adequate medical and emergency services to reduce the effects of natural or man-made disasters.
- The promotion of citizen awareness and preparedness for emergency/disaster situations or potential for the incidence of crime.
- The implementation of adequate inter-agency disaster planning.

The above goals are to be achieved through the implementation of the following policies:

1. The City will continue to give high priority to the support of police protection, and to fire suppression and prevention and life safety functions of the Fire Department. Ultimate expansion of the City's fire service is to include additional stations affording adequate response within a maximum of 3-4 minutes to all parts of the urban area.
2. The City will work to maintain a fire flow standard of 3,000 gpm for all commercial and industrial areas, and 1,500 gpm for residential areas, to assure capability to suppress urban fires.
3. The City will maintain a street system which is capable of providing access to any fires that may develop within the urban area, and which is capable of providing for

the adequate evacuation of residents in the event of an emergency condition of magnitude.

4. The City will continue to maintain and update emergency service plans, including plans for managing emergency operations, the handling of hazardous materials and the rapid cleanup of hazardous materials spills.

5. The City will continue to cooperate with the County of San Joaquin and other agencies in predisaster planning activities such as evacuation required in the event of a serious breach of an upstream dam capable of flooding the community.

6. The City will seek to reduce the risks and potential for hazards to the public through planning and zoning practices and regulations which avoid hazardous land use relationships, and by the continued and timely adoption of new-edition building and fire codes.

7. Neighborhood watch programs will be encouraged in all residential areas of the City.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on public services if it would result in:

- Substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
    - Fire Protection
    - Police Protection
    - Other public facilities

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: The project would not result in substantial adverse physical impacts associated with the provision of fire protection services or require the need for new facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives (less than significant)

Fire protection services would be required to serve the proposed project. The City of Lathrop General Plan Safety Policy 1 requires that "Ultimate expansion of the City's fire service is to include additional stations affording response within a maximum of 3-4 minutes to all parts of the urban area."

The areas within Lathrop's SOI are currently under the jurisdictions of the LMFD and French Camp Fire Protection Districts. As indicated previously, LMFD is the service provider for all land within the incorporated city limits at this time. French Camp is the service provider for land north of Roth Road in Lathrop's sphere of influence (including the proposed annexation area). When future annexations of lands north of Roth Road are submitted, the two Fire Districts will engage in a dialog to discuss if the districts want to proceed with a detachment or proceed with no detachment. There are several options that can be explored to address the financial impact of the fire district which loses territory when annexations occur. Several alternatives exist, including: short-term backfill agreements, not detaching, incorporating the interest of the fire districts in the tax sharing agreement, or providing financial reimbursement through an agreement (e.g. development agreement).

The City's Public Safety Element requires the expansion of fire service to meet identified response times. The City of Lathrop has a number of General Plan policies which assist in the establishment of fire protection. Safety Policy 1 establishes the fire response times and the potential need for additional fire stations. Safety Policy 2 establishes the fire flow standard. The proposed project will be required to meet this standard. This will include review of all plans by the respective fire districts.

Fire sprinklers are required by the California Fire Code and will be incorporated into the proposed project. Additionally, the Pilot Flying J project site includes two fire hydrants as required by current city standards. One will be located in the front of the property, adjacent to Roth Road and one located in the rear of the property to provide fire suppression access.

The City of Lathrop, collects impact fees from new development based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the need for new fire stations and expanded fire services to serve areas of Lathrop. The proposed project is required to pay its fair share of the fire impact fee. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with fire protection services.

The proposed project does not trigger the need for a fire station or expansion of existing facilities at this time. Development of a fire station will require environmental review when it is proposed, and the environmental review will determine if there will be an adverse physical impact associated with its construction pursuant to CEQA. A new fire station is not proposed at this time, and the proposed project would not directly result in the need for new fire facilities, thus it will have a ***less than significant*** impact relative to this topic.

Impact 3.11-2: The project would not result in substantial adverse physical impacts associated with the provision of police protection services or require the need for new facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives (less than significant)

The areas within the City's SOI are currently under the jurisdiction of San Joaquin County Sheriff's Office. Lathrop Police Services will provide police service to development occurring within the SOI after the properties are annexed.

Lathrop Police Services has 26 sworn officers, including 1 captain serving as police chief, 1 lieutenant, 3 sergeants, 1 detective, 20 deputy sheriffs and 3 civilian staff. If needed, additional assistance can be summoned under a mutual aid agreement with surrounding cities and the County. Existing police staffing levels in the City are approximately 1.31 per 1,000 residents; therefore the current staffing level does not meet the City's adopted police LOS ratio. In order to

meet the City's adopted level of service, approximately four additional sworn officers would need to be added. There would continue to be a deficit of 4 sworn officers regardless of the proposed project. This deficit is not a direct or indirect impact of the proposed project, nor does it result in a physical environmental impact. Rather, police protection service is evaluated and addressed annually on a city-wide level by the Lathrop City Council and Lathrop Police Department. The City Council adopts an annual budget allocating resources to police protection services, which effectively establishes the service ratio for that particular year. The annual budget is based on community needs and available resources as determined by the City Council and the Police Department.

The City plans to contract for additional officers to attain a 1.5 officer-per-1,000-residents ratio, as directed by the City Council. It is anticipated that a total of 30 sworn officers would meet this standard, requiring four additional officers to meet the current population estimate.

The City collects impact fees from new development based upon projected impacts from each development. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with police services.

In accordance with the General Plan, a new police station is planned to be built in one of several locations to meet future law enforcement demand throughout the City and SOI. It is anticipated that the new location will be west of I-5, likely adjacent to the new government center at 390 Towne Centre Drive (Lathrop 2009, pg. 3-30). Development of a police station will require environmental review when it is proposed. The environmental review will determine if there will be an adverse physical impact associated with its construction.

A new police station is not proposed at this time or required in conjunction with this project. The City collects impact fees to fund needed governmental facilities, including police facilities. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the need for services, staff, and facilities. The proposed project is required to pay its fair share of applicable impact fees. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with police services.

The proposed project would not result in the need for new or expanded police facilities, thus it will have a ***less than significant*** impact relative to this topic.

Impact 3.11-3: The proposed project has the potential to have effects on other public facilities (less than significant)

The proposed project does not include any new residential development and will not directly or indirectly increase the City's population. As such the need for additional public services such as library services, animal services, parks and recreation, and other services provided to City residents is not anticipated. The project could add additional jobs to the local economy, however, the additional employment is anticipated to come primarily from the local workforce. Additional demands on other public facilities including utilities could result from project implementation. Impacts on these facilities is discussed in further detail in Section 3.13 (Utilities). The City collects impact fees from new development based upon projected impacts from each development, including impacts on these other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with these other public services.

The proposed project does not trigger the need for new facilities associated with these other public services. New facilities for these other public services are not proposed at this time. The proposed project would not result in the need for new facilities for these other public services, thus it will have a ***less than significant*** impact relative to this topic.

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This section analyzes the potential impacts of the proposed project on the surrounding transportation system including roadways, bicycle/pedestrian facilities, and transit facilities/services. This chapter identifies the significant impacts of the proposed project and recommends mitigation measures to reduce their significance. All technical calculations can be found in Appendix E of the Draft EIR.

3.12.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The proposed annexation area is located on Roth Road in San Joaquin County, east of Interstate 5 (I-5), and west of the Union Pacific Railroad (UPRR). The proposed annexation area, located in north Lathrop, is within the City's Sub-Plan Area 1. Figure 3.12-1 shows the study area for the project and Lathrop, CA. Figure 3.12-2 shows the study intersections and project location.

STUDY AREA ROADWAYS AND INTERSECTIONS

Interstate 5 and the I-5 / Roth Road interchange provide direct access to and from the proposed annexation area. Other key roadways in the project vicinity include Harlan Road and South McKinley Avenue. These roadways are described below.

Interstate 5 (I-5) is a north-south six-lane interstate freeway within the study area that is located west of the proposed annexation area. I-5 is used extensively by local and regional commuters and for goods movement throughout the San Joaquin Valley. I-5 has an interchange at Roth Road, as well as Lathrop Road to the south and West Matthews Road to the north. I-5 has a posted speed limit of 65 miles per hour (mph).

Roth Road is an east-west, two-lane roadway that provides direct access to the proposed annexation area via two full-access driveways, one for passenger vehicles (located on the west side of the proposed annexation area) and one for trucks (located on the east side of the proposed annexation area). Roth Road connects I-5 to the west and Airport Way. The I-5 / Roth Road interchange is a tight-diamond configuration with a two-lane undercrossing of I-5. All on- and off-ramps are single lane and are currently side-street stop control (SSSC).

Harlan Road is generally a north-south, two-lane roadway that extends to the south from East Matthews Road, to the north to the Crossroads Commerce Center as a frontage road on the east side of I-5. Harlan Road serves industrial land uses north and south of Roth Road and the Harlan Road / Roth Road intersection is an all-way stop control (AWSC) intersection.

South McKinley Avenue is a north-south roadway that extends from Ash Street to Roth Road. South McKinley Avenue provides two-lanes and access to residential land use north of Roth Road. The McKinley Avenue / Roth Road intersection is a side-street stop control (SSSC) intersection.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian and bicycle facilities are not currently provided in the immediate vicinity of the proposed annexation area. Since adjacent properties are either undeveloped or consist of industrial-type uses, the demand for pedestrian and bicycle travel in the area is limited. None of the existing study intersections have crosswalks. In addition, there are no sidewalks or bike lanes along study roadway segments.

TRANSIT SERVICE

The public transit includes both bus and rail passenger components. The bus and rail system provides local and regional connectivity to residents of Lathrop and Manteca. Currently, there is no public transit system that serves the proposed annexation area. The closest transit stop is located one mile north at the San Joaquin General Hospital.

The transit systems operating within the City of Lathrop and San Joaquin County includes the following services:

- Fixed Route Intercity Bus Service operated by San Joaquin Regional Transit District (SJRTD) – connects Stockton with Lodi, Tracy, Tracy Depot, Manteca, Ripon, and Lathrop.
- County Hopper Deviated Fixed Route Bus Service operated by SJRTD – a bus service connecting Stockton, Tracy, Lodi, Manteca, Ripon, and Lathrop. Each bus can deviate from its normal route a distance of up to 1 mile in order to accommodate ADA certified passengers.
- Commuter express bus service operated by SJRTD – operates a number of commuter bus lines that connect cities in San Joaquin County to the Bay Area.
- Regional passenger rail service operated by Altamont Commuter Express (ACE) – operates a commuter rail service between Stockton and San Jose. The Lathrop-Manteca ACE Rail Station is located at the northeast corner of the McKinley Avenue/Yosemite Avenue intersection.
- Modesto Area Max (MAX) – operates fixed-route bus service between Modesto and the Lathrop-Manteca ACE Rail Station.

RAIL

The study area includes a Union Pacific Railroad (UPRR) track that extends southerly from Stockton and forms the western Manteca City limits. The track (i.e, Oakland Subdivision line) features at-grade crossings with Roth Road. This crossing has advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, concrete crossing, and warning bells.

3.12.2 ANALYSIS METHODS

The operational performance of the roadway network is commonly described with the term Level of Service or LOS. LOS is a qualitative description of operating conditions, ranging from LOS A (free-flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The LOS analysis methods outlined in the *Highway Capacity Manual* (Transportation Research Board, 2010) were used in this study. The HCM methods for calculating LOS for signalized intersections and unsignalized intersections are described below. These methodologies were applied using the Synchro 8 traffic analysis software and the SimTraffic microsimulation software.

Signalized Intersections

Traffic operations at signalized intersections are evaluated using the LOS method described in Chapter 16 of the 2010 *Highway Capacity Manual* (HCM) by the Transportation Research Board. A signalized intersection's LOS is based on the weighted average control delay measured in seconds per vehicle. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. The average control delay was calculated using the Synchro 8 analysis software and is correlated to a LOS designation. Table 3.12-1 summarizes the relationship between the control delay and LOS for signalized intersections.

Table 3.12-1
Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (Seconds)
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	$\leq$ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2010.

Unsignalized Intersections

In Chapter 17 of the Transportation Research Board's 2010 *Highway Capacity Manual*, the LOS for unsignalized intersections (side-street or all-way stop controlled intersections) is also defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street. The delay and LOS for the intersection as a whole and for the worst movement are reported for side-street stop intersections. The intersection average delay is reported for all-way stop intersections. Table 3.12-2 summarizes the relationship between delay and LOS for unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

Table 3.12-2
Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

Freeway Facilities

Per Caltrans standards, existing conditions freeway-segment operations are evaluated using the methodology contained in Chapter 21 of the HCM. The LOS for a freeway segment is based on the vehicle density (passenger cars/lane/mile) as shown in Table 3.12-3.

Table 3.12-3
Freeway Mainline Level of Service Definitions

Level of Service[1]	Maximum Density (Passenger Cars/Lane/Mile)
A	11
B	18
C	26
D	35
E	45
F	> 45

Notes:
1. Freeway mainline LOS based on a 65 mph free-flow speed.
Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

The performance LOS for merge and diverge sections is computed in one of two ways. If both the ramp and the adjacent freeway mainline segment are under capacity, then LOS is based on the density of the ramp junction. If either the ramp or the adjacent freeway mainline segment have reached (or exceed) capacity, then the merge/diverge segment is considered to operate at LOS F regardless of the computed ramp junction density.

The performance of freeway ramp weaving segments under future conditions was analyzed using the Leisch methodology as defined in the *2010 Highway Design Manual* (Caltrans). The Leisch method calculates weave section density in passenger cars per mile per lane and assigns a LOS based on appropriate thresholds.

ANALYSIS SCENARIOS

The operations of the study intersections were evaluated for the following five scenarios:

Existing Conditions – establishes the existing setting, which is used to measure the significance of project impacts.

Existing Plus Project Conditions – adds traffic resulting from full buildout of the proposed project to existing conditions traffic.

Cumulative No Project Conditions (Year 2040) – represents cumulative travel conditions based on output from the San Joaquin Council of Governments (SJCOG) Travel Demand Model.

Cumulative Plus Project Conditions (Year 2040) – incorporates the Lathrop Flying J project to the above scenario.

DATA COLLECTION

Study facilities were selected in consultation with City of Lathrop staff and based on the project's expected travel characteristics (i.e., project locations and amount of project trips) as well as facilities susceptible to being impacted by the project.

INTERSECTIONS

A total of six (6) intersections were selected for analysis by the City of Lathrop. Counts for the four (4) existing intersections of the following six study intersections were conducted in October 2015. Appendix E contains the count sheets from this data collection.

- I-5 SB Ramps / Roth Road;
- I-5 NB Ramps/ Roth Road;
- Harlan Road / Roth Road;
- McKinley Avenue / Roth Road;
- Roth Road / Project Driveway (Cars) (new); and
- Roth Road / Project Driveway (Trucks) (new).

All intersection turning movement counts were collected during the midweek AM peak period (7 – 9 AM) and PM peak period (4 – 6 PM). Counts included heavy vehicles, bicycles, pedestrians, and maximum queue lengths at interchange ramp-terminal intersections. Weather conditions were dry and schools were in session at the time of data collection.

Figure 3.12-3 displays the existing AM and PM peak hour traffic volumes at the study intersections. This figure also displays the existing traffic controls and lane configurations at each intersection.

I-5 MAINLINE

The following regional freeway locations were selected for analysis to address any potential Caltrans District 10 comments during their Intergovernmental Review (IGR).

- I-5 NB between Lathrop Road and Roth Road;
- I-5 NB between Roth Road and El Dorado Street;
- I-5 SB between El Dorado Street and Roth Road; and
- I-5 SB between Roth Road and Lathrop Road.

Mainline vehicle volumes from the I-5 / Louise Avenue interchange project and ramp volumes from the I-5 / Lathrop Road interchange project were utilized to calculate the mainline volumes between Lathrop Road and Roth Road. Mainline volumes surrounding Roth Road were calculated by subtracting off-ramp volumes and adding on-ramp volumes.

EXISTING INTERSECTION OPERATIONS

Existing operations were analyzed for the weekday AM and PM peak hours at the study intersections. Table 3.12-4 displays the intersection analysis results. Figure 3.12-4 shows the

existing level of service of the study intersections for AM and PM peak hours. The technical calculations for the intersection analysis can be found in Appendix E.

Table 3.12-4
Existing Conditions –Intersection Operations

Intersection	Jurisdiction	Traffic Control[2]	LOS / Delay[1]	
			AM Peak Hour	PM Peak Hour
1. I-5 Southbound Ramps / Roth Rd	Caltrans	SSSC	10 (16) / A (C)	9 (16) / A (C)
2. I-5 Northbound Ramps / Roth Rd	Caltrans	SSSC	2 (12) / A (B)	3 (12) / A (B)
3. Harlan Rd / Roth Rd	City of Lathrop	AWSC	13 / B	14 / B
4. McKinley Ave / Roth Rd	City of Lathrop	SSSC	2 (11) / A (B)	2 (12) / A (B)
5. Roth Road / Project Driveway #1 (new)	n/a	n/a	n/a	n/a
6. Roth Road / Project Driveway # 2 (new)	n/a	n/a	n/a	n/a

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection
3. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
4. Bold and underlined text indicates unacceptable operations.

Source: Fehr & Peers, 2015

The results of the level of service analysis in this table indicates that all study intersections currently operate at acceptable service levels during the AM and PM peak hours.

EXISTING PEAK HOUR TRAFFIC SIGNAL WARRANTS

To assess consideration for signalization of stop-controlled intersections, the *Manual of Uniform Traffic Control Devices* (MUTCD) (Federal Highway Administration, 2010), presents eight signal warrants. Generally, meeting one of the signal warrants could justify signalization of an intersection. However, an evaluation of all applicable warrants should be conducted and additional factors (e.g., congestion, approach conditions, driver confusion) should be considered before the decision to install a signal is made. The peak hour volume warrant (Warrant 3) for urban conditions was evaluated using the available data. The results of the traffic signal warrant analysis are shown in Table 3.12-5. Detailed signal warrant assessments are provided in Appendix E. As shown in Table 3.12-5, the urban peak hour volume traffic signal warrant is not satisfied for all intersections.

Table 3.12-5
Existing Conditions - Peak Hour Signal Warrant Analysis

Intersection	Control[1]	Peak Hour Warrant Met?
1. I-5 Southbound Ramps / Roth Rd	SSSC	NO
2. I-5 Northbound Ramps / Roth Rd	SSSC	NO
3. Harlan Rd / Roth Rd	AWSC	NO
4. McKinley Ave / Roth Rd	SSSC	NO

Note:
1. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection

Source: Fehr & Peers, 2015

EXISTING FREEWAY OPERATIONS

Table 3.12-6 displays the AM and PM peak hour operations of freeway segments within the study area. The HCS software output for the freeway analysis is in Appendix E.

Table 3.12-6
Existing Conditions – Freeway Analysis

Freeway	Location	Type	LOS / Average Density	
			AM Peak Hour	PM Peak Hour
Southbound I-5	North of Roth Rd	Basic	C / 20.1	C / 21.4
	Roth Rd Off-Ramp	Diverge	C / 26.5	C / 27.7
	Between Roth Rd Ramps	Basic	C / 18.7	C / 20.1
	Roth Rd On-Ramp	Merge	C / 21.4	C / 22.5
	South of Roth Rd	Basic	C / 19.5	C / 20.9
Northbound I-5	South of Roth Rd	Basic	C / 19.8	C / 21.4
	Roth Rd Off-Ramp	Diverge	C / 26.6	C / 28.0
	Between Roth Rd Ramps	Basic	C / 18.9	C / 20.3
	Roth Rd On-Ramp	Merge	C / 22.3	C / 23.6
	North of Roth Rd	Basic	C / 20.4	C / 21.9

Notes:
1. Density estimates are rounded to nearest tenth. Corresponding LOS is based on first significant digit using HCM thresholds.
2. Weave sections were analyzed using the Leisch Method. Density is not reported.
3. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2015

Table 3.12-6 yields the following key conclusions regarding operations on I-5:

- AM Peak Hour: The northbound and southbound I-5 ramp merge/diverge movements and mainline segments north and south of Roth Road operate at an acceptable LOS C.
- PM Peak Hour: The northbound and southbound I-5 ramp merge/diverge movements and mainline segments north and south of Roth Road operate at an acceptable LOS C.

3.12.3 PROJECT TRAVEL CHARACTERISTICS

PROJECT DESCRIPTION

Project Description

Based on the project site plan and description, the proposed project would consist of the following new trip generating land uses:

- 2,705 square feet of high turnover (sit-down) restaurant;
- 12 gas fueling positions;
- 9 diesel fueling positions; and
- 10,306 square feet of shopping center.

TRIP GENERATION

The trip generation of the proposed project was estimated for daily, AM peak hour, and PM peak hour conditions using trip rates published in the *Trip Generation 9^{h} Edition* (ITE, 2012). It should be noted that these rates represent gross trips and do not account for internalization of trips as well as pass-by and diverted trips. Therefore, the gross total of trips is an overestimation of trip generation.

Table 3.12-7 is the trip generation table showing gross trips. The gross trip generation of the project is 294 trips during the AM peak hour and 509 trips during the PM peak hour.

Table 3.12-7
Gross Project Trip Generation

Land Use (Land Use Code)	Quantity	Unit	Trip Generation Rate		AM Peak Hour Gross Trips Generated	PM Peak Hour Gross Trips Generated
			AM	PM		
High-Turnover (Sit-Down) Restaurant (932)	2.705	1,000 sf	10.81	9.85	29	21
Gasoline / Service Station (944)	12	Gas fueling positions	12.16	13.87	146	272
	9	Diesel fueling positions			109	86
Shopping Center (820)	10.306	1,000 sf	0.96	3.71	10	30
				Gross Total	**294**	**509**

Source: Trip Generation Manual, 9th Edition (ITE, 2012)

Internalization of Trips

As noted previously, the diversity and types of land uses associated with the project are expected to result in internalization of trips. Internalized trips represent trips made within the site, for example, a patron of the travel center using the gas station and then eating at the high-turn over restaurant.

The expected internalization of trips was calculated using the ITE Trip Generation / Mixed-Use Trip Generation Model (MXD), a model developed for the US Environmental Protection Agency (EPA) by academic researchers and consultants (including Fehr & Peers) to estimate internal trip-making and external trips made by non-auto travel modes.

This model was developed to more accurately estimate the external vehicular trip generation of mixed-use land development projects than prior methods (e.g., ITE internalization spreadsheet). The model was developed based on empirical evidence at 240 mixed-use projects located across the U.S. The model considers various built environment variables such as land use density, regional location, proximity to transit, and various design variables when calculating the project's internal trips, and external trips made by auto, transit, and non-motorized modes. The MXD model has been applied in numerous EIRs, General Plans, and Specific Plans throughout California.

The MXD model uses ITE *Trip Generation*, *9th Edition* (2012) trip rates as a starting point. It then estimates internal trips and external trips made by walking, bicycling, and transit. Due to the site characteristics of the area, it is anticipated that external trips made by non-auto modes will be negligible (the ITE rates already account for modest levels of bicycling, walking, and transit use).

The MXD model estimates a trip internalization rate of 12 percent during the AM peak hour and 22 percent during the PM peak hour. It is assumed that users of the diesel fueling positions will have a

higher internalization rate than users of gas fueling positions, so these rates were disaggregated the weighted average equaled the trip internalization rates from the MXD model. The internalization rate of the gas fueling positions and diesel fueling positions are respectively 6 percent and 20 percent, respectively, during the AM peak hour and 15 percent and 31 percent during the PM peak hour.

Pass-By and Diverted Trips

Pass-by trips represent trips that would have already be travelling on the street adjacent to the project, in this case, Roth Road, even if it were not constructed, and decide to patronize the project. Pass-by trips are not generated by the project but attract trips to the project side from Roth Road.

Diverted trips represent trips that are already in the vicinity of the project that divert from their route to roadways that connect to the site driveways, and then return to their original route. For this project, diverted trips would already be traveling on I-5 and decide to patronize the project site. Therefore, diverted trips are not generated by the project but attract trips to the project site from I-5.

Pass-by and diverted trip rates are calculated for each land use from the ITE *Trip Generation Handbook, 3rd Edition* (2014). The rates calculated and used for the trip generation are a weighted average across multiple studies. If there were no studies for the peak hour and land use, conservative values of 5 percent for the High-Turnover (Sit-Down) Restaurant and 0 percent for the Shopping Center were used. Table 3.12-8 show the pass-by and diversion rates for AM and PM peak hours.

Table 3.12-8
Pass-By And Diversion Rates

Land Use	AM Peak Hour		PM Peak Hour	
	Pass-By Rate	Diversion Rate	Pass-By Rate	Diversion Rate
High-Turnover (Sit-Down) Restaurant	5%	5%	37%	34%
Gasoline / Service Station	59%	21%	50%	37%
Shopping Center	0%	0%	23%	24%

Source: Trip Generation Handbook, 3rd Edition (ITE, 2014)

Tables 3.12-9a and 3.12-9b summarize the estimated trip generation of the project including pass-by, diverted, and net new trips for the AM and PM peak hours. The project generates 259 trips during the AM peak hour (132 entering and 127 exiting). This is comprised of 134 pass-by trips, 48 diverted trips, and 77 net new trips. During the PM peak hour, the project generates 409 trips (206 entering and 203 exiting). This is comprised of 193 pass-by trips, 147 diverted trips, and 68 net new trips.

Table 3.12-9a
AM Project Trip Generation

Land Use	Gross Trips Generated	Internaliz-ation Rate	Percent Inbound Trips	Percent Outbound Trips	Total Trips Generated			Pass-By Rate	Pass-By Trips		Diversion Rate	Diverted Trips		Net New Trips	
					Total	Entering	Exiting		Entering	Exiting		Entering	Exiting	Entering	Exiting
High-Turnover (Sit-Down) Restaurant	29	12%	55%	45%	26	14	12	5%	1	1	5%	1	1	13	10
Gasoline / Service Station	146	6%	50%	50%	137	69	69	59%	40	40	21%	14	14	14	14
	109	20%	50%	50%	88	44	44	59%	26	26	21%	9	9	9	9
Shopping Center	10	12%	62%	38%	9	5	3	0%	0	0	0%	0	0	5	3
TOTAL					**259**	**132**	**127**		**67**	**67**		**24**	**24**	**41**	**36**

Table 3.12-9b
PM Project Trip Generation

Land Use	Gross Trips Generated	Internaliz-ation Rate	Percent Inbound Trips	Percent Outbound Trips	Total Trips Generated			Pass-By Rate	Pass-By Trips		Diversion Rate	Diverted Trips		Net New Trips	
					Total	Entering	Exiting		Entering	Exiting		Entering	Exiting	Entering	Exiting
High-Turnover (Sit-Down) Restaurant	27	22%	60%	40%	21	12	8	37%	5	3	34%	4	3	4	2
Gasoline / Service Station	320	15%	50%	50%	272	136	136	50%	68	68	37%	50	68	18	18
	125	31%	50%	50%	86	43	43	50%	22	22	37%	16	22	6	6
Shopping Center	38	22%	48%	52%	30	14	16	23%	3	4	24%	3	4	8	8
TOTAL					**409**	**206**	**203**		**97**	**96**		**74**	**73**	**34**	**34**

Source:
Trip Generation Manual, 9th Edition (ITE, 2012)
Trip Generation Handbook, 3rd Edition (ITE,2014)
MXD+, Fehr & Peers

TRIP DISTRIBUTION/ASSIGNMENT

The projected distribution of project trips onto the adjacent roadway network was determined based on the following analytical techniques:

- Net new trips were assigned to the surrounding transportation system using the Base Year SJCOG travel demand model. This process consists of adding the proposed project to the traffic model, rerunning the model, and tracking the number/directionality of project trips assigned to the surrounding roadway network.
- Pass-by trips assignment using existing traffic counts collected October 2015.
- Diverted trips assignment using estimated freeway mainline volumes on I-5.

Figure 3.12-4 shows the expected distribution of project trips. This figure shows the following:

- 14.6 percent of project trips use the I-5 southbound off-ramp;
- 11.7 percent of project trips use the I-5 southbound on-ramp;
- 12.7 percent of project trips use the I-5 northbound off-ramp;
- 13.8 percent of project trips use the I-5 northbound on-ramp;
- 5.5 percent of project trips use the Roth Road segment west of I-5;
- 29.4 percent of project trips use the segment of Roth Road east of McKinley Avenue;
- 3.3 percent of project trips use the Harlan Road segment north of Roth Road;
- 5.6 percent of project trips use the Harlan Road segment south of Roth Road; and
- 3.4 percent of project trips use McKinley Avenue segment north of Roth Road.

3.12.4 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the proposed project are summarized below. This information provides a context for the impact discussion related to the project's consistency with applicable regulatory conditions and development of significance criteria for evaluating project impacts.

FEDERAL AND STATE REGULATIONS

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in San Joaquin County. Federal Highway standards are implemented in California by Caltrans. Any improvements or modifications to the state highway system within the Cities of Lathrop and Manteca need to be approved by Caltrans. The Cities of Lathrop and Manteca do not have the ability to unilaterally make improvements to the state highway system.

The *Interstate 5 Transportation Concept Report – TCR* (Caltrans, 2012) identifies a concept LOS of "C" for the segment of I-5 south of SR 120 and a concept LOS of "D" for the segment of I-5 north of SR 120.

LOCAL REGULATIONS

San Joaquin County Regional Transportation Plan

San Joaquin County, through the San Joaquin Council of Governments (SJCOG), periodically updates the Regional Transportation Plan (RTP), which outlines countywide transportation expenditures based on funding from sources like the federal government, the State of California, and locally collected funds. The RTP contains several proposed improvements that would benefit the regional roadway network within the study area. These improvements include the widening of I-5 to four lanes in each direction (including an HOV lane) between French Camp Road and SR 120 and the widening of Roth Road to two lanes in each direction between UPRR and Airport Way. Draft and Final EIRs for the 2014 RTP have been published and adopted.

San Joaquin County Congestion Management Plan

SJCOG operates a Regional Congestion Management Program (RCMP), which monitors cumulative transportation impacts of growth on the regional roadway system, identifies deficient roadways, and develops plans to mitigate the deficiencies. The RCMP considers LOS E or F operations to be deficient and includes segments of SR 120 and Airport Way (north of SR 120) as CMP facilities.

San Joaquin County Regional Traffic Impact Fee (RTIF)

SJCOG has implemented a regional traffic impact fee that is assessed on new developments throughout San Joaquin County. The RTIF capital project list provides funding for various freeway and local road widening. As of April 2015, the San Joaquin County Regional Transportation Impact Fee Program Operating Agreement establishes the following fee schedule for new development is approximately $3,084.58/unit for single-family, $1,850.75/unit for multi-family, $1.23/square foot for retail, $1.55/square foot for office, $0.93/square foot for industrial, $0.39/square foot for warehouse, and $136.10 for non-conforming (SJCOG 2015). These fees are adjusted annually to account for inflation and the funds go toward adding capacity on regional roadways and state highways.

Measure K

Measure K is a San Joaquin County measure that funds transportation projects through a half-cent sales tax. Measure K provides funding for a number of improvements in the County.

City of Lathrop General Plan

The City of Lathrop General Plan (partial amendment in November 2004) contains various transportation-related goals and policies. Those relevant to this study are listed below.

RELEVANT FREEWAY POLICIES

Freeway interchanges should be improved to carry the demands of traffic generated by development in Lathrop in keeping with the principle that responsibility for improvements must reflect the fair apportionment of traffic to existing and future regional demands versus local demands.

RELEVANT ARTERIAL POLICIES

The City General Plan includes proposed improvements to existing expressways and arterial streets in Lathrop east of I-5. These improvements would allow east-west traffic to access I-5 by traveling around the existing developed area of Lathrop. This would reduce traffic impacts on Roth Road and to the I-5 / Roth Road interchanges. The following improvements were identified:

- Realign Harlan road to the east to provide additional distance between the I-5 / Roth Road interchange and the Harlan Road / Roth Road intersection;
- Improve Lathrop Road and Louise Avenue to four traffic lanes between I-5 and the Manteca City limits; provide railroad separation structures along Lathrop Road.

The City's General Plan identifies LOS C operations on City streets and LOS D operations at interchange ramps.

TRUCK ROUTES

Truck routes are to be limited to arterial streets, which serve commercial and industrial areas close to freeway interchanges. These routes are intended to carry heavy weight commercial and industrial vehicles through and around the community with minimum disruption to local auto traffic and minimum annoyance to residential areas. Roth Road is a designated truck route serving the industrial land uses in the vicinity such as Hertz Equipment Rentals and the UPRR intermodal truck terminal.

San Joaquin County Regional Bicycle Master Plan

The primary goal of the San Joaquin Regional Bicycle Plan is the creation of a regional bikeway system through the coordination of local bicycle plans. The San Joaquin Regional Bicycle Master Plan provides linkages between the Lathrop Bicycle Transportation Plan and surrounding communities including Stockton, French Camp, Manteca, and Tracy. Within Lathrop's Sphere of Influence, the Plan recommends the following regional linkages.

- Class 1 path along the western section of Yosemite Road;
- Class 2 lanes along Manthey Road and Airport Way;
- Class 3 route along the eastern section of Yosemite Road accessing Manteca.

City of Lathrop Bicycle Transportation Plan

The City of Lathrop Bicycle Master Plan is the City of Lathrop's long range plan for the City's bikeway system. The plan provides a 20 year program for the development of a comprehensive network of community bikeways. The Plan has been prepared consistent with State, regional, and local plans and requirements, including the San Joaquin County Regional Bicycle Master Plan.

3.12.5 THRESHOLDS OF SIGNIFICANCE

This section describes the thresholds or criteria that determine whether the project causes a significant impact on the roadway, bicycle, pedestrian, and/or transit systems. These thresholds are based on policies from the General Plans of Lathrop and Manteca, the 1996 CMP, previous input from Caltrans staff regarding state highway LOS goals, and Appendix G of the CEQA Guidelines (2007).

Traffic Impacts

For the purposes of this EIR analysis, significant traffic impacts at intersections are defined when the addition of project traffic is expected to cause any one of the following:

- Worsen the LOS at an intersection in Lathrop from LOS C or better to LOS D or worse;
- Increase the average delay at a signalized intersection in Lathrop currently operating (or projected to operate) at LOS D or worse by five (5) seconds or more;
- Worsen the LOS on a Caltrans facility from LOS D or better to LOS E or F;
- Add traffic to an intersection maintained by Caltrans that currently operates (or is projected to operate) at LOS E or F;
- Worsen operations on a segment or ramp of I-5 from LOS D or better to LOS E or worse;
- Add traffic to a freeway segment or ramp that does not currently operate acceptably (according to the above bulleted criteria);
- Cause a substantial reduction in safety on a public street due to a design feature (e.g., sharp curve) or incompatible use (e.g., farm equipment).

Transit, Bicycle, and Pedestrian Impacts

The proposed project is considered to result in a significant transit, bicycle, and/or pedestrian impact if it:

- Disrupts or precludes transit service and facilities;
- Causes an unmet demand for public transit;
- Disrupts or interferes with existing or planned bicycle or pedestrian facilities;

Rail Impacts

The proposed project is considered to result in a significant rail impact if any of the following conditions occur:

- Cause a substantial increase in potential conflicts between trains and motorists and at an at-grade railroad crossing.

3.12.6 IMPACTS AND MITIGATION MEASURES

EXISTING PLUS PROJECT TRAFFIC IMPACT ANALYSIS

An Existing Plus Project analysis was performed to identify potential impacts under existing conditions.

Traffic Forecasts

Project trips were assigned to the study intersections in accordance with the trip generation estimates and distribution percentages described in Section 3.12.3. Figure 3.12-6 shows the existing plus project peak hour traffic volumes, intersection configurations, and control type for AM and PM peak hours. Those trips were then added to existing volumes to yield "existing plus project" conditions.

Intersection Operations

The study intersections were re-analyzed under existing plus project conditions. The results are shown in Table 3.12-10 and Figure 3.12-7. The technical calculations for the intersection analysis for Existing Plus Project conditions are in Appendix E.

Table 3.12-10
Existing Plus Project Conditions – Intersection Operations

Intersection	Jurisdiction	Traffic Control[2]	LOS / Delay[1]			
			Existing		Existing Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. I-5 Southbound Ramps / Roth Rd	Caltrans	SSSC	10 (16) / A (C)	9 (16) / A (C)	12 (20) / B (C)	12 (23) / B (C)
2. I-5 Northbound Ramps / Roth Rd	Caltrans	SSSC	2 (12) / A (B)	3 (12) / A (B)	2 (12) / A (B)	3 (13) / A (B)
3. Harlan Rd / Roth Rd	City of Lathrop	AWSC	13 / B	14 / B	15 / B	19 / C
4. McKinley Ave / Roth Rd	City of Lathrop	SSSC	2 (11) / A (B)	2 (12) / A (B)	2 (11) / A (B)	2 (12) / A (B)
5. Roth Road / Project Driveway (Cars)	City of Lathrop	SSSC	-	-	3 (11) / A (B)	4 (14) / A (B)
6. Roth Road / Project Driveway (Trucks)	City of Lathrop	SSSC	-	-	2 (12) / A (B)	2 (13) / A (B)

Table 3.12-10
Existing Plus Project Conditions – Intersection Operations

Intersection	Jurisdiction	Traffic Control[2]	LOS / Delay[1]			
			Existing		Existing Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. SSSC = Side-Street-Stop Controlled intersection; AWS = All-Way Stop Controlled intersection
3. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2010).
4. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2015

The results of the intersection operations analysis in this table indicates that with the addition of project trips, all study intersections are projected to continue to operate at acceptable service levels during both AM and PM peak hours under Existing Plus Project conditions.

Peak Hour Traffic Signal Warrant Analysis

The four unsignalized study intersections were re-evaluated to determine if they satisfy the Peak Hour warrant for consideration of a traffic signal with the addition of project trips.

As shown in Table 3.12-11, with the addition of project traffic, none of the unsignalized intersections satisfy the warrant during one or both peak hours under existing plus project conditions. Detailed signal warrant calculations are provided in Appendix E. As shown in Table 3.4-11, the peak hour volume traffic signal warrant would be satisfied at the McKinley Avenue / Roth Road intersection for Existing Plus Project conditions.

Table 3.12-11
Existing Plus Project Conditions – Peak Hour Signal Warrant Analysis

Intersection	Control[1]	Peak Hour Warrant Met?
1. I-5 Southbound Ramps / Roth Rd	SSSC	NO
2. I-5 Northbound Ramps / Roth Rd	SSSC	NO
3. Harlan Rd / Roth Rd	AWSC	NO
4. McKinley Ave / Roth Rd	SSSC	NO
5. Roth Road / Project Driveway #1 (new)	SSSC	NO
6. Roth Road / Project Driveway # 2 (new)	SSSC	NO

Table 3.12-11
Existing Plus Project Conditions – Peak Hour Signal Warrant Analysis

Intersection	Control[1]	Peak Hour Warrant Met?

Note:
1. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection

Source: Fehr & Peers, 2015

Freeway Operations

Existing Plus Project freeway operations were evaluated for AM and PM peak hours. Freeway segment LOS is summarized in Table 3.12-12. As shown, the addition of project-generated traffic would result in acceptable level of service conditions north and south of Roth Road along I-5. Appendix E has the HCS software outputs for Existing Plus Project Conditions.

Table 3.12-12
Existing Plus Project Conditions – Freeway Analysis

Freeway	Location	Type	LOS / Average Density			
			Existing		Existing Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Southbound I-5	North of Roth Rd	Basic	C / 20.1	C / 21.4	C / 20.1	C / 21.5
	Roth Rd Off-Ramp	Diverge	C / 26.5	C / 27.7	C / 26.6	C / 27.9
	Between Roth Rd Ramps	Basic	C / 18.7	C / 20.1	C / 18.6	C / 19.8
	Roth Rd On-Ramp	Merge	C / 21.4	C / 22.5	C / 21.5	C / 22.6
	South of Roth Rd	Basic	C / 19.5	C / 20.9	C / 19.6	C / 20.9
Northbound I-5	South of Roth Road	Basic	C / 19.8	C / 21.4	C / 19.9	C / 21.5
	Roth Road Off-Ramp	Diverge	C / 26.6	C / 28.0	C / 26.7	D / 28.1
	Between Roth Road Ramps	Basic	C / 18.9	C / 20.3	C / 18.9	C / 20.1
	Roth Road On-Ramp	Merge	C / 22.3	C / 23.6	C / 22.4	C / 23.8
	North of Roth Road	Basic	C / 20.4	C / 21.9	C / 20.4	C / 21.9

Notes:
1. Density estimates are rounded to nearest tenth. Corresponding LOS is based on first significant digit using HCM thresholds.
2. Weave sections were analyzed using the Leisch Method. Density is not reported.
3. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2015

The results of the freeway operations analysis indicates that with the addition of project traffic, all freeway study locations are projected to continue to operate at acceptable levels during both AM and PM peak hours.

Impact 3.12-1: The proposed project would not cause significant impacts at intersections (less than significant)

The proposed project would not cause any significant impacts to nearby intersections. As described above, the results of the intersection operations analysis in this table indicates that with the addition of project trips, all study intersections are projected to continue to operate at acceptable service levels during both AM and PM peak hours under Existing Plus Project conditions. Accordingly, proposed project impacts to study intersections are considered ***less than significant***.

Impact 3.12-2: The proposed project would not result in a significant impact to freeway facilities (less than significant)

As described above, Existing Plus Project freeway operations were evaluated for AM and PM peak hours. Freeway segment LOS is summarized in Table 3.12-12. As shown, the addition of project-generated traffic would result in acceptable level of service conditions north and south of Roth Road along I-5. Accordingly, proposed project impacts to freeway facilities would be ***less than significant***.

Impact 3.12-3: The proposed project would not adversely affect pedestrian and bicycle facilities (less than significant with mitigation)

The proposed project would provide sidewalks at the proposed annexation area frontage along Roth Road. The project would not disrupt or interfere with existing bicycle/pedestrian facilities. However, since the project description does not describe any planned on-street bicycle facilities, the project could create an inconsistency with policies related to bicycle systems. Therefore, this impact is considered a potentially significant impact. Mitigation Measure 3.14-1 would provide consistency with the *City of Lathrop Bicycle Transportation Plan* (1995). Consequently, this impact would be reduced to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.12-1: *The project applicant shall coordinate with the City to determine a potential need for new and/or upgraded bicycle lanes along Roth Road.*

Impact 3.12-4: The proposed project would not adversely affect transit services or facilities (less than significant)

The proposed project would not be expected to noticeably increase bus ridership. The project would not disrupt or interfere with existing or planned public transit services or facilities. It would not create an inconsistency with policies concerning transit systems set forth in a General Plan or in the local plans. Therefore, this impact is considered ***less than significant*.**

Impact 3.12-5: The proposed project would not cause potentially significant impacts to at-grade rail crossings (less than significant)

As described above, the proposed annexation area is located on Roth Road in San Joaquin County, east of I-5 and west of the UPRR. The UPRR track extends southerly from Stockton and forms the western Manteca City limits. The track (i.e, Oakland Subdivision line) features at-grade crossings with Roth Road. This crossing has advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, concrete crossing, and warning bells.

The proposed project would not be expected to generate a substantial level of traffic near the nearby rail crossing. Additionally, the proposed project would not be expected to cause an increase in delay during train crossings that would correspond to LOS D or worse conditions. Furthermore, the project would not add traffic to an at-grade crossing with a known safety problem. Therefore, this impact is considered ***less than significant***.

3.12.7 PROJECT SITE ACCESS AND CIRCULATION ANALYSIS

Two driveways on Roth Road would provide access to the project site. The driveway on the west side of the project site provides access to passenger vehicles, while the driveway on the east side of the project side provides access to trucks. This separation of project-generated traffic is designed to minimize the impact to any given driveway and eliminates the need for traffic signals and all-way stop controls.

The following conclusions were developed based upon a detailed review of the site plan:

- The westernmost driveway on Roth Road is signed “AUTO ENTRANCE / EXIT” and restricts this entrance to passenger vehicles only. Passenger vehicles would enter the site at this driveway and proceed directly to either the fuel pumps or the parking spaces to the west or north of the fuel pumps. Passenger vehicles using these facilities would then proceed directly to the same driveway and exit the site. The auto driveway would be 84-feet wide, providing sufficient room for passenger cars and pickup trucks to enter and exit the project site. For vehicles exiting the project site, 36-feet is provided on site for vehicles to stack as they wait for gaps in traffic on Roth Road to make either a left turn or right turn movement.
- The eastern most driveway on Roth Road is signed “TRUCKS ENTRANCE /EXIT” and prohibits passenger vehicles from accessing the site through this driveway. All trucks would enter the site using this driveway and proceed north through the drive aisle east of the building to the truck scale or diesel pumps north of the building. Parking for trucks is provided on east, north, and west perimeter of the site. After using these facilities, trucks will exit the site using the same driveway they used to enter. The truck driveway would be 190-feet wide, providing sufficient room for passenger cars and pickup trucks to enter and exit the project site. For trucks exiting the project site, 114-

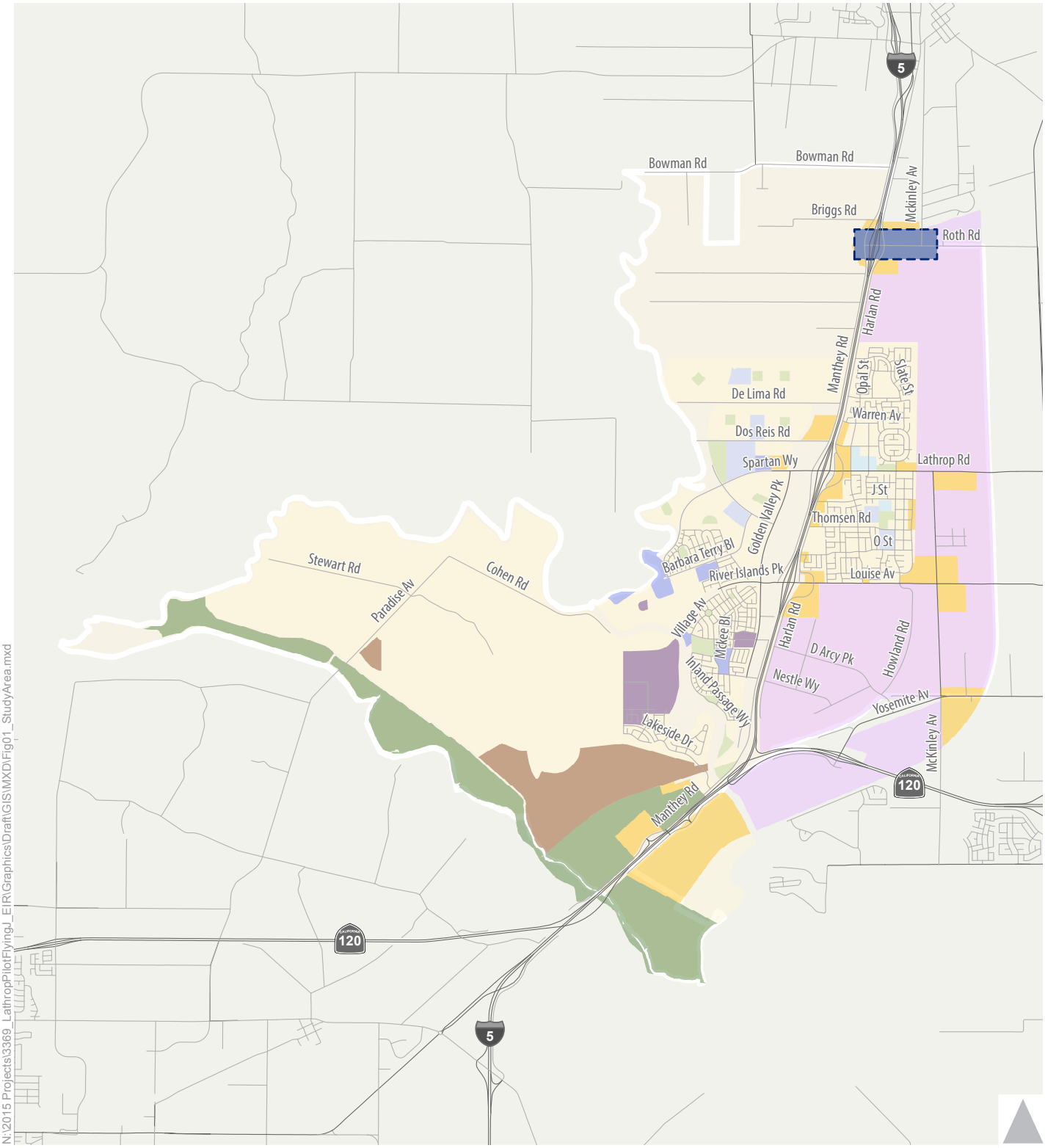
feet is provided on site for trucks to stack as they wait for gaps in traffic on Roth Road to make either a left turn or right turn movement.

- The drive aisles between the parking aisles for passenger vehicles and fuel pumps are designed to provide adequate space for two-way traffic for passenger vehicles. The drive aisles between the parking aisles for trucks and diesel pumps and scale are adequately widened to provide space for two-way traffic for trucks.

3.12.8 VEHICLE AND PARKING ANALYSIS

The Lathrop Municipal Code (2015) requires one space for each eight hundred (800) square feet of floor area, plus one space for each employee, and one space for each vehicle stored on the property for more than 24-hours for service commercial uses.

The project site provides 116-truck parking spaces and 64-full size vehicle parking spaces in addition to one designated parking space for service island and three handicap spaces. Therefore, the project site plan exceeds the City of Lathrop Municipal Code requirements for on-site parking spaces for customers and employees.



StudyArea
Residential
Commercial
Retail/Employment
Industrial
Mixed Use Town/Village Center
Elementary School
Government
Public / Semi-Public
Park
Open Space
Lathrop City Limits

Figure 3.12-1

Study Area

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Figure 3.12-2

Study Intersections & Project Location

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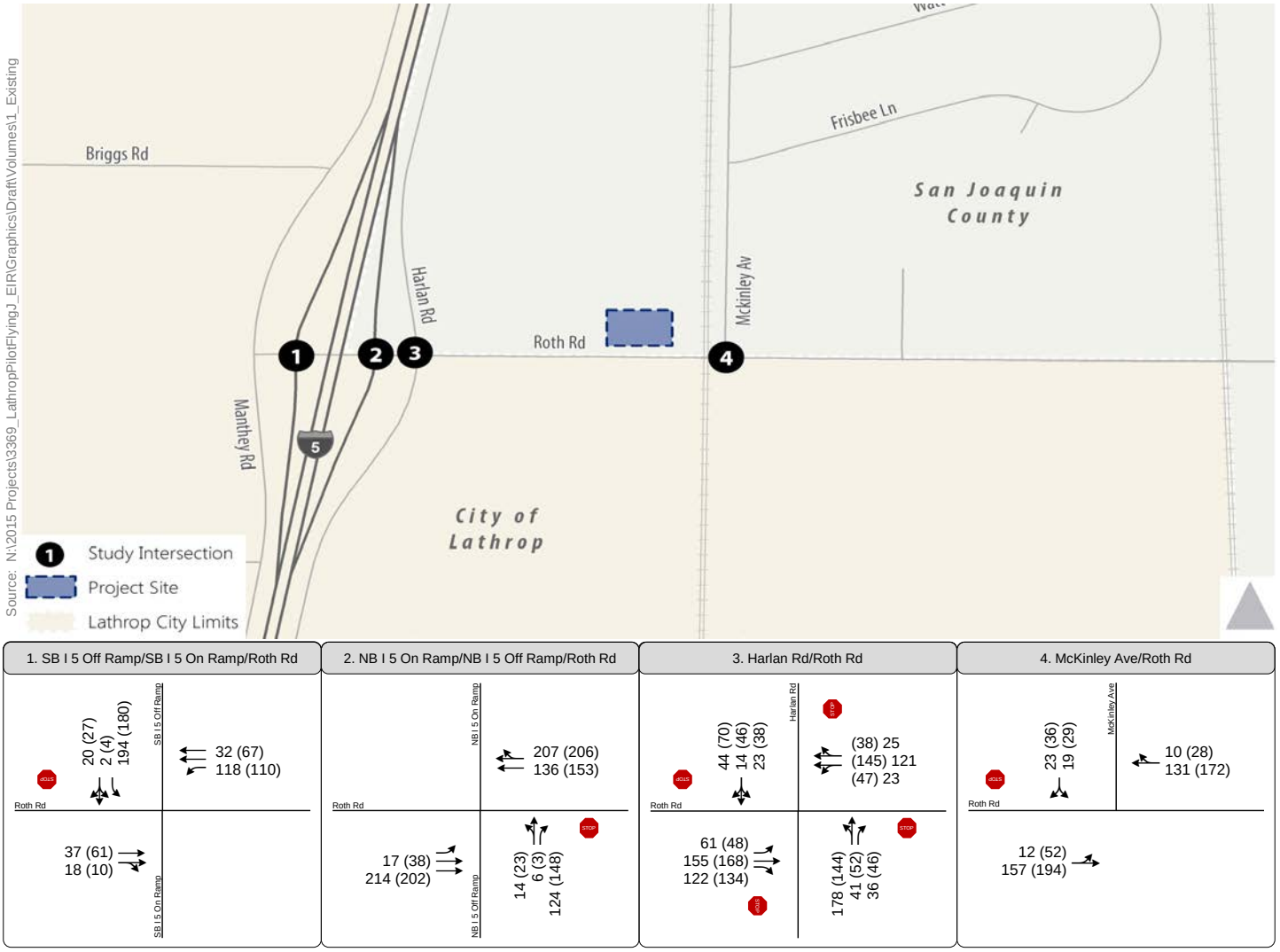

Figure 3.12-3

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

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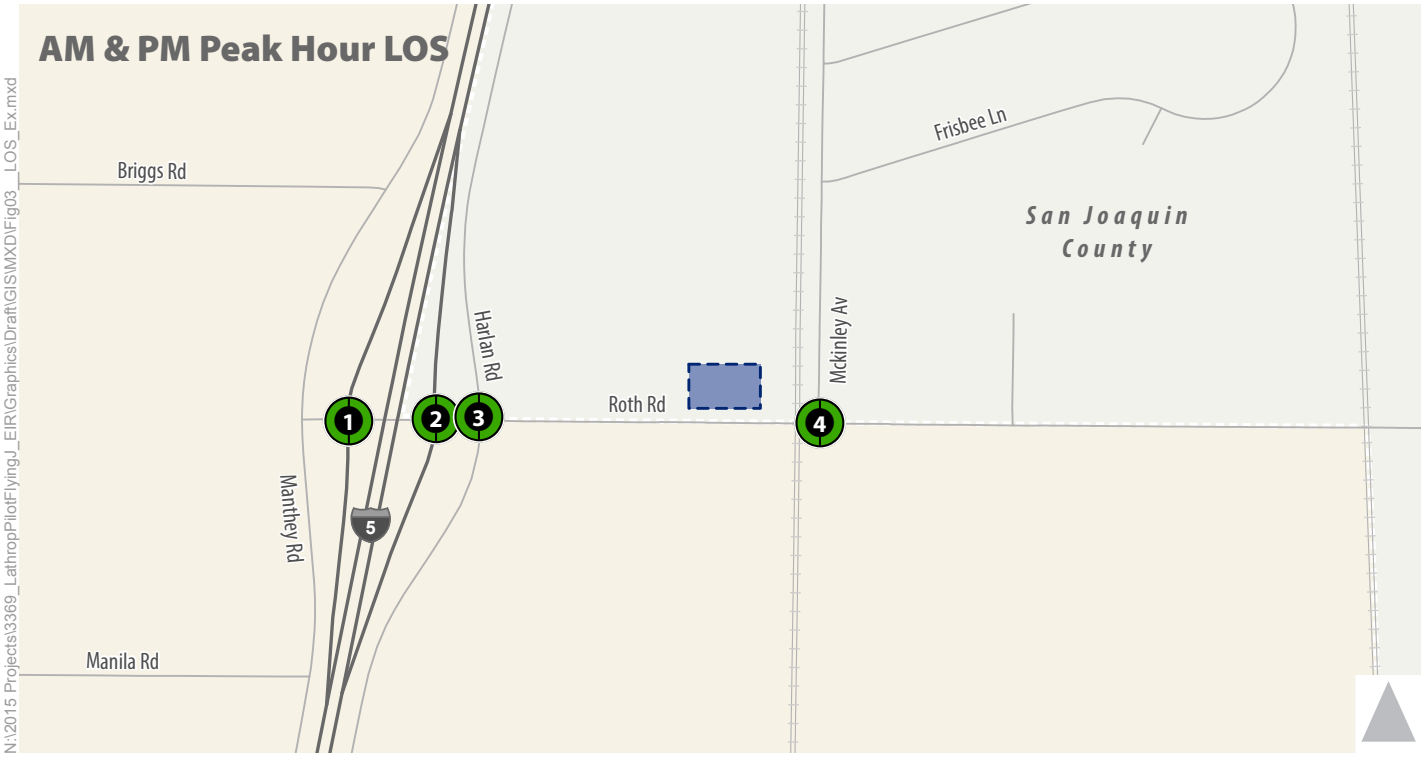

1 Study Intersection

Project Site

Lathrop City Limits

Level of Service (LOS)

A - C D E F

Existing AM LOS / Existing PM LOS

No Data

Intersection Level of Service represents side street delay, which serves number of vehicles as follows:

Study Intersection	Existing AM Peak Hour	Existing PM Peak Hour
1	216	211
2	144	174
4	42	65

Figure 3.12-4

Peak Hour Level of Service - Existing Conditions

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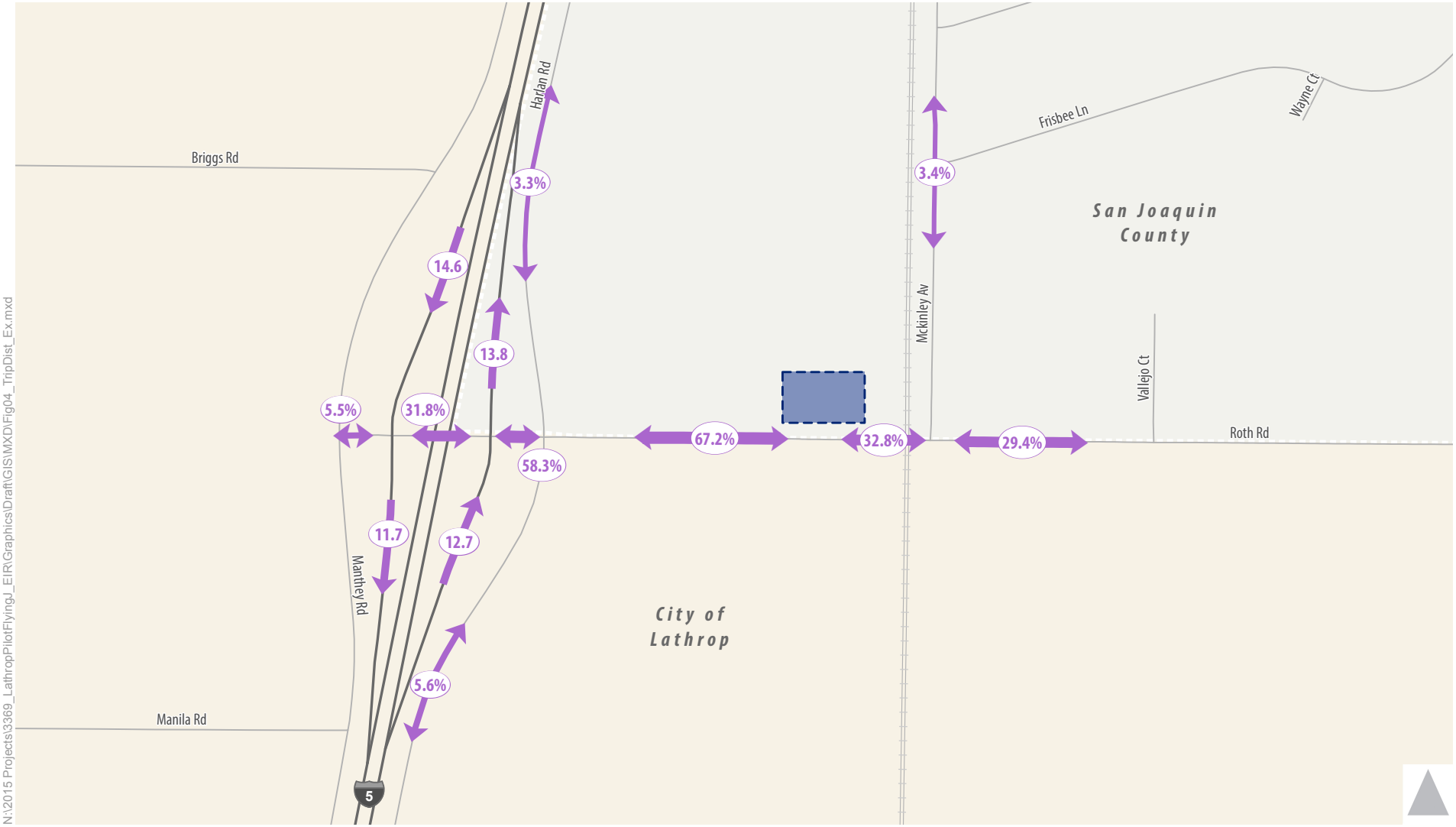

Figure 3.12-5

Project Trip Distribution

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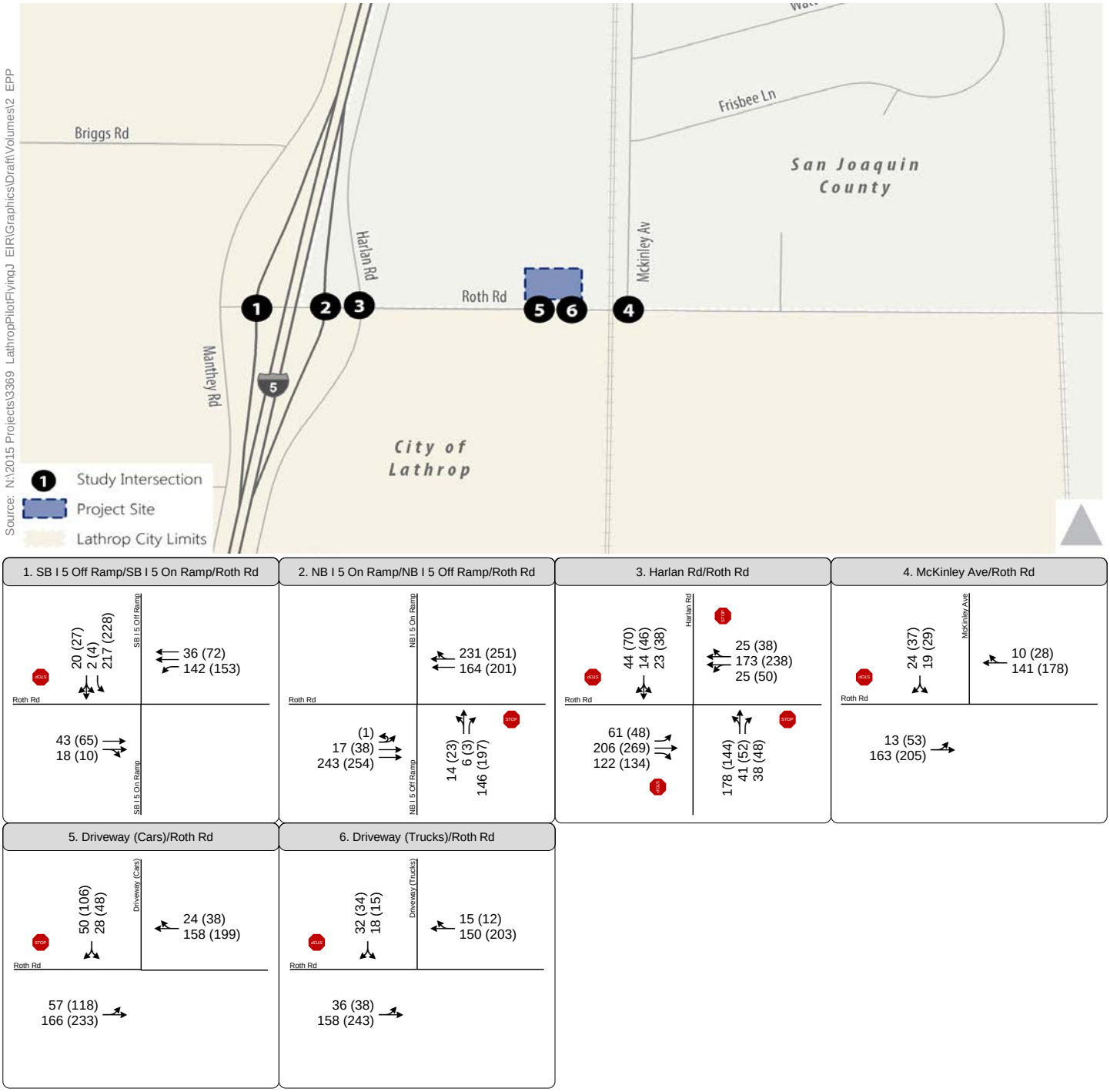

Legend

AM (PM) Peak Hour Traffic Volume

Figure 3.12-6

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

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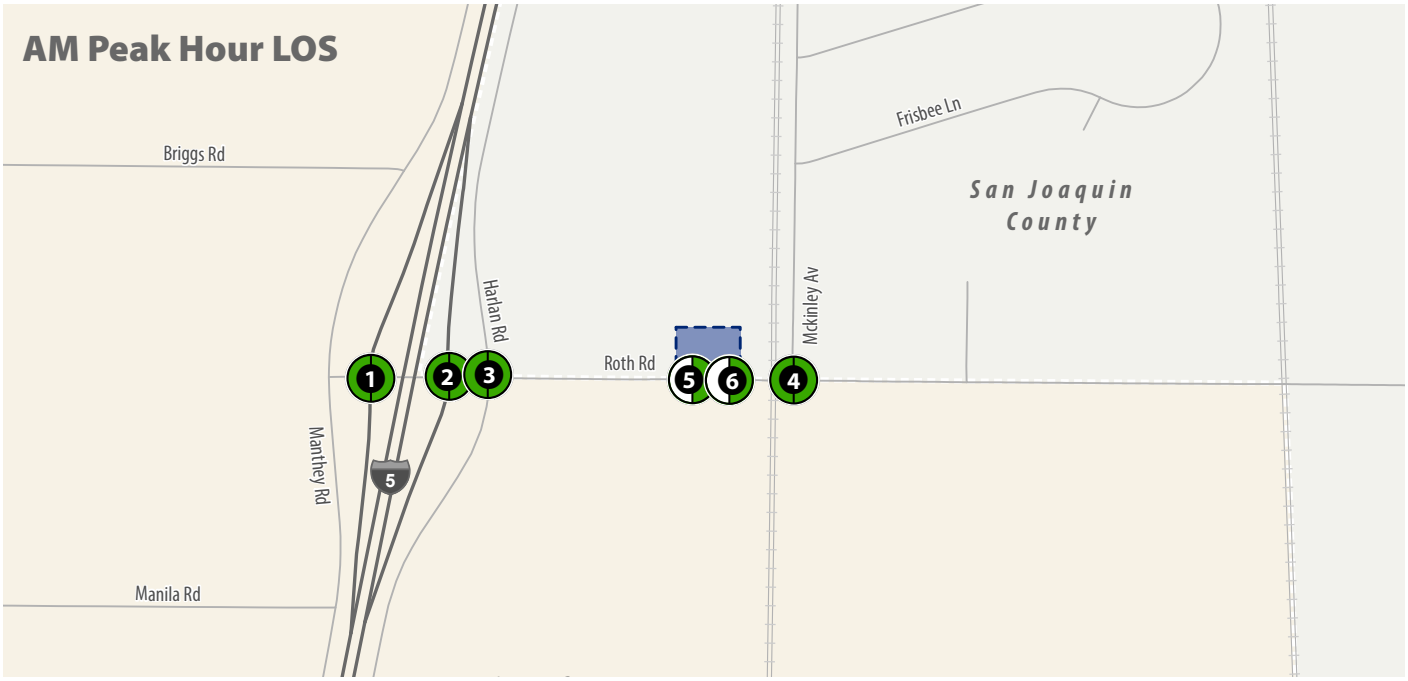

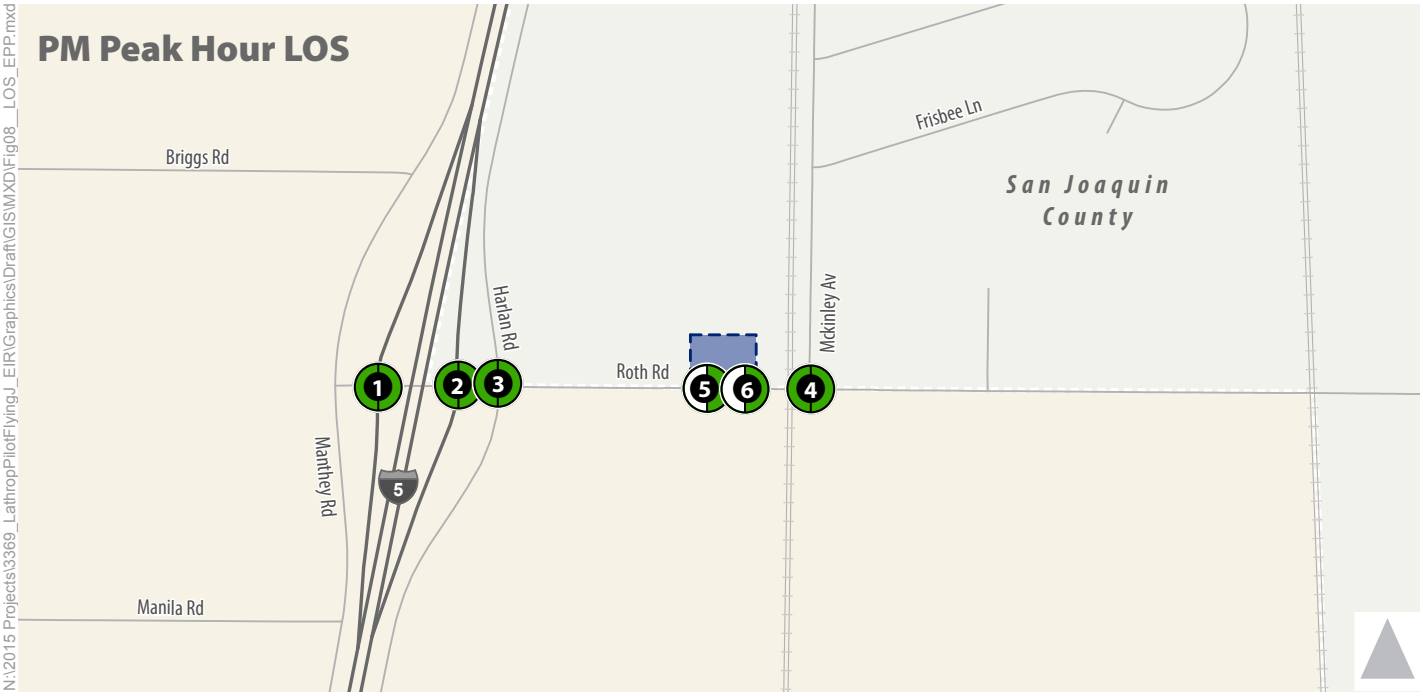

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1 Study Intersection

Project Site

Lathrop City Limits

Level of Service (LOS)

A - C D E F

Existing LOS / Existing Plus Project LOS

No Data

Intersection Level of Service represents side street delay, which serves number of vehicles as follows:

Study Intersection	Existing AM Peak Hour	Existing PM Peak Hour	Existing + Project AM Peak Hour	Existing + Project PM Peak Hour
1	216	211	239	259
2	144	174	166	223
4	42	65	43	66
5			78	159
6			40	49

Figure 3.12-7

Peak Hour Level of Service - Existing Plus Project Conditions

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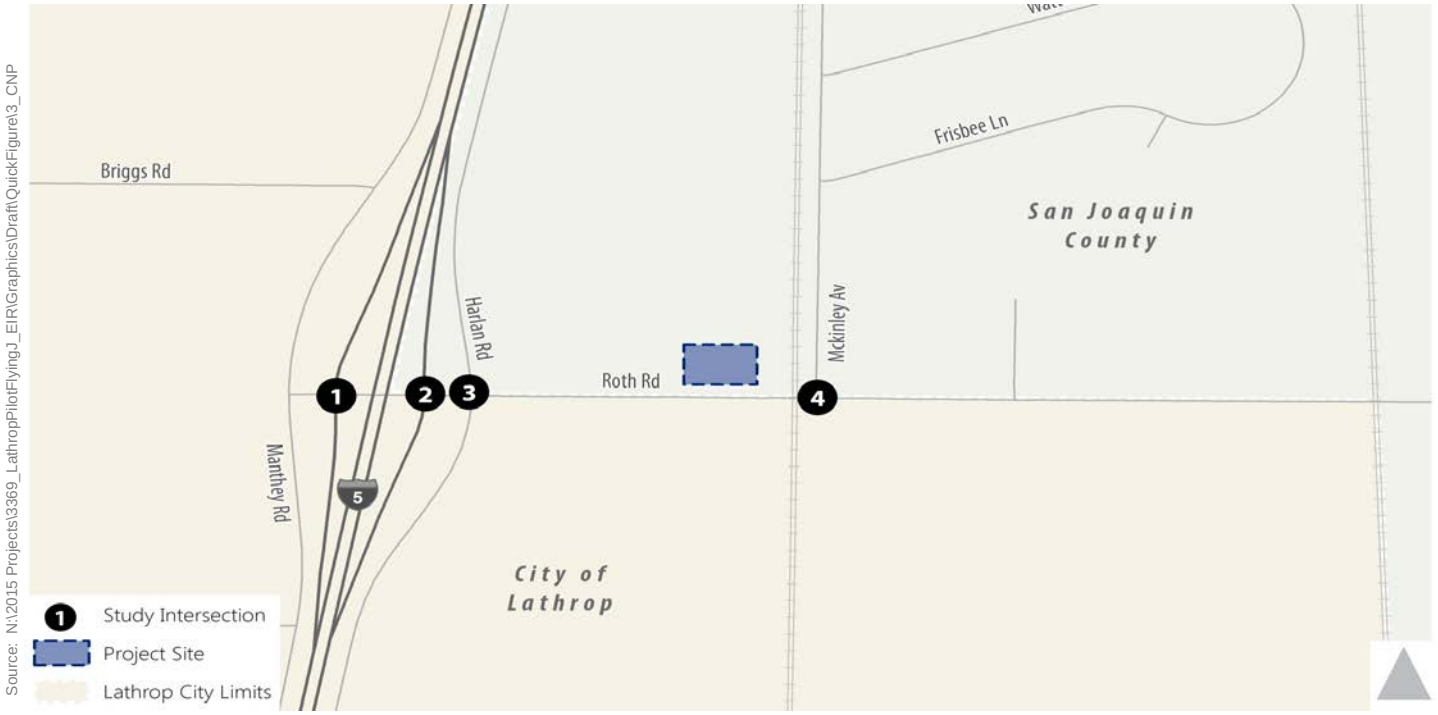

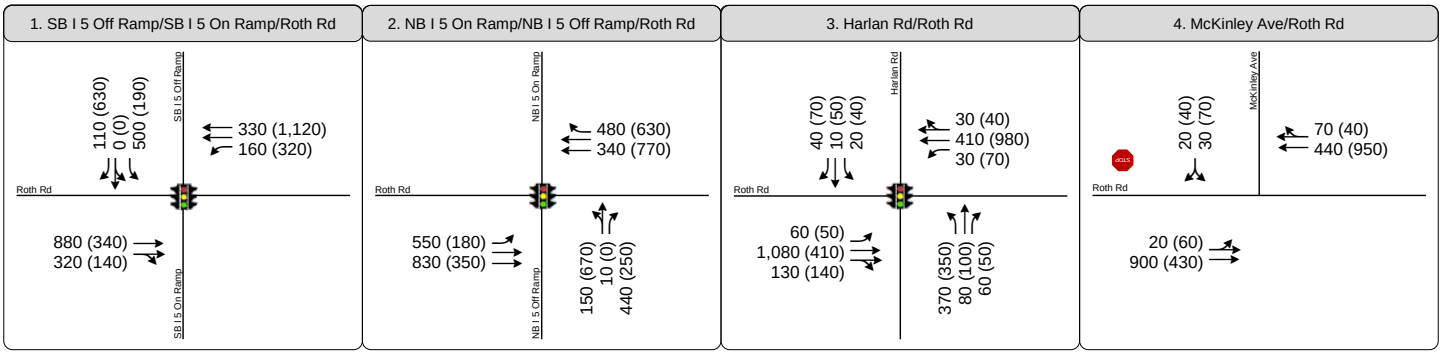

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AM (PM) Peak Hour Traffic Volume

Figure 3.12-8

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

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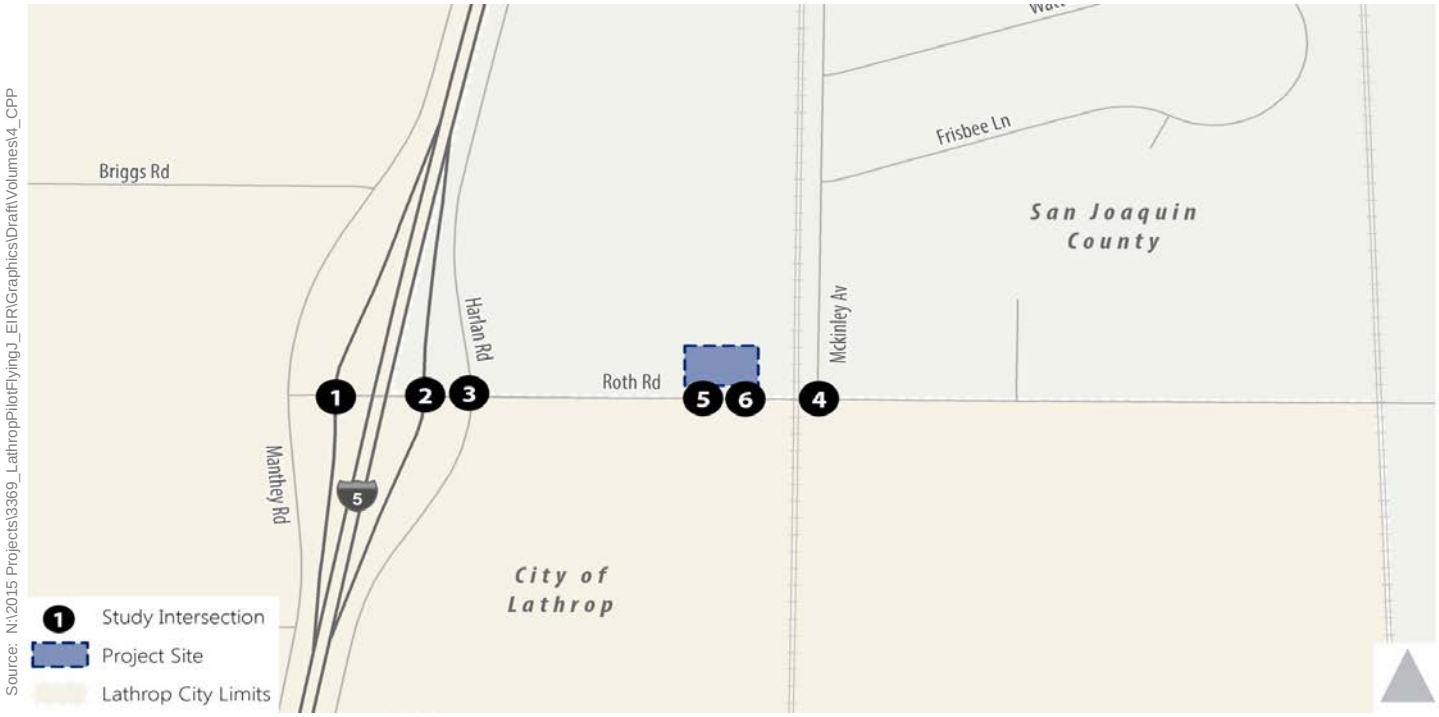

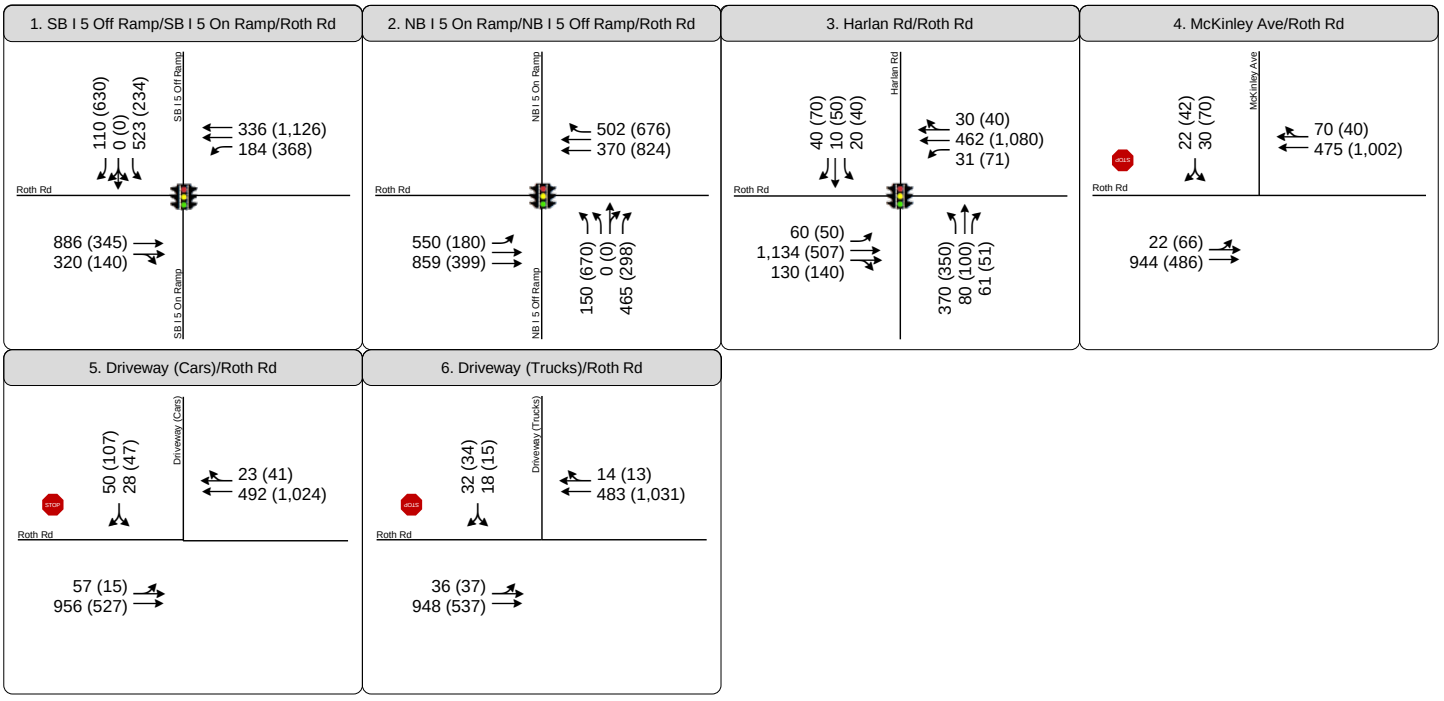

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AM (PM) Peak Hour Traffic Volume

Figure 3.12-9

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

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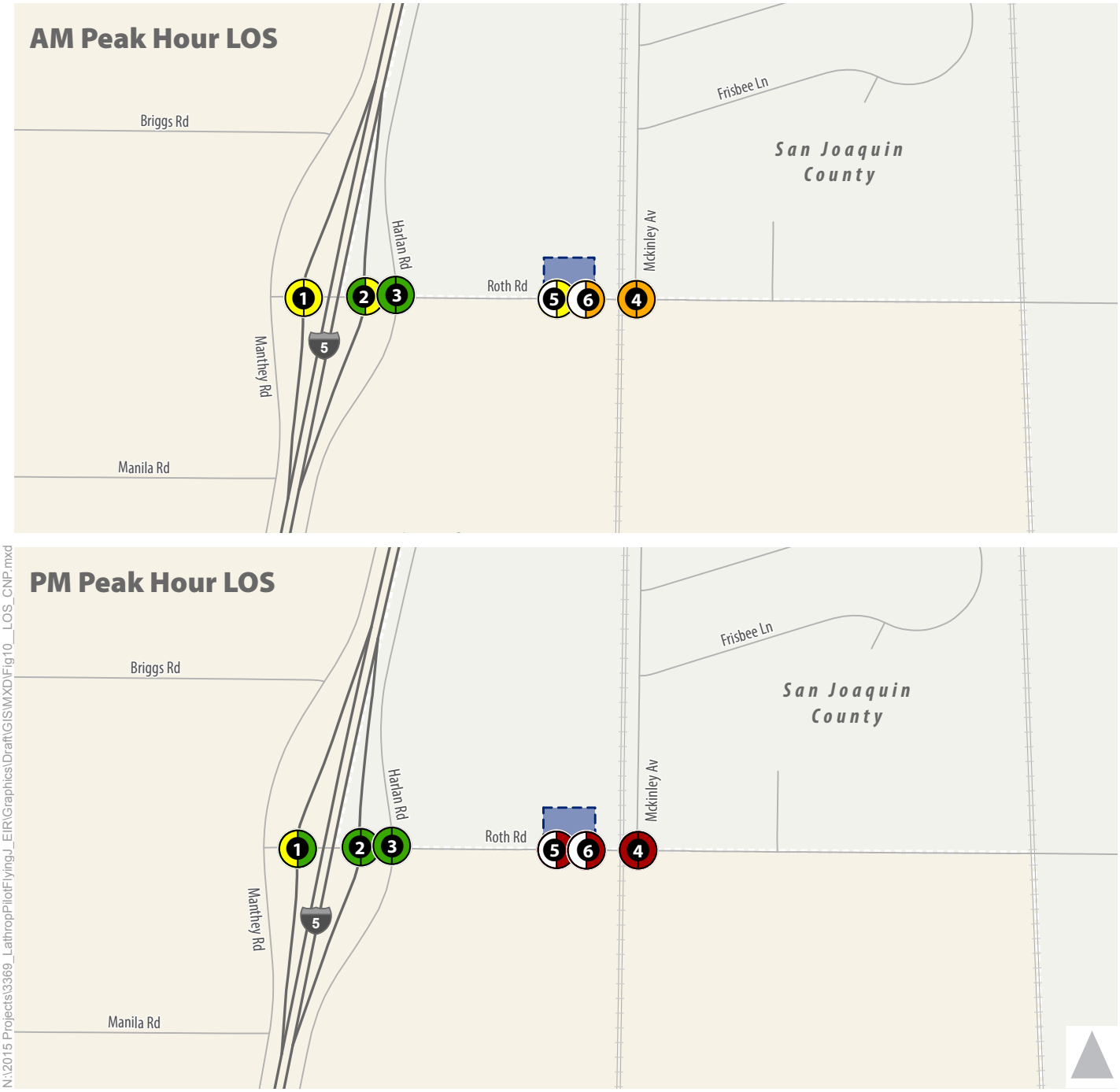

Intersection Level of Service represents side street delay, which serves number of vehicles as follows:

Study Intersection	Cumulative No Project AM Peak Hour	Cumulative No Project PM Peak Hour	Cumulative + Project AM Peak Hour	Cumulative + Project PM Peak Hour
4	50	110	55	112
5			78	164
6			40	39

Figure 3.12-10

Peak Hour Level of Service - Cumulative Conditions

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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from project implementation, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities.

This section is based in part on the following documents, reports and studies: *California's Groundwater,* CalRecycle *Solid Waste Information System,* CalRecycle *Jurisdiction Diversion/Disposal Rate Summary,* L*athrop Draft Municipal Services Review and Sphere of Influence Plan* (2nd Administrative Draft Lathrop MSR December 2015), *City of Lathrop 2005 Urban Water Management Plan* (Nolte Associates 2009), the *Wastewater Quality Control Facility Master Plan Update* (Lathrop 2006), the *San Joaquin Groundwater Basin Groundwater Management Plan, City of Lathrop Sewer System Management Plan (Lathrop 2009), City of Lathrop Water Supply Study* (RBF 2009), *South County Surface Water Supply Project EIR* (SSJID 1999), and the *Employment Density Study Summary Report* (SCAG 2001).

Comments were received during the public review period for the Notice of Preparation regarding storm water from the Central Valley Regional Water Quality Control Board.

3.13.1 WASTEWATER SERVICES

EXISTING SETTING

The City of Lathrop provides wastewater collection to areas within the city limits. The proposed annexation of the project site by the City would provide contiguity with existing City sewer connections. Existing sewer lines are located along Harlan Road, to the south of the project site.

Wastewater Conveyance

The existing wastewater collection system is owned and operated by the City. The current collection system is comprised of sewer pipes, manholes, sewer mains, sewer pump stations, and/or other conveyance system elements and directs the raw sewage to the treatment facilities. The City's wastewater is conveyed by three separate collection systems consisting of approximately 61 miles of sewer pipe to three publicly owned wastewater treatment plants (POTWs) that are operated under three separate permits administered by the Regional Water Quality Control Board (RWQCB). However, the Crossroads industrial treatment facility was recently closed and flows were redirected to the Lathrop Consolidated Treatment Facility (LCTF).

Wastewater Treatment

Wastewater from the City is currently treated at the City's Lathrop Consolidated Treatment Facility (LCTF), and the Manteca-Lathrop Wastewater Quality Control Facility (WQCF). The City owns the LCTF, and 14.7 percent of the WQCF by contract. The City's Wastewater Collection Master Plan and Wastewater Treatment and Disposal Master Plan (prepared in 2000 and updated in 2004) and the 2006 Lathrop 5-year Plan are the primary documents that outline the City's long term strategy for meeting future discharge and capacity requirements for a planning horizon that extends to build-out.

LATHROP CONSOLIDATED TREATMENT FACILITY (LCTF)

The City owns the Lathrop Consolidated Treatment Facility. This wastewater treatment plant operates under separate permit. All of the wastewater generated in the areas west of I-5 is conveyed to the LCTF. Late in 2015, all flows from the Crossroads industrial treatment plant were also redirected to the LCTF, and the Crossroads facility was closed. The daily operations of LCTF are performed by a private contractor, Veolia Water NA. In 2003, the City entered into a 20-year agreement with Veolia to perform these operational services. The City has the ability to upgrade the existing LCTF to increase the treatment capacity and operational flexibility of the plant to 9.0 Million Gallons per Day (MGD) as needed. The Regional Board Order R5-2015-0006 authorizes the City's permitted capacity to increase from 0.75 MGD to 1.0 MGD of raw sewage once River Island completes their recycled water ponds and Lathrop files it completion reports with the State. Total sewer capacity planned by the City to accommodate build-out is 11.9 MGD[1].

MANTECA-LATHROP WQCF

The City conveys most of its wastewater to a regional plant in Manteca for treatment and disposal. The City has a contractual relationship with Manteca whereby 14.7 percent of the Manteca-Lathrop WQCF capacity is allocated for Lathrop flows. The WDRs Order No. R5-2009-0095 NPDES NO. CA0081558 allows the Manteca-Lathrop WQCF to expand capacity up to 17.5 MGD. Most of the wastewater generated in the areas east of Interstate 5 and north of Louise Avenue in the City of Lathrop is conveyed to the Manteca-Lathrop WQCF. The Facility is currently a 9.87 MGD rated combined biofilter-activated sludge tertiary treatment plant, and the average daily flow rate is about 6.5 mgd (City of Manteca, 2015. The Manteca-Lathrop WQCF would serve the proposed project and is described in greater detail below.

WASTEWATER QUALITY

According to the *Wastewater Quality Control Facility Master Plan Update* (2006), the Manteca-Lathrop WQCF is a combined biofilter-activated sludge plant. Secondary effluent is land applied during the spring and summer (flood irrigation for agricultural production) and discharged to the San Joaquin River during the winter (October-March). The *Wastewater Quality Control Facility Master Plan Update* (2006) specifies that effluent from the WQCF typically do not exceed the quantities presented in Table 3.13-1 (Typical Effluent Quality Prior to Phase III Expansion Project).

TABLE 3.13-1: TYPICAL EFFLUENT QUALITY PRIOR TO PHASE III EXPANSION PROJECT

CONSTITUENT	*UNITS*	*30 DAY AVERAGE*
BOD5	mg/L	16
SS	mg/L	0.1
TSS	mg/L	19
Total Coliform Organisms	MPN/100 mL	23"
Oil and Grease	mg/L	2.1

[1] Provided by email correspondence from Glenn Gebhardt, City of Lathrop Community Development Department Director (02/01/2016).

Chlorine Residual	mg/L	--
Ammonia	mg/L	0.20

SOURCE: WASTEWATER QUALITY CONTROL FACILITY MASTER PLAN UPDATE 2006, PG 2-2

The Manteca-Lathrop WQCF operates under Board Order Number R5-2004-0028 (NPDES Permit No. CA0081558). On 19 March 2004, the RWQCB adopted Waste Discharge Requirements (WDR) Order No. R5-2004-0028, NPDES No. CA0081558, prescribing waste discharge requirements for the City of Manteca, City of Lathrop, and Dutra Farms at the Wastewater Quality Control Facility (WQCF) in San Joaquin County.

TABLE 3.13-2: COMPARISON OF PROBABLE FUTURE WATER QUALITY LIMITATIONS VERSUS EFFLUENT QUALITY FOLLOWING PHASE III EXPANSION PROJECT

CONSTITUENT	*UNITS*	*COMPLIANCE CRITERIA*	*PROBABLE FUTURE LIMIT*	*PROJECTED EFFLUENT MEDIAN CONCENTRATION*
BOD	mg/L	Monthly Average	10 or lower	<10
Total Suspended Solids	mg/L	Monthly Average	10 or lower	<10
Total Coliform	MPN/100 mL	Weekly Average	2.2.	<2.2
Turbidity	NTU	1 Hour Average	2	<2
Settleable Solids	mg/L	Monthly Average	0.1	0.1
Chlorine Residual	mg/L	4-day Average	0.01	0.01
Oil and Grease	mg/L	Monthly Average	10	2.1
Aluminum	mg/L	Monthly Average	71	150
Electrical Conductivity	µmhos/cm	Monthly Average	1000	825
Ammonia [a]	mg/L	Monthly Average	2.1	2.1
Ammonia [b]	mg/L	Monthly Average	2.8	2.1
Arsenic	µg/L	Monthly Average	10	8
Copper	µg/L	Monthly Average	7.9	7
Cyanide	µg/L	Monthly Average	3.7	7
Iron	µg/L	Monthly Average	300	420
Manganese	µg/L	Monthly Average	50	33
MBAS	µg/L	Monthly Average	500	560
Nitrate (as N)	mg/L	Monthly Average	10	5
Nitrite (as N)	mg/L	Monthly Average	1	1
Bis (2-ethylhexyl) phthalate	ug/L	Monthly Average	22	3.48
Bromodichloromethane	ug/L	Monthly Average	5	ND [b]
Dibromochloromethane	ug/L	Monthly Average	1.4	ND [b]
2, 4, 6-Trichlorophenol	ug/L	Monthly Average	34	3.28
[a] June – September [b] October - May				

SOURCE: WASTEWATER QUALITY CONTROL FACILITY MASTER PLAN UPDATE 2006, PG 2-17

Future Demand

The City of Manteca operates the Manteca-Lathrop WQCF. The City of Manteca *Wastewater Quality Control Facility Master Plan Update* projected wastewater generation factors for various land uses. Based on these calculations it was determined that Manteca will have flows totaling 19.5 MGD as of the General Plan horizon of 2023 with a buildout capacity of 23.0 MGD.

The Lathrop Wastewater Treatment and Disposal Master Plan projects new development would increase the total wastewater discharge to an average dry weather flow of approximately 11.9 MGD at build-out. The Lathrop Consolidated Treatment Facility (LCTF) treats municipal wastewater

from residential and commercial land uses. The capacity of the LCTF is will be 1.0 MGD once all the recycled water facilities are in place. The City will look to the future to expand the existing LCTF to increase the treatment capacity and operational flexibility of the plant. The LCTF is projected to have a treatment capacity of 9.0 MGD at build-out. The City has a planned build-out treatment capacity of approximately 11.9 MGD. The 11.9 MGD of capacity would be able to adequately serve the major planned development within the City and SOI. The City's current Wastewater Discharge Requirement (WDR) from the Central Valley RWQCB limits the treatment capacity of the City to 6.24 MGD. The City's wastewater planning documents have been continually updated to identify the collection and treatment requirements anticipated at buildout within the City and SOI.

The Wastewater Treatment and Disposal Master Plan projects new developments will increase the total wastewater flow to an average dry weather flow of approximately 11.9 MGD at build-out. All project wastewater flows will be treated at the LCTF or Lathrop-Manteca WQCF, however it is not clearly defined how much would be allocated to each treatment plant. The 2004 wastewater flows (per the 2004 Master Plan) and projected future wastewater flows of the three major City areas are presented in Table 3-15-3 (Projected Wastewater Flow (MGD).

TABLE 3.13-3: PROJECTED WASTEWATER FLOW (MGD)

DATE	*AREA 1 (EAST LATHROP)*	*AREA 2 (WEST CENTRAL LATHROP)*	*AREA 3 (STEWART TRACT)*	*TOTAL*
2004	0.76	**0.0**	**0.0**	**0.76**
Build-out	3.8	3.7	4.4	11.9

SOURCE: CITY OF LATHROP 2015, PG. 3-35

The City's Wastewater Treatment and Disposal Master Plan outlined a phased plan to provide treatment capacity for the anticipated 11.9 mgd at build-out, whenever it may occur. This plan accounts for the phasing and location of each planned future development area within the City.

The City's Wastewater Collection Master Plan, Wastewater Treatment and Disposal Master Plan (prepared in 2000 and updated in 2004), and the 2006 Lathrop 5-year Plan have identified the requirements anticipated to be necessary for the conveyance and treatment of wastewater at buildout, whenever it may occur. Furthermore, the Master Plan outlines a phasing plan for the implementation and anticipated cost for construction. To ensure that appropriate funding is available when the wastewater related infrastructure is needed, the developers are required through development agreements to cover all the costs of the infrastructure upfront even if they are only responsible for their portion of costs. Developers are then reimbursed at a later point (e.g. when additional development fees are collected) for any payments in excess of what they are responsible (City of Lathrop 2015, pg. 3-35).

REGULATORY SETTING - WASTEWATER

Clean Water Act (CWA) / National Pollutant Discharge Elimination System (NPDES) Permits

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

The City's current NPDES Permit, which regulates the wastewater effluent quantity and quality upon discharge was issued by the Central Valley Regional Water Quality Control Board and is Order R5-2006-0094 and Order 5-01-251.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the State Water Resources Control Board (SWRCB) has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the

SWRCB to nine RWQCBs. The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the Central Valley Regional Water Quality Control Board (CVRWQCB) NPDES permit system, all existing and future municipal and industrial discharges to surface water within the City would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

City of Lathrop General Plan

The Lathrop General Plan establishes the following policies and requirements relative to wastewater in the General Plan:

COMMUNITY DEVELOPMENT ELEMENT (SECTION D)

Water, Sewerage, Drainage, and Flood Control:

The following policies seek to provide guidance related to sewerage.

> **Policy 1**. The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. However, this preference allows for the creation of other special districts, including Irrigation Districts, especially if these districts can provide utility improvement financing that protects the City's existing rate payers. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.
>
> **Policy 3**. Any Water, Wastewater and Recycled Water Master Plan update should provide for the eventual integration of the water well and distribution system serving the existing community with the system(s) needed to serve areas of urban expansion to avoid potential future problems of groundwater quality associated with the existing system.

Utility Master Plans

The City of Lathrop maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Wastewater Collection Master Plan Amendments (2004), Recycled Water Master Plan Amendment (2004), Urban Water Management Plan (2006), Water Supply Study (2008), Draft Historic Lathrop Storm Drainage Master Plan (2006), and Storm Water Management Plan (2003).

THRESHOLDS OF SIGNIFICANCE - WASTEWATER

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it will:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2. Require or result in the construction of new wastewater treatment and/or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3. Result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that is does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: The proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (less than significant)

WASTE DISCHARGE REQUIREMENTS (WDRS) ORDER NO. R5-2006-0094

Since the proposed project is located east of Interstate 5 and north of Louise Avenue in the City of Lathrop, wastewater generated by the proposed project would be conveyed to the Manteca-Lathrop WQCF. On October 8, 2009, the RWQCB adopted Waste Discharge Requirements Order No. R5-2009-0095 NPDES NO. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility (WQCF) and allowing expansion of the plant up to 17.5 mgd.

The WQCF is a Publicly-Owned Domestic Wastewater Treatment Works. The Waste Discharge Requirements (WDRs) Order No. R5-2009-0095 NPDES NO. CA0081558 includes: Discharge Prohibitions, Effluent Limitations and Discharge Specifications, Receiving Water Limitations, Provisions, Compliance Determination, and Monitoring Requirements. This Order was approved on October 8, 2009.

The Manteca-Lathrop WQCF is currently in compliance with the WDR requirements of Order No. R5-2009-0095 NPDES NO. CA0081558. The Manteca-Lathrop WQCF wastewater treatment system options covered under this Order include: the collection system, basin/disposal fields, discharge to the San Joaquin River, and recycling conveyance and irrigation system. Wastewater generated by the proposed project would be treated by the Manteca-Lathrop WQCF consistent with the requirements of Order No. R5-2009-0095 NPDES NO. CA0081558 and the proposed project would not exceed the wastewater discharge requirements in this Order. The proposed project is anticipated to have a ***less than significant*** impact relative to this topic. The allocation of wastewater service capacity is discussed in the following impact topic.

Impact 3.13-2: The proposed project has the potential to result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that is does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (less than significant with mitigation)

The proposed project would require wastewater collection and treatment services. The provision of the wastewater collection services would be provided by the City of Lathrop wastewater system which currently includes WRP-1-MBR, the Crossroads POTW, and the Manteca-Lathrop WQCF. The Waste Discharge Requirements (WDRs) Order No. R5-2009-0095 NPDES NO. CA0081558 allows the Manteca-Lathrop WQCF to have a capacity of 17.5 mgd of which 14.7% is allocated for the City of Lathrop.

Project Wastewater Generation

According to the City's Sewer System Management Plan, the estimated wastewater generation factor for highway commercial projects is 1,200 gallons/acre-day (City of Lathrop, 2006). Therefore, given that the proposed project would develop approximately 9 acres, the estimated wastewater generation for the proposed project would be approximately 11,004 gallons of wastewater per day.

The proposed project would include a sewer line extension to the project site. The proposed sewer line extension would be a gravity line that ends at the pump station currently being constructed on Harlan Road, approximately 2200 feet south of Roth Road. The size of the line is expected to be 15" in diameter from the pump station to Roth Road, and 12" in diameter from Roth to the project site. Ultimately, the pipeline along Roth Road would be extended to serve other properties along Roth Road, to the limit of Lathrop's General Plan boundaries and adopted Sphere of Influence. The proposed collection system would connect to a private pump station and force main that is currently under construction and will be upgraded to a public pump station, and public force main.

The proposed project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the WQCF. Occupancy of the proposed project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that the proposed project would be within the planned capacity for wastewater conveyance and treatment and that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Implementation of Mitigation Measure 3.13-1 would reduce this potential impact to a ***less than significant*** level.

MITIGATION MEASURE

Mitigation Measure 3.13-1: *Prior to occupancy of any building that would require wastewater treatment services, the project proponent shall secure adequate wastewater treatment allocation through the City's allocation process. Additionally, the project proponent would be required to install/connect the necessary collection/transmission infrastructure to ensure the appropriate*

treatment of all wastewater (per Chapter 13.16.190 of the Lathrop Municipal Code), as determined by the City of Lathrop.

Impact 3.13-3: The proposed project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (less than significant)

The wastewater collection and conveyance system that will serve the proposed project will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but generally includes gravity sewers and force mains ranging in size from 6 to 60 inches, and pump stations. The existing facilities have undergone environmental review and have waste discharge permits from the State.

As described in previously, the proposed project would include a sewer line extension. The sewer line extension would be a gravity line that ends at the pump station currently being constructed on Harlan Road, approximately 2200 feet south of Roth Road. The size of the line is expected to be 15" in diameter from the pump station to Roth Road, and 12" in diameter from Roth to the project site. Ultimately, the pipeline along Roth Road would be extended to serve other properties along Roth Road, to the limit of Lathrop's General Plan boundaries and adopted Sphere of Influence. The proposed collection system would connect to a private pump station and force main that is currently under construction and will be upgraded to a public pump station, and public force main.

The installation of the wastewater collection and conveyance system infrastructure to serve the proposed project would have a ***less than significant*** impact relative to this topic.

The wastewater treatment plant would not require upgrades or improvements in order to serve the proposed project. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

3.13.2 WATER SUPPLIES

EXISTING SETTING

Currently, the proposed annexation area is located outside the existing city limits, but will be annexed into the city as part of the proposed project. The City of Lathrop would be the water purveyor for the proposed annexation area. The City's water system service area includes all areas within the city limits.

Water Service Area

The water service area includes all acres within the city limits currently encompassing about 22 square miles or 14,080 acres. The water supply for the City consists of treated surface water delivered through the South County Water Supply Program (SCWSP) and groundwater extracted within the City. The water utility system is a self-supporting City enterprise. The water utility is responsible for operation, maintenance, and repair of the City's water treatment and distribution system, as well as water quality monitoring, meter installation, and meter reading.

In accordance with the requirements of the State of California, the City has prepared a citywide Urban Water Management Plan (UWMP). The UWMP evaluates the City's current and future water demands against water supplies to ensure that adequate water is, or will be, available to future development.

Historical and Future Water Demand

The following information was provided by the City's 2005 UWMP (City of Lathrop, 2009). The City's 2005 UWMP describes the projected City water demand through 2030. The City's 2005 UWMP quantifies, to the extent records are available, past, current, and projected water use based on City water meter readings and findings of the City's Water Supply Study completed in January 2009. The City is anticipating growth in response of several new developments. The completion of these proposed developments is being defined as the City's build-out condition. The UWMP plans for a population of 71,080 by 2030.

Several steps, including demand reduction, are being taken to help ensure an adequate water supply for the City. The City's 2005 UWMP provides a discussion of how the City is evaluating and implementing the 14 Demand Management Measures (DMM) required by the Urban Water Management Planning Act. These DMMs include programs such as water surveys for single-family and multi-family residences, residential plumbing retrofits, and school education. In addition, the City's water conservation ordinance describes four stages of action to be undertaken to achieve a water use reduction of up to 50 percent. Severity of drought or water emergency determines the conservation phase implemented.

As water demands increase and sources of production capacity are expanded in the future, the utilization of each source of production will shift. Table 3.13-4 presents the total projected water demand accounting for distribution system losses through the year 2030. Additional water demands associated with proposed developments include commercial, industrial, and community uses. Water demand factors suggested for commercial and industrial uses are 1,500 gpd per acre

and 2,000 gpd per acre, respectively. Community water demands for parks, schools, golf courses, and other landscaped areas were developed in the Water Supply Study (WSS) for each development using a formula for estimated total water use (City of Lathrop UWMP, 2005).

Unaccounted losses in the distribution system can result from leaks, pipeline bursts, inaccurately calibrated or old meters, illegal water use, firefighting, sewer and storm drain flushing, pipeline testing, and road work. By comparing metered water supply versus metered water use from 2005 to 2007, the average unaccounted water loss is estimated at seven percent (City of Lathrop UWMP, 2005). The total projected water demand at build-out accounting for losses in the distribution system and feasible conservation practices is 20,867 AFY as shown in Table 3.13-4.

TABLE 3.13-4: TOTAL 2030 PROJECTED WATER DEMAND ACCOUNTING FOR DISTRIBUTION SYSTEM LOSSES

DEVELOPMENT	*WATER DEMAND, AFY**
Central Lathrop	4,208
Mossdale Landing	1,141
Mossdale Landing East	326
Mossdale Landing South	178
River Islands	5,114
South Lathrop[c]	1,293
Historic Lathrop	7,409
Stonebridge	128
Development Demand	19,797
System Unaccounted Losses (7%)	1,386
Total Demand	*21,183*
Total Demand, with Conservation[a]	*20,867*
Total Demand, with Conservation and Non-Potable Irrigation[b]	*17,251*

*NOTES: * AFY = ACRE FEET PER YEAR. (A) CONSERVATION SAVINGS REFLECT SAVINGS FROM MEASURES THAT MUST BE INCLUDED IN ALL NEW DEVELOPMENTS BY REGULATION OR BY CONTRACT (LATHROP, 2009). (B) NON-POTABLE WATER SUPPLIES USED FOR LANDSCAPE IRRIGATION IN NON-RESIDENTIAL AREAS AS RECOMMENDED IN THE WSS (LATHROP, 2009).*

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

Water Supplies

The City's 2005 UWMP describes the available water supplies. The City's water supplies include local groundwater and surface water from the SCWSP. Past, current, and projected supplies of groundwater and surface water are summarized in Table 3.13-5.

TABLE 3.13-5: PAST, CURRENT, AND PROJECTED WATER SUPPLY (1990-2030)

YEAR	GROUNDWATER PUMPING, AFY	SURFACE WATER DELIVERIES[A], [B], AFY	TOTAL AFY[B]
1990	1,638	—	1,638
2000	2,538	—	2,518
2005	2,527	640	3,167
2010	6,048	8,007	14,055
2015	8,064	6,878	14,942
2020	12,096	6,878	18,974
2025	12,096	10,662	22,758
2030	12,096	10,662	22,758
2035	12,096	10,662	22,758

NOTES: (A) VALUES FOR 2010 AND BEYOND ARE PROJECTED SCWSP DELIVERIES TO THE CITY OF LATHROP AND REFLECT ASSUMPTIONS REGARDING CONSTRUCTION OF NEW FACILITIES, EXPANSION OF EXISTING FACILITIES, AND MANAGEMENT DECISIONS BY CITY STAFF. THE PROJECTED DELIVERIES ARE LESS THAN OR EQUAL TO THE ALLOTMENTS PRESENTED IN APPENDIX D OF THE CITY'S 2005 UWMP. (B) THE CITY OF LATHROP SOLD 1,129 AFY OF ITS SSJID ALLOCATIONS TO THE CITY OF TRACY IN 2014, AS DESCRIBED IN THE CITY OF LATHROP MUNICIPAL SERVICES REVIEW AND SPHERE OF INFLUENCE PLAN (3RD ADMINISTRATIVE DRAFT), FEBRUARY 2016.

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

SURFACE WATER

The principal component of future water supply for Lathrop is deliveries from the SCWSP. The SCWSP is a joint effort of the South San Joaquin Irrigation District (SSJID) and the cities of Escalon, Manteca, Lathrop, and Tracy to supply treated potable water to the participating cities. The City has entered into a Water Supply Development Agreement with SSJID for its share of the SCWSP. SCWSP water allotments are presented in Table 3.13-6. The Phase I and Phase II SCWSP water allotments for the City are 8,007 AFY and 11,791 AFY, respectively. However, a portion of this allotment (1,129 AFY) was sold to the City of Tracy, resulting in the amended allotments shown below. According to the Water Supply Development Agreement, Phase I allotments apply "up to year 2010" and Phase II allotments apply "up to year 2025." The water supply projections discussed below take this allotment into account.

TABLE 3.13-6: SOUTH COUNTY WATER SUPPLY PROGRAM WATER ALLOTMENTS FOR PARTICIPATING CITIES

PARTICIPATING CITIES	ALLOTMENT, AFY	
	PHASE I	PHASE II
Escalon	2,015	2,799
Lathrop	8,007 (6,878)	11,791 (6,878)
Manteca	11,500	18,500
Tracy	10,000 (11,129)	10,000 (11,129)
Total	*31,522*	*43,090*

NOTE: NUMBERS IN PARENTHESIS REFLECT THE TOTAL AFTER TAKING INTO ACCOUNT THE PORTION OF THE CITY OF LATHROP'S ALLOTMENT THAT IT SOLD TO THE CITY OF TRACY IN 2014 (ACCORDING TO CORRESPONDENCE WITH THE CITY OF LATHROP, FEBRUARY 11, 2016) .

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

The projection includes a water treatment plant (WTP) located near Woodward Reservoir and 36.5 miles of pipeline ranging in diameter from 20-inches to 54-inches to transport treated water to various turnouts for each of the four cities. The WTP has an initial capacity of 36 million gallons per day (mgd) and a planned ultimate capacity of 60 mgd.

GROUNDWATER

The local groundwater basin and City groundwater use are described in the City's 2005 UWMP. A brief description of the groundwater basin and a discussion of historic and projected groundwater pumping are provided below.

Basin Boundaries, Soils, and Storage Capacity

City wells are located in the Eastern San Joaquin County Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan (ESJGB-GMP) (NSJCGB, 2004) was prepared in September 2004. The purpose of the ESJGB-GMP is "to review, enhance, assess, and coordinate existing groundwater management policies and programs in Eastern San Joaquin County and to develop new policies and programs to ensure the long-term sustainability of groundwater resources in Eastern San Joaquin County." According to Department of Water Resources (DWR) Bulletin 118 (DWR, 2003), the ESJGB is in a critical condition of overdraft. The estimated safe yield of the groundwater basin is approximately 618,000 AF/YR (0.87 AFY per acre, average) and the estimated overdraft is 113,000 AF/YR. The available groundwater supply for the City is projected to increase to 12,096 AFY by 2020. Groundwater levels have declined in the basin since the 1960s with the lowest groundwater levels found in eastern San Joaquin County. Groundwater levels at City wells, however, have remained stable for the past two decades when taking into account seasonal variations and droughts (City of Lathrop, 2009). Specific siting studies and hydrogeological assessments are recommended for new wells to minimize potential impacts (such as saltwater intrusion) while optimizing groundwater extraction.

Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. A discussion of basin hydrogeology is provided in the ESJGB-GMP. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable and the groundwater is typically unconfined.

The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the Lathrop area penetrate through the Victor formation into the Laguna formation.

Underlying Lathrop, the groundwater surface generally slopes from south to north, with the highest groundwater elevations occurring near Yosemite Avenue east of McKinley Avenue and the lowest groundwater elevations occurring along Roth Road. There are some localized depressions

due to industrial and municipal groundwater pumping operations. Groundwater elevations in the fall, after the high-use summer months, average about 3 feet lower than groundwater elevations in the spring.

Past and Projected Future Groundwater Pumping

As described in the City's 2005 UWMP, groundwater pumping in Lathrop increased from 1,545 AFY in 1988 to a maximum of 3,471 AFY in 2004. In addition to the City potable water supply wells, there are water wells in the service area that serve private industrial facilities, and agriculture. There are also 83 private agricultural wells within or near the City. The municipal, industrial, and private (agricultural) demands combined results in an annual groundwater pumping range of approximately 4,430 to 4,530 AFY.

According to the City's 2005 UWMP, groundwater pumping is projected to increase to 9,076 AFY by the year 2030 and remain at that level unless the City alters its groundwater/surface water balance. Projected groundwater extractions are summarized in Table 3.13-7. These projections are based upon the following: 1) findings of the WSS (City of Lathrop, 2009) for normal hydrologic years; and, 2) commissioning of Phase II SCWSP facilities at the end of 2020.

TABLE 3.13-7: PROJECTED GROUNDWATER PUMPING FOR THE CITY OF LATHROP

YEAR	*PROJECTED GROUNDWATER PUMPING[A], AFY*	*YEAR*	*PROJECTED GROUNDWATER PUMPING[A], AFY*
2016	6,891	2025	8,720
2017	7,677	2027	8,862
2018	8,463	2028	8,933
2019	9,249	2029	9,004
2020	10,036	2030	9,076

NOTE: (A) FUTURE GROUNDWATER PUMPING RATES WILL DEPEND UPON THE RATE OF ABSORPTION FOR FUTURE DEVELOPMENT, WATER DEMANDS ASSOCIATED WITH FUTURE DEVELOPMENT, THE SCHEDULE FOR CONSTRUCTION AND COMMISSIONING OF PHASE II SCWSP FACILITIES, AND OPERATIONAL DECISIONS MADE BY CITY STAFF REGARDING THE UTILIZATION OF GROUNDWATER AND SURFACE WATER SUPPLIES.

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

IMPACT OF PROJECTED PUMPING

The impacts of the projected groundwater extractions listed above are described in the City's 2005 UWMP. A localized groundwater model was developed as part of the Master Plan development process completed in 2004.

Additional groundwater modeling results and groundwater quality data were gathered and reviewed for the WSS (City of Lathrop 2009). The WSS findings indicate that total dissolved solids (TDS) concentrations at City wells will increase with increasing extractions in the cities of Lathrop and Manteca. The City wells are apparently located immediately east of groundwater with TDS concentrations exceeding the recommended secondary maximum contaminant level (MCL) of 500 milligrams per liter (mg/L). TDS concentrations measured at City wells range from 270 mg/L at Well No. 10 to 440 mg/L at Well No. 6. Modeling results were used to estimate the rate and direction of TDS migration. The TDS migration is expected to increase concentrations in the City groundwater to levels above the recommended secondary MCL of 500 mg/L within approximately 10 years. The southern portion of the City's well field was found to be most vulnerable to degradation.

With groundwater pumping projected to increase in the Lathrop and Manteca, absolute preservation of groundwater quality does not appear possible (City of Lathrop, 2009). The impact, however, will be mitigated through: 1) the implementation of the SCWSP and the subsequent blending of groundwater with low-TDS surface water; 2) water treatment; and, 3) pursuit of alternative water supplies in accordance with WSS findings. In addition, regional implementation of the integrated conjunctive use program presented in the ESJGB-GMP (including groundwater recharge, increased surface water use, and reduced rates of groundwater pumping) could slow or reverse the migration of the groundwater salinity front.

Dry Year Water Supply Availability and Reliability

SURFACE WATER RELIABILITY

SSJID has agreements to provide surface water to agricultural interests, federal and state agencies, and cities in the south San Joaquin area. Some agreements are long-term, while others are as short as one week for agricultural water deliveries. As illustrated in Table 3.13-8, these delivery commitments and contracts vary from year to year.

TABLE 3.13-8: PROJECTED ANNUAL SSJID DELIVERIES FOR NORMAL HYDROLOGIC YEAR[(A)]

	TOTAL SSJID DELIVERIES BY YEAR, AFY		
	2003	*2011*	*2030[(A)]*
Agricultural Demand[(b)]	241,000	232,000	220,000
Stockton East Water District Transfers	4,000 to 15,000	4,000 to 15,000	0
Vemalis Adaptive Management Plan	0 to 11,000	0 to 11,000	0 to 11,000
Ripon	0	0	0 to 6,000
SCWSP[(c)]	20,284	31,000	44,000
Minimal Total	*265,284*	*267,000*	*264,000*
Maximum Total	*287,284*	*289,000*	*281,000*

NOTE: (A) REFERENCE (SSJID, 1999) DOES NOT INCLUDE SSJID DELIVERY PROJECTIONS BEYOND 2025. DELIVERIES FOR 2030 WERE PROJECTED ASSUMING THAT EXISTING FACILITIES WILL NOT BE EXPANDED, NEW FACILITIES WILL NOT BE CONSTRUCTED, AND DELIVERIES WILL NOT INCREASE FROM 2025 TO 2030. (B) DOES NOT REFLECT SYSTEM LOSSES. (C) INCLUDES THE CITY OF LATHROP.

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

GROUNDWATER RELIABILITY

As presented in Table 3.13-9, the surface water supply may decrease by 2,181 ac-ft/yr in 2025 under single-year and multi-year dry period conditions. This shortfall would be made up through increased groundwater pumping and city-wide conservation measures. Groundwater extractions will be maintained within the safe yield of the groundwater basin. Projected total available water supplies during hydrologic normal years, single-year dry periods, and multi-year dry periods are summarized in Table 3.13-9.

TABLE 3.13-9: SUMMARY OF PROJECTED WATER SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTI-DRY YEARS FOR CITY OF LATHROP

YEAR	*AVAILABLE WATER SUPPLY*								
	NORMAL YEAR, AFY			*SINGLE-DRY YEAR DROUGHT, AFY*			*MULTI-DRY YEAR DROUGHT, AFY*		
	GROUND WATER	*SURFACE WATER[A, B]*	*TOTAL[B]*	*GROUND WATER*	*SURFACE WATER[A, B]*	*TOTAL[B]*	*GROUND WATER*	*SURFACE WATER[A, B]*	*TOTAL[B]*

2010	6,048	8,007	12,926	6,048	5,445	11,493	6,048	5,445	11,493
2015	8,064	6,887	14,942	8,064	5,445	13,509	8,064	5,445	13,509
2020	12,096	6,887	18,974	12,096	5,445	17,541	12,096	5,445	17,541
2025	12,096	10,662	22,758	12,096	8,481	20,577	12,096	8,481	20,577
2030	12,096	10,662	22,758	12,096	8,481	20,577	12,096	8,481	20,577
2035	12,096	10,662	22,758	12,096	8,481	20,577	12,096	8,481	20,577

NOTE : (A)SCWSP DELIVERIES TO CITY OF LATHROP.

(B)THE CITY OF LATHROP SOLD 1,129 AFY OF ITS SSJID ALLOCATIONS TO THE CITY OF TRACY IN 2014, AS DESCRIBED IN THE CITY OF LATHROP MUNICIPAL SERVICES REVIEW AND SPHERE OF INFLUENCE PLAN (3RD ADMINISTRATIVE DRAFT), FEBRUARY 2016.

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

SURFACE WATER ENTITLEMENTS

Both the SSJID and the Oakdale Irrigation District (OID) were formed in 1909 following the acquisition of the old Tulloch Ditch Company water rights. SSJID receives a major portion of its water supply from the Stanislaus River, pursuant to a number of pre-1914 water rights, beginning with 1853 diversion rights. Based on these pre-1914 water rights, SSJID and OID are entitled to a combined 1,816.6 cubic feet per second (cfs) of direct surface water diversions from the Stanislaus River annually.

These pre-1914 water rights are equally shared with OID and are adjudicated (SSJID, 1999). A 1988 agreement between SSJID, OID, and the United States Bureau of Reclamation (USBR) recognized and protected the OID and SSJID senior water rights that would be affected by the New Melones Reservoir. The agreement entitles SSJID and OID to 600,000 AFY in years when inflow to New Melones Reservoir is equal to or exceeds 600,000 ac-ft. In years when inflow to New Melones Reservoir is less than 600,000 ac-ft, the entitlement is reduced based on a predetermined formula. During periods of normal flow, SSJID's entitlement is 300,000 AFY.

RELIABILITY OF SCWSP DELIVERIES

Surface water for agricultural irrigation dominates SSJID deliveries. A summary of projected SCWSP deliveries to the participating agencies is presented in Table 3.13-10. When complete, the SCWSP will represent approximately 16 percent of the total SSJID entitlement with the USBR (City of Lathrop UWMP, 2005).

TABLE 3.13-10: PROJECTED ANNUAL SCWSP DELIVERIES FOR NORMAL HYDROLOGIC YEAR(A)

	SCWSP DELIVERIES, AFY				
YEAR	*MANTECA*	*ESCALON*	*LATHROP B*	*TRACY B*	*TOTAL*
2010	9,704	0	6,871	11,129	27,704
2015	11,470	2,520	6,871	11,129	31,990
2020	13,557	2,799	9,651	11,129	37,136
2025	16,444	2,799	10,662	11,129	41,034
2030(a)	18,500	2,799	10,662	11,129	43,090
2035(a)	18,500	2,799	10,662[a]	11,129	43,090

NOTE: (A) PHASE II SCWSP WATER ALLOTMENTS ARE VALID UNTIL 2025. SCWSP DELIVERIES FOR 2030 AND 2035 WERE PROJECTED ASSUMING THAT EXISTING FACILITIES WILL NOT BE EXPANDED, NEW FACILITIES WILL NOT BE CONSTRUCTED, AND ALLOTMENTS WILL NOT CHANGE FROM 2025 TO 2030 (SSJID, 1999).

(B)THE CITY OF LATHROP SOLD 1,129 AFY OF ITS SSJID ALLOCATIONS TO THE CITY OF TRACY IN 2014, AS DESCRIBED IN THE CITY OF LATHROP MUNICIPAL SERVICES REVIEW AND SPHERE OF INFLUENCE PLAN (3RD ADMINISTRATIVE DRAFT), FEBRUARY 2016.

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

As noted earlier, SSJID's entitlement to surface water is 300,000 AFY in normal hydrologic years. Drought conditions reduce this entitlement. A drought impact analysis was performed for the SCWSP as part of the EIR process, and an additional drought impact analysis was conducted under the WSS (City of Lathrop, 2009). According to WSS findings, total SCWSP deliveries could be reduced by approximately 50,000 ac-ft/yr (18.5 percent of normal year entitlement) during single-year and multi-year dry periods in 2035, which would also be the case for 2035. The potential reductions are shown in Table 3.13-11.

TABLE 3.13-11: MAXIMUM POSSIBLE REDUCTIONS IN TOTAL SSJID SURFACE WATER DELIVERIES FOR HYDROLOGIC SINGLE- AND MULTI-DRY YEARS[A, B, C]

HYDROLOGIC CONDITION	*MAXIMUM POSSIBLE REDUCTION IN SURFACE WATER SUPPLIES/DELIVERIES*	
	AC-FT/YR	*PERCENT REDUCTION[D]*
Year – 2010		
Single-dry year drought[e]	47,000	17.9%
Multi-dry year drought[f]	47,000	17.9%
Year – 2035[g]		
Single-dry year drought[e]	50,000	18.5%
Multi-dry year drought[f]	50,000	18.5%

NOTE: (A) CITY OF LATHROP WATER SUPPLY STUDY, PREPARED BY RBF CONSULTING, JANUARY 2009. (B) SOUTH SAN JOAQUIN IRRIGATION DISTRICT, SOUTH COUNTY SURFACE WATER SUPPLY PROJECT EIR, PREPARED BY ENVIRONMENTAL SCIENCE ASSOCIATES, JULY 1999. (C) UNITED BUREAU OF RECLAMATION (USBR), 1988 STIPULATION AND AGREEMENT, SIGNED BY SSJID AND OID ON AUGUST 30, 1988. (D) SINGLE-YEAR DROUGHT BASED ON A ONE YEAR SHORTAGE DURING A ONE YEAR DROUGHT DURATION. (E) MULTI-YEAR DROUGHT BASED ON FIVE YEARS OF SHORTAGE DURING A THREE YEAR DROUGHT DURATION. (F) PERCENT REDUCTION BASED ON THE SCWSP RECEIVING 263,000 AC/FT/YR IN PHASE I AND 270,000 AC-FT/YR IN PHASE II. (G) REFERENCE (B) DOES NOT INCLUDE DELIVERY REDUCTION PROJECTIONS BEYOND 2025. MAXIMUM POSSIBLE SSJID SURFACE WATER DELIVERY REDUCTIONS ARE NOT EXPECTED TO CHANGE FROM 2025 TO 2035.

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

Assuming that a reduction in available, surface water would result in an equivalent change in deliveries from the SCWSP and no supplemental groundwater is provided by SSJID, possible reductions in surface water supply for Lathrop from the SCWSP are presented in Table 3.13-12.

Under single-year and multi-year dry period scenarios, deliveries to Lathrop by SSJID could be reduced by up to 2,181 AFY in 2025 and beyond. The City could compensate for this reduction in deliveries through increased groundwater pumping, implementation of water conservation measures, and the use of recycled water (2005 UWMP, 2009).

TABLE 3.13-12: POSSIBLE REDUCTIONS IN SCWSP SURFACE WATER DELIVERIES TO THE CITY OF LATHROP DURING HYDROLOGIC SINGLE- AND MULTI-DRY YEARS[A, B, C]

DELIVERY TYPE	*SCWSP DELIVERIES TO LATHROP BY YEAR, AFY*[e]					
	2010	*2015*	*2020*	*2025*	*2030*	*2035*
Normal year	6,878	6,878	6,878	10,662	10,662	10,662
Single-year dry period	5,445	5,445	5,445	8,481	8,481	8,481
Multi-year dry period[d]	5,445	5,445	5,445	8,481	8,481	8,481

NOTE: (A) CITY OF LATHROP WATER SUPPLY STUDY, PREPARED BY RBF CONSULTING, JANUARY 2009. (B) SOUTH SAN JOAQUIN IRRIGATION DISTRICT, SOUTH COUNTY SURFACE WATER SUPPLY PROJECT EIR, PREPARED BY ENVIRONMENTAL SCIENCE ASSOCIATES, JULY 1999. (C) UNITED BUREAU OF RECLAMATION (USBR), 1988 STIPULATION AND AGREEMENT, SIGNED BY SSJID AND OID ON AUGUST 30, 1988. (D) MULTI-YEAR DROUGHT BASED ON THREE-YEAR DRY PERIOD. ACCORDING TO WSS FINDINGS, SCWSP DELIVERY REDUCTIONS DURING SINGLE-YEAR DRY PERIODS AND MULTI-YEAR DRY PERIODS WILL BE EQUIVALENT. (E) THE CITY OF LATHROP SOLD 1,129 AFY OF ITS SSJID ALLOCATIONS TO THE CITY OF TRACY

IN 2014, AS DESCRIBED IN THE CITY OF LATHROP MUNICIPAL SERVICES REVIEW AND SPHERE OF INFLUENCE PLAN (3RD ADMINISTRATIVE DRAFT), FEBRUARY 2016.

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

REGULATORY SETTING – WATER SUPPLIES

Safe Drinking Water Act

The federal Safe Drinking Water Act as passed in 1947 and amended in 1986 and 1996. It is the Country's primary law regulating drinking water quality and in implemented by the United States Environmental Protection Agency (US EPA). The Safe Drinking Water Act authorizes the US EPA to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health (CDPH), Division of Drinking Water and Environmental Management. Drinking Water regulations are set forth in the California Code of Regulations (CCR), Titles 7 and 22.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950 – 11954).

Consistent with California Water Code Sections 11950 – 11954, the City has implemented various water conservation efforts, as well as Water Shortage Contingency Plan that identifies actions that can be taken to respond to catastrophic interruption of water supply.

Senate Bill (SB) 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment (WSA) required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project. The City of Lathrop has been identified in as the public water supplier to the proposed project.

City of Lathrop General Plan

The Lathrop General Plan contains the following policies that are relevant to water supply for the proposed Project:

COMMUNITY DEVELOPMENT ELEMENT

Section D Policies

Policy 1: The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.

Policy 2: Urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity.

HAZARD MANAGEMENT ELEMENT

Seismic Policies

Policy 12: All lines which are part of the domestic water distribution system should be looped to assure adequate pressure in the event of major fire, earthquake or explosion. Emergency standby power generation capability should be available at all water wells to assure water availability in the event of a major power failure.

Utility Master Plans

The City of Lathrop maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Wastewater Collection Master Plan Amendments (2004), and the Recycled Water Master Plan Amendment (2004).

THRESHOLDS OF SIGNIFICANCE- WATER SUPPLY

Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or

2. Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-4: The proposed project would not require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (less than significant)

The City of Lathrop currently provides domestic water to its customers via a network of wells and transmission lines which draw groundwater and distribute throughout the City. The City's 2005 UWMP included the proposed annexation area, as part of the East Lathrop area, in the City's plans to provide water service to future development. The proposed project would be served by the City's existing water treatment facilities and would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for potable water. The proposed project would require the construction of new potable water conveyance lines. Water service for the proposed annexation area would be connected to an existing 16" water main in Roth Road.

The proposed project is on a site that would be annexed by the City of Lathrop. This area is currently in the City of Lathrop Sphere of Influence. The proposed project would not require any additional water infrastructure other than the extension of water services to the project site from existing infrastructure located on Roth Road, located directly south of the project site. Development of the proposed project would have a ***less than significant*** impact relative to this topic.

Impact 3.13-5: The proposed project would not result in insufficient water supplies available to serve the project from existing entitlements and resources (less than significant)

Project Water Demand

The projected water demand for the proposed project is based on the City's standard water demand factors, which were applied in the City's 2005 UWMP to calculate projected water demands summarized in Table 9 of the UWMP (Nolte, 2009). The projected water demand for the proposed project is shown in Table 3.13-13.

The total projected annual water demand for the proposed project is 16.5 AFY as shown in Table 3.13-13. This value includes seven percent unaccounted for water.

TABLE 3.13-13: PROJECTED WATER DEMAND FOR THE LATHROP PILOT FLYING J PROJECT

LAND USE TYPE	*UNITS*	*QUANTITY*	*WATER DEMAND FACTOR[A]*	*AVERAGE DAY DEMAND, GPD*	*ANNUAL WATER DEMAND, AFY[B]*
Commercial	Acres	9.17	1,500 gpd/AC[C]	13,755	15.4
			Sub-Total Water Demand	13,755	15.4
			Unaccounted-for Water[D]	963	1.1
			Total Water Demand	*14,717*	*16.5*

NOTE: (A) WATER DEMAND FACTORS ARE PROVIDED FROM PAGE 4-2 OF THE CITY OF LATHROP 2005 URBAN WATER MANAGEMENT PLAN, OCTOBER 2009. (B) AFY = ACRE-FEET PER YEAR. (C) GPD/AC = GALLONS PER DAY PER ACRE. (D) BASED ON 7 PERCENT OF TOTAL WATER PRODUCTION (CITY OF LATHROP UWMP, SECTION 4.0, LAST PARAGRAPH).

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

As described in the City's 2005 UWMP, the City continues to examine supply enhancement options, including water recycling, use of non-potable supply wells for irrigation, storm water harvesting, and additional supplies from SSJID.

A comparison of the City's projected water supplies and demands is shown in Table 3.13-14 for Normal, Single Dry, and Multiple Dry Years. The surface water supply and demand projections are based on the City's projected drought supply conditions as described in the City's WSS (City of Lathrop, 2009). The supply-demand difference in Table 3.13-14 indicates that, in average precipitation years, the City will have sufficient water to meet its customers' needs through 2035. The City is currently in the process of preparing an update to their Water Supply Master Plan as well as their 2010 UWMP. The mix of projected groundwater and surface water supplies available to meet future demand is expected to change, with a higher fraction of surface water use than is documented in the 2005 UWMP.

TABLE 3.13-14 SUMMARY OF WATER DEMAND VERSUS SUPPLY

YEAR	*PROJECTED DEMAND AFY*	*AVAILABLE WATER SUPPLY*			*DIFFERENCE*		
		NORMAL YEAR AFY	*SINGLE-DRY YEAR DROUGHT, AFY*	*MULTI-DRY YEAR DROUGHT, AFY*	*NORMAL YEAR, AFY*	*SINGLE-DRY YEAR AFY*	*MULTI-DRY YEAR AFY*
2010	9,884	14,055	12,622	12,622	4,171	2,738	2,738
2015	14,112	16,071	14,638	14,638	1,959	526	526
2020	18,043	20,103	18,670	18,670	2,060	627	627
2025	20,511	23,887	21,706	21,706	3,376	1,195	1,195
2030	20,867	23,877	21,706	21,706	3,020	839	839
2035	20,867	23,877	21,706	21,706	3,202	839	839

SOURCE: CITY OF LATHROP 2005 UWMP, 2009.

Conclusion

Policy 2 requires that urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity. The proposed project is planned to be consistent with the 2005 UWMP, which demonstrates adequate water to serve development in the City, and the City Master Utility Plan by funding its share of SSJID surface water, groundwater wells, treatment facilities and storage/pressure facilities.

As described above, the proposed project would be expected to generate an annual water demand of 16.5 AFY. The City of Lathrop 2005 UWMP describes that the City would have available water supply for 839 AFY for a normal year, and 839 AFY for the single-year and a multi-dry year scenarios. The proposed project would generate an annual water demand that would be well within the limits of water demand, as described in the UWMP.

Therefore, the proposed project would not result in insufficient water supplies available to serve the project from existing entitlements and resources. The City's existing and additional potable water supplies are sufficient to meet the City's existing and projected future potable water demands, including those future water demands associated with the proposed project. Therefore, the proposed project would result in a ***less than significant*** impact to water supplies.

3.13.3 STORM WATER

A detailed discussion of the proposed project's storm drainage impacts to water quality and flood control is included in Section 3.8, Hydrology and Water Quality.

EXISTING SETTING

Currently, runoff from within the proposed annexation area is collected and gravity fed to a system of shallow storm water retention basins, to the north and east of the proposed project site.

Existing City Facilities

The following information was provided in the City of Lathrop Municipal Services Report.

Lathrop's storm water drainage system is managed by the City's Public Works Department. The gravity based system consists of collection and trunk pipelines, detention basins, pump stations, and surface infrastructure such as gutters, alleys, and storm ditches. Most of the storm water detention basins are dedicated for storm water detention and generally not used during non rainfall periods. Storm water is disposed by routing it through various interconnected detention basins and discharging it to the San Joaquin River.

The 1992 Storm Drain Master Plan served as a basis for providing storm water infrastructure at that time. It concluded that subsequent master plans for specific areas throughout the City would be required to update the 1992 plan. As such, both 2003 Drainage Master Plans updated the 1992 plan for their respective study areas.

Under the requirements of the Clean Water Act of 1972, the City of Lathrop was required to apply for coverage under the National Pollution Discharge Elimination System (NPDES) Phase II permit, and developed and implemented a Storm water Management Plan (SWMP) and Storm water Development Standards to control and prohibit the discharge of pollutants into the Municipal Storm Sewer System. The SWMP consists of six elements that, when implemented together, are expected to reduce pollutants discharged into receiving water bodies to the Maximum Extent Possible.

The City has developed Best Management Practices (BMPs) to address storm water quality within the City. The BMPs are intended to maintain surface water quality due to storm water discharged from the City. New developments within the City are required to comply with the requirements of the SWMP. The City is also responsible for monitoring and reporting on BMPs as a method to fulfill minimum SWMP control measures. The Storm water Development Standards specify design requirements to be used during development design that, in turn, meets the NPDES requirements for the City.

According to the UWMP, the City's existing storm drain infrastructure includes approximately 916 inlets, 691 manholes, four outfalls, 13 detention basins totaling 23 acres, and 36 miles of storm water collection and conveyance piping.

Existing Flood Protection Facilities

Levees within the City of Lathrop are owned and maintained by Reclamation Districts 17 (RD-17), Reclamation 2062 (RD-2062) and Reclamation District 2107 (RD-2107). RD-17 levees include for the levees east of the San Joaquin River. RD-2062 levees include the Stewart Tract northwest of the UPRR tracks, and RD-2107 levees include the Stewart Tract southeast of the UPRR tracks. Levees that border the San Joaquin River, Old River and Paradise Cut are designated as "project levees" by the US Army Corps of Engineers (Corps). Approximately five miles of levees located within the City are designated as "non-project levees". The non-project levees are also maintained by local reclamation and levee maintenance districts. Non-project levees were not built to a common standard and have different heights and cross sections. The proposed annexation area is located in Zone X, protected by levee, which by definition indicates an area protected by levees from the 1% annual chance flood.

The RD-17 levee system was improved circa 2009/10 with seepage berms and/or other improvements to increase the resistance of RD-17's levee system to under-seepage and through-seepage and bring the levee system into compliance with applicable Federal and State standards. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. 200-year flood protection is expected is available at the proposed annexation area by the year 2025

Future Storm Water Drainage Demand and System Improvements

Any significant urban expansion will require additions to the existing collection system. The General Plan requires that new development projects must address storm water issues and mitigate increased storm water runoff. Additionally, the developments are required to construct storm water infrastructure such as curbs, gutters, and detention basins and provide a storm drainage master plan update for that area. These requirements ensure that adequate infrastructure will be in place at buildout within the city limits and SOI.

Currently, runoff from within the project area is collected by a system of nearby drainage retention basins, situated to the north and east of the propose project (See Project Description, Figure 2.0-7). Runoff from the proposed annexation area percolates underground after being collected by the retention basins.

REGULATORY SETTING - STORM WATER

Federal

CLEAN WATER ACT

The CWA regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or

operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including the San Joaquin River, and other waters in the Lathrop Planning Area. In the Lathrop Planning Area the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the Lathrop Planning Area were established by the RWQCB and are listed in its Basin Plan.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

NPDES permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

State

DEPARTMENT OF WATER RESOURCES

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive

use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

CALIFORNIA WATER CODE

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
>
> > (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
> >
> > (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
> >
> > (3) A person operating, or proposing to construct, an injection well.
>
> (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.
>
> (c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

WATER QUALITY CONTROL PLAN FOR THE CENTRAL VALLEY REGION

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

200-YEAR FLOOD PROTECTION IN CENTRAL VALLEY

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys with a projected 200-year flood depth of 3 feet or greater to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2015 if "adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use "adequate progress" as a condition to approve development after 2025.

The RD-17 levee system is designed to a 100-year protection standard. Land in the southern portion of the City of Lathrop was acquired by RD-17 to construct levee improvements approximately in 2009/10. RD-17 has been working with the Department of Water Resources (DWR) and the Central Valley Flood Protection Board (CVFPB) to analyze 200-year protection. The land RD-17 acquired to construct the 100-year improvements is anticipated to provide sufficient space for any additional incremental improvements to provide 200-year protection in the future.

Local

CITY OF LATHROP GENERAL PLAN

The Lathrop General Plan establishes the following goals and policies relative to hydrology and water quality in the General Plan:

Community Development Element (Section D -Water, Sewerage, Drainage, and Flood Control): The following policies seek to provide guidance related to water supply, sewerage and drainage/flood control.

Policy 1. The City of Lathrop is the most logical governmental entity to assume management responsibility for water service to the developing urban pattern. However, this preference allows for the creation of other special districts, including Irrigation Districts, especially if these districts can provide utility improvement financing that protects the City's existing rate payers. Development within the City's three sub-plan areas is to be served by the City under development agreements between the City and project developers.

Policy 2. Urban development outside the existing city limits shall not be allowed to occur until reasonable certainty is established that additional firm supplies of potable water will be available to meet the needs of urban expansion into perpetuity.

Policy 3. Any Water, Wastewater and Recycled Water Master Plan update should provide for the eventual integration of the water well and distribution system serving the existing community with the system(s) needed to serve areas of urban expansion to avoid potential future problems of groundwater quality associated with the existing system.

Policy 4. In developing additional groundwater sources to meet requirements for firm water supply, the City will be required to meet State and Federal standards of water quality, including concern for such factors as taste, odor control, color, removal of any unique compounds of minerals identified through water testing, and need for disinfection and/or residual chlorination.

Policy 5. Pressurized water for fire suppression should be available at flows in the range of 1000 gpm (for all residential areas) to 3000 gpm (for commercial, industrial and institutional areas) for a period of 60 to 120 minutes over and above normal community water uses. The City Fire Chief is to be consulted in establishing specific fire suppression plans for new development, including the need for automatic sprinkling systems in non-residential and multi-family residential developments and the need for above-ground storage to assure capacity for required periods of fire flow.

Lathrop Municipal Code

CHAPTER 12.28 PROTECTION OF WATER COURSES

12.28.020 Rules and regulations.

A. It shall be unlawful for any person to interfere with, destroy or use in any manner whatsoever any levee, embankment, channel, dam, reservoir, rain or stream gauges, telephone line, piling; or other stream protection work constructed by the city or by any drainage district organized under the laws of the state, without having received a written permit therefore from the public works director, which permit shall be revocable whenever, in the opinion of the public works director the public interest and welfare

require the revocation thereof. Application for the use of any levee, embankment, channel, dam or reservoir shall be made to the public works director, setting forth the particular use desired, and the purpose and duration thereof. The public works director shall investigate such applications and may impose such terms and conditions as may be necessary to insure the proper maintenance of the property for flood control and drainage purposes.

B. It shall be unlawful for any person to place on or cause to be placed in any drainage ditch, water course, channel or conduit, or upon any property over which the city or any drainage district has an easement for flood control or drainage purposes duly recorded in the office of the city clerk, any wires, fence, building or other structure, or any refuse, rubbish, tin cans or other matter that may impede, retard or change the direction of the flow of water in such drainage ditch, water course, channel or conduit, or that will catch or collect debris carried by such water, or is placed where the natural flow of the storm and flood waters would carry the same downstream to the damage and detriment of either private or public property adjacent to said drainage ditch, water course, channel or conduit.

C. It shall be unlawful for any person to change the drainage on his or her property so as to divert the drainage to the nearest public road, without first obtaining a permit to do so from the public works director.

D. It shall be unlawful for any person to fill or obstruct or maintain any fill or obstruction in any drainage ditch, water course, channel or conduit carrying storm or drainage water unless a permit to do so has been obtained from the public works director.

E. It shall be unlawful for any person to do anything to any drainage ditch, water course, channel or conduit carrying storm or drainage water that will in any manner obstruct or interfere with the flow of water through such ditches, water courses, channels or conduits unless a permit to do so has been obtained from the public works director.

F. It shall be unlawful for any person to level land in a manner which would flood adjacent properties or public roadways.

G. Every property owner, whether it be a person or his lessee or tenant, through whose property a drainage ditch, water course, channel or conduit carrying storm or drainage water passes, shall keep and maintain the same free from obstacles that will prevent or retard the flow of water through such ditch, water course, channel or conduit except that same may be filled or altered if a permit to do so has been first obtained pursuant to this chapter. (Prior code § 158.02)

CHAPTER 13.28 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

13.28.020 Purpose and intent.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the city of Lathrop, pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.) and the Porter-Cologne Water Quality Act (California Water Code Section 13000 et seq.). This chapter seeks to meet that purpose through the following objectives:

A. To comply with all federal and state laws, lawful standards and orders applicable to stormwater and urban runoff pollution control;

B. To prohibit any discharge which may interfere with the operation of, or cause any damage to the storm drain system or impair the beneficial use of the receiving waters;

C. To prohibit illicit discharges into the storm drain system;

D. To reduce non-stormwater discharge to the storm drain system to the maximum extent practicable;

E. Minimize increases in stormwater and runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of drainage channels;

F. Minimize nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality; and

G. Minimize the total annual volume of surface water runoff that flows from any specific site during and following development. (Ord. 07-265 § 1)

13.28.130 Requirement to prevent, control and reduce stormwater pollutants.

A. Authorization to Adopt and Impose Best Management Practices (BMPs). The city may adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. Where best management practice requirements are promulgated by the city or any federal, state of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or a waters of the United States, every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

B. New Development and Redevelopment. The city may adopt requirements identifying appropriate design standards and best management practices to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The city shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this chapter.

C. Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections A and B of this section, any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering stormwater, the storm drain system, or waters of the United States shall implement best management practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

D. Maintenance Agreements. All structural and nonstructural permanent stormwater BMPs not in the control of the city of Lathrop shall have an enforceable maintenance agreement to ensure the system functions as designed. The agreement shall include any and all maintenance easements required to access and inspect the stormwater BMPs, and to perform routine maintenance as required. Such agreements shall specify the parties responsible for the proper maintenance of all stormwater BMPs.

CITY OF LATHROP STORMWATER MANAGEMENT PROGRAM

The City has an adopted a stormwater management program (SWMP) for compliance with requirements of the Phase 2 NPDES municipal stormwater permit (City of Lathrop 2003). The SWMP is composed of six program elements developed to reduce contaminants discharged into receiving water bodies. The six Minimum Control Measure (MCM) elements of the SWMP are public education and outreach, public involvement/participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. For each MCM, the City has selected a suite of BMPs and measurable goals to address the specific stormwater problems identified within the city limits.

In association with the SWMP, the City adopted a Storm Water Ordinance, construction standards, and design review guidelines to reduce contaminants in stormwater runoff. Of particular relevance to the proposed project is the City's coordination of BMP review and implementation under the construction site runoff control program. New development and redevelopment control measures include development of structural controls, development of nonstructural controls, development of ordinances or regulatory mechanisms, and development of long-term operation and maintenance (O&M) practices.

Pollution prevention/good housekeeping for municipal operations addresses routine O&M activities for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm sewer system. The pollution prevention/good housekeeping program also includes a training component to prevent and reduce stormwater pollution from municipal operations. The pollution prevention/good housekeeping BMPs can be separated into two broad categories: source controls and materials management. Source controls are BMPs designed to prevent or reduce pollutants at the source and include

BMPs such as storm drainage system maintenance, structural floatable controls, street maintenance staff training, flood control projects, and litter ordinances. Materials management BMPs are designed to reduce pollutants with nonstructural controls such as pesticide education and spill prevention control.

Utility Master Plans

The City of Lathrop maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: Wastewater Collection Master Plan Amendments (2004), Recycled Water Master Plan Amendment (2004), Draft Historic Lathrop Storm Drainage Maser Plan (2006), and Storm Water Management Plan (2003).

THRESHOLDS OF SIGNIFICANCE- STORM WATER

Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

IMPACTS AND MITIGATION MEASURES- STORM WATER

Impact 3.13-6: The proposed project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (less than significant)

The proposed project includes storm drainage improvements that are consistent with the City of Lathrop Wastewater Collection Master Plan Amendments (2004), Recycled Water Master Plan Amendment (2004), and Storm Water Development Standards Plan (2008). The proposed project would construct a series of storm drainage catch basins and pipes throughout project area. These catch basins and pipes which would channel water to the drainage retention basin located just to the east of the site, adjacent to the site.

The development of the proposed project would add new impervious surface to the project site, including buildings and new parking lot. Stormwater generated on this new impervious surface would be gravity fed to storm water catch basins located throughout the project site, which would then be routed through on-site pipes to the proposed drainage retention basin located at the eastern edge of the project site. The drainage retention basin has been sized to accommodate City to accommodate runoff from a 2 year 24-hour or smaller storm event.

The proposed storm drain system will include water quality features designed in conformance with the standards of the Regional Water Quality Control Board for the Central Valley Region, the City of Lathrop, and SSJID. Storm water regulations for construction projects using Best Management Practices will be incorporated into the design.

Conclusion: Storm drainage infrastructure to serve the proposed project will include catch basins, an underground piped drainage system, and an on-site retention basin. The environmental effects of these facilities are considered as part of the environmental impacts associated with development of the project site as discussed in Sections 3.1 through 3.12 and 5.0 of this Draft EIR. The City of Lathrop has indicated that it is their intention to add storm drainage facilities to this portion of the city at some future time to take storm drainage to the San Joaquin River.[2] However, any future storm drainage for the vicinity is not currently planned or proposed as part of this project and there are no improvement plans available for analysis in this EIR. While the proposed project could benefit from new storm drainage facilities in the vicinity if they were to be constructed, the proposed project would not require new off-site drainage facilities or expansion of off-site drainage facilities. Therefore, the proposed project would result in a ***less than significant*** impact regarding this topic.

[2] Personal communication with Glenn Gebhart, Lathrop Public Works Director 2/5/16.

3.13.4 SOLID WASTE

EXISTING SETTING

Allied Waste Service is the franchise waste hauler for residential and commercial uses in the City. San Joaquin County provides solid waste disposal facilities, including transfer stations and landfills. The City utilizes designated containers for the storage and collection of garbage; green (yard) waste; and paper, plastic, aluminum, and glass recycling. Both residential and nonresidential waste are hauled to the County's Lovelace Transfer Station, approximately one mile northeast of the City, and then to the County's Class III Foothill Sanitary Landfill in Linden. The Forward Landfill is also used as a landfill for the City of Lathrop (CalRecycle, 2015).

The City of Lathrop disposed of 31,450 tons of solid waste in 2014. The City achieved a diversion rate of 80 percent in 2004, exceeding the State-mandated requirement of 50 percent. The latest information available from Cal Recycle shows that the City of Lathrop has a solid waste disposal rate of 8.7 pounds per resident per day for household waste and 23.9 pounds per employee for business waste in 2014 (CalRecycle 2014). Waste from the City of Lathrop went primarily to two landfills in 2014; the Foothill Sanitary Landfill and the Forward Landfill.

The Foothill Sanitary Landfill is permitted to accept up to 1,500 tons of waste per day and has a permitted capacity of 138 million cubic yards and a remaining estimated capacity of 125 million cubic yards (as of 6/10/2010). The cease operation date for the facility is December 31, 2082 (CalRecycle, 2015). The average daily volume for the landfill is 620 tons. In 2014, 201,002 tons of solid wastes were delivered to the landfill.

The Foothill Sanitary Landfill is permitted to accept commercial and household solid waste, agricultural waste, construction and demolition materials, white good, tires camper shells, campers and camper trailers. The landfill is not permitted to accept hazardous wastes, including friable asbestos, are not accepted at the Foothill Sanitary Landfill, and must be transported to a Class I landfill permitted to receive untreated hazardous waste, septic tank waste, toxic waste, large dead animals, infectious waste, liquid waste, cannery waste large load of soil or gravel, mobile homes and burned waste.

The Forward Landfill is a privately owned landfill, located northeast of the City of Manteca. The landfill has a maximum permitted throughput of 8,669 tons of waste per day and has a remaining capacity of approximately 23.7 million cubic yards (as of 05/19/2008). The cease operation date for the facility is January 1, 2020 (Calrecycle, 2015). In 2014, 808,992 tons of solid wastes were delivered to this landfill.

Overall, the Forward Landfill received the majority of solid waste that was sent to landfill by the City of Lathrop in 2014. The majority of remaining solid waste that was not sent to Forward Landfill was sent to Foothill Sanitary Landfill. In 2014, approximately 26,618 tons of solid waste were sent to the Forward Landfill by the City of Lathrop. In that same year, approximately 3,544 tons of solid waste were sent by the City to the Foothills Sanitary Landfill.

REGULATORY SETTING – SOLID WASTE

State

AB 939: CALIFORNIA'S INTEGRATED WASTE MANAGEMENT ACT OF 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

AB 341 (75 PERCENT SOLID WASTE DIVERSION)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERSION)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

Local

CITY OF LATHROP GENERAL PLAN

The City of Lathrop General Plan contains the following solid waste disposal and recycling goals and policies that are relevant to the proposed project:

Resource Management Element - Waste Management Policies

Policy 7: Environmental assessments for the development projects proposed consistent with the General Plan shall provide all of the information required under the "Waste Plan Format for Development Projects" that is employed by the San Joaquin County Department of Public Works.

CITY OF LATHROP MUNICIPAL CODE, CHAPTER 8.16

Chapter 8.16 of the Municipal Code regulates the management of garbage, recyclables, and other wastes. Chapter 8.16 sets forth solid waste collection, disposal, and diversion requirements for residential, commercial, industrial, and other uses and addresses yard waste, hazardous materials, recyclables, and other forms of solid waste.

THRESHOLDS OF SIGNIFICANCE- SOLID WASTE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it will:

1. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

2. Comply with federal, State, and local statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-7: The proposed project has the potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste (less than significant)

As previously described, solid waste generated in the City is disposed at the Forward Landfill and Foothill Sanitary Landfills. Permitted maximum disposal at the Forward Landfill is 8,669 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2020. The remaining capacity is 23.7 million cubic yards.

Permitted maximum disposal at Foothill Sanitary Landfill is 1,500 tons per day. The total permitted capacity of the landfill is 138 million cubic yards, which is expected to accommodate an operational life until December 31, 2082. The remaining capacity is 125 million cubic yards at this landfill.

Solid waste generated by the proposed project was estimated based on CalRecycle generation rates (discussed below). The addition of the volume of solid waste associated with the proposed project to the landfill would not exceed the landfills' remaining capacity.

The proposed project is a commercial project. Based on CalRecycle waste generation estimates[3], the proposed project is estimated to generate 3.12 pounds of solid waste per 100 square feet per day. The proposed project would developed over a site of approximately 9 acres, and would primarily include service sector space, including fueling facilities, a drivers' lounge, several restaurants including a market/deli, and other retail space. Therefore, the total solid waste that would be generated by the project is estimated to be 12,463 pounds per day, or 6.2 tons per day. The proposed project would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling.

As described above, Foothill Sanitary Landfill is expected to have an operational life until December 31, 2082, and Forward Landfill is expected to have an operational life until January 1, 2020. The addition of the volume of solid waste associated with the proposed project, approximately 6.2 tons per day, would not exceed the landfills' remaining capacity. Existing landfills have permitted capacity to handle this additional waste. This is a ***less than significant*** impact.

[3] See: http://www.calrecycle.ca.gov/wastechar/wastegenrates/Service.htm

CEQA requires an EIR to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed project.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) contain an assessment of the cumulative impacts that could be associated with the proposed project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual 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 (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

The cumulative setting uses growth projections listed in the City Of Lathrop Municipal Service Review and Sphere Of Influence Plan (MSR), the Manteca General Plan Draft EIR, the Tracy General Plan Draft Supplemental EIR and the San Joaquin General Plan as a basis for cumulative growth in the area. Table 4.0-1 shows growth projections identified in these General Plan EIRs.

TABLE 4.0-1: GROWTH PROJECTIONS

JURISDICTION	*POPULATION*	*HOUSING UNITS*	*SOURCE*
Lathrop[1]	65,434[1] (year 2038)	21,370[1] (year 2038)	MSR pg 3-4
Manteca	86,370 to 132,721 (year 2025)	31,733 (year 2023)	GP EIR page 13-6 and 2-14
San Joaquin County	821,851 (year 2020)	288,400 (year 2020)	GP 2004 pg 1.B-3 and 1.C-2
Tracy	124,000 to 151,500 (year 2025)	38,700 to 46,800 (year 2915)	GP Draft Supplemental EIR pg. 4.2-13

NOTE: [1]THE LATHROP GENERAL PLAN EIR ONLY PRESENTS POPULATION AND HOUSING PROJECTIONS THROUGH THE YEAR 2010, THEREFORE, THE LATHROP MSR WAS USED TO IDENTIFY POTENTIAL FUTURE POPULATIONS AND HOUSING UNITS IN THE CITY.

In addition to those cumulative growth projections listed above, this EIR uses a list of past, present, and probable future projects within the City of Lathrop to determine cumulative growth in the area. The list of past, present, and probable future projects used for this cumulative analysis is restricted to those projects that are planned to occur within the City of Lathrop, the City of Manteca, and unincorporated San Joaquin County. In general, these areas have large areas of undeveloped land previously used for agriculture but that have been rezoned for future residential, commercial and industrial uses. There are several large development projects planned in the regional vicinity. For the purposes of this discussion, the projects that may have a cumulative effect on the resources will often be referred to as the "related projects." The related projects are described below. The approved and/or pending projects include:

1. Central Lathrop Specific Plan: The Central Lathrop Specific Plan includes the development of 1,520 acres located west of Interstate 5. Project completion was anticipated by 2025. The Specific Plan proposes approximately 6,790 low-, medium- and high-density residential units and 11.5 acres of office/commercial land uses. The project also includes two schools and 200 acres of recreational land use and open space.

2. Crossroads Commerce Center and Industrial Park: This project is located on a site south of Louise Avenue between Howland and Harlan Roads in East Lathrop and comprises 450 acres of Industrial and 48 acres of Highway Commercial-designated land. The industrial area includes an existing 750,000-square-foot Del Monte distribution warehouse, a 430,770-

square-foot Daimler Chrysler facility, three 250,000-square foot warehouses, a 435,000-square-foot Longs Drugs warehouse, a plastic extrusion plant for Fuel Total Systems, a sausage-making company (Swiss American), a cross dock and warehouse for Home Depot, and a trucking terminal for Swift Trucking. The Freeway Commercial area contains the existing 138,000-square-foot Lathrop Business Park, four fast-food restaurants, a sit-down restaurant, and a 31,886-square-foot hotel.

3. Historic Lathrop Infill and Other Developments East of I-5: The portion of the City east of Interstate (I-5) is anticipated to expand and add density in the future. Currently, this area consists of approximately 2,886 low density and 78 medium density units, commercial and industrial areas, and a few public parks. Future residential growth of this area is expected on undeveloped/underutilized and redeveloped parcels consolidated from large lots where low density residential units would be demolished. All new residential projects are projected to consist of medium density residential units (i.e., small lot sizes). By General Plan buildout, the area will consist of 2,746 low-density and 894 medium-density residential units increasing the total existing residential unit count by 1,112 total units.

4. Mossdale Landing South: Mossdale Landing South is a proposed 104-acre development that was to be completed by 2030. The development will consist of 297 medium density residential units. In addition, the project proposes 28 acres of commercial, 25 acres of open space and 9.5 acres of parks.

5. River Islands: The 4,995-acre River Islands development would be located west of the San Joaquin River on Stewart Tract and Paradise Cut. The development proposes a mixture of low-, medium- and high-density residential units. In total, River Islands would consist of 11,000 homes. The development also proposes a 260-acre employment center, a 47-acre town center, 265 acres of parks and two schools. The completion date for this project is 2030.

6. Lathrop Gateway Business Park – situated north of SR 120 between Yosemite Avenue and McKinley Avenue, which could yield a maximum of 5.43 million square feet of non-residential according to that project's EIR.

7. Machado Estates – 575 dwelling units located south of Woodward Avenue and west of Airport Way.

8. Terra Ranch – 409 dwelling units located directly west of Machado Estates.

9. Oakwood Shores – a partially developed residential project (475 dwelling units at build-out) located Oakwood Lane that has two access locations on Woodward Avenue west of McKinley Avenue.

10. Manteca Trails – 1,651 dwelling units located south of Woodward Avenue and west of McKinley Avenue.

11. Oakwood Trails – 676 dwelling units, 20.02 acres of commercial, and 11.59 acre business industrial park located north of Woodward Avenue and west of McKinley Avenue.

12. Manteca Family Entertainment Zone (FEZ). The Project site is located to the north and west of the Stadium Shopping Center, to the west of Milo Candini Drive, to the east of McKinley Avenue, to the south of the City of Manteca Wastewater Quality Control Facility (WQCF), and to the north of State Route 120. The Plan will encompass multiple projects and parcels that in the aggregate will provide an extensive park and recreation complex featuring 189 acres of new and existing recreational, park, water, sports and other leisure amenities.

13. South Lathrop Specific Plan located south of HW 120, and due east of I-5, includes the annexation of the 315-acre specific plan area into the City of Lathrop. The Land Use Plan proposes approximately 10 acres of commercial office uses, 222 acres of limited industrial uses, and the remaining 83 acres in open space, roads and public facility sites.

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travel a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses a combination of the list approach and the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area in addition to the pending and proposed projects in the area.

Project Assumptions

The proposed project's contribution to environmental impacts under cumulative conditions is based on full buildout of the Pilot Flying J Travel Center. See Chapter 2.0, Project Description, for a complete description of the proposed project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed project may result in the following cumulative impacts.

AESTHETICS

The cumulative setting for aesthetics is the City of Lathrop and surrounding areas of Manteca and San Joaquin County. The City of Lathrop General Plan identifies the following scenic resources in the Lathrop area; a) views of agricultural lands to the west and south; and b) views of the Coast Ranges to the west. The City of Lathrop General Plan recognizes that views of the San Joaquin River as a scenic resource.

Impact 4.1: Project implementation may substantially damage scenic resources within a State Scenic Highway (Less than Significant and Less than Cumulatively Considerable)

There are no designated State Scenic Highways in the vicinity of the proposed project. Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of State Route 580 from Interstate 5 to State Route 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Lathrop and the project area are not visible from this roadway segment. Additionally, there are no "eligible" highway segments in the vicinity of the proposed project that may be included in the State Scenic Highway system. Cumulative development in the city would not impact a Designated Scenic Highway. Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts relative to scenic resources would be a ***less than cumulatively considerable contribution*** and no mitigation is required.

Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.1 Aesthetics, implementation of the proposed project would be developed for commercial uses in an area of the city that contains industrial and commercial uses.

Under cumulative conditions, buildout of the Lathrop General Plan and Manteca General Plan and surrounding areas of San Joaquin County could result in changes to the visual character and quality of the City of Lathrop through development of undeveloped areas and/or changes to the character

of existing communities. Development of this proposed project, in addition to other future projects in the area, would change the existing visual and scenic qualities of the City. There are no mitigation measures that could reduce this impact except a ceasing of all future development, which is not a feasible option. As such, this is a ***cumulatively considerable contribution*** and **a *significant and unavoidable*** impact.

Impact 4.3: Project implementation may result in light and glare impacts (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed project could introduce new sources of light and glare to the project vicinity. Existing lighting near the proposed project includes roadway lighting from I-5 and adjacent commercial and residential streetlight and facility lighting. Under current conditions, the Pilot Flying J project site and surrounding areas has nighttime lighting associated with the existing commercial uses to the north, west, and south, residential uses to the east, roadway lighting from I-5 (including from motorist vehicles), and miscellaneous lighting associated with various nearby streets.

However, the proposed project would be subject to lighting and design guidelines that would reduce potential adverse impacts associated with light and glare. The lighting guidelines require the use of cut-off type fixtures for on-site lighting to minimize visibility from adjacent areas and specifies that light fixtures will be the appropriate size and height given the activities for which they are designed, and proposed lighting would be arranged as to deflect light away from adjoining properties. Furthermore, all public improvements (such as landscape plantings, street and entry signs, lighting, or special paving) are subject to Site Plan and Architectural Design Review. All Design Review procedures will be conducted in compliance with 17.100 and 17.104 of the Lathrop Municipal Code, ensuring that the increase in nighttime lighting would be minimized. Implementation of these regulations would ensure that future projects minimize their potential light and glare impacts resulting in a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to nighttime lighting and daytime glare would be a ***less than cumulatively considerable contribution***, and no mitigation is required.

AIR QUALITY

The cumulative setting for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.4: Cumulative Impact on the Region's Air Quality (Less than Significant and Less than Cumulatively Considerable)

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants.

The County has a national designation of nonattainment for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for San Joaquin County.

The SJVAPCD has established their thresholds of significance by which the project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 15 tons per year particulate matter of 10 microns or less in size (PM_{10}), and 15 tons per year particulate matter of 2.5 microns or less in size ($PM_{2.5}$). If the proposed project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible. As shown in Section 3.2, annual emissions of ROG, NOx, $PM_{2.5}$, and PM_{10}, do not exceed the SJVAPCD thresholds of significance.

As discussed in Section 3.2, the proposed project would result in increased emissions primarily from vehicle miles travelled associated with project implementation.

The proposed project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NOx and PM emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through project mitigation commitments. The current fees are $9,350 per ton of NOx and $9,011 per ton per of PM. The actual calculations will be accomplished by the SJVAPCD and project applicant for approval under Rule 9510.

Proposed project operational and construction related emissions would be below the applicable thresholds set by the SJVAPCD. As such, implementation of the proposed project would have a ***less than cumulatively considerable contribution*** and ***less than significant*** and impact from air emissions.

BIOLOGICAL RESOURCES

The cumulative setting for biological resources includes the greater San Joaquin County region. Development associated with implementation of the local General Plan(s) would contribute to the ongoing loss of natural and agricultural lands in San Joaquin County. Cumulative development would result in the conversion of existing habitat to urban uses. The local General Plan(s), in addition to regional, State and federal regulations, includes policies and measures that mitigate impacts to biological resources associated with General Plan buildout. Additionally, local land use authorities in San Joaquin County require development to participate in the SJMSCP, which is a habitat conservation plan and natural community conservation plan for San Joaquin County that is provides a mechanism for compensatory mitigation for habitat and species loss in accordance with federal and state laws.

Impact 4.5: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Less than Significant and Less than Cumulatively Considerable*)*

Under cumulative conditions, buildout of the General Plan(s) within San Joaquin County will result in impacts to biological resources in the cumulative area through new and existing development. The General Plan(s) includes policies that are designed to minimize impacts to the extent feasible and the SJMSCP has been established to provide a mechanism for compensatory mitigation and standardized avoidance and minimization measures as needed.

As described in Section 3.3 Biological Resources, there are no known special-status species that have been observed in the project site. Mitigation Measures identified in section 3.3 requires, requirements for pre-construction surveys, structural and non-structural BMPs to prevent pollutants from entering stormwater, and participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts to biological resources would be a ***less than cumulatively considerable contribution***.

CULTURAL RESOURCES

The geography of cultural resources impact can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, where sufficient inventory data is available to define it. The cumulative setting for cultural resources includes all of the San Joaquin County. There are extensive cultural sites located in the region. Generally, these sites are related to Native Americans which lived in the area; however, there are also numerous historical resources such as the Eldon H. Gordon House in Lathrop.

Impact 4.6: Cumulative Impacts on Known and Undiscovered Cultural Resources (Less than Significant and Less than Cumulatively Considerable)

Cumulative development anticipated in the City of Lathrop, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.4 Cultural Resources, there are no known cultural or historic resources present in the project area. Any unknown cultural resources which are discovered during development of the proposed project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.4, the proposed project is not anticipated to considerably contribute to a significant reduction in cultural resources.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e. City of Lathrop, City of Manteca, and San Joaquin County), each of which have policies and measures that are designed to ensure protection of undiscovered cultural resources. In addition, all discretionary projects in these jurisdictions would require environmental review per regulations established in CEQA.

Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would be a ***less than cumulatively considerable contribution***.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For this reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Lathrop and vicinity.

Impact 4.7: Cumulative Impact on Geologic and Soils Resources (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.5 Geology and Soils, implementation of the proposed project has limited potential for liquefaction, expansive soils and lateral spreading. However, mitigation measures provided in Section 3.5 ensure this impact will be less than significant. While the City is not within an area known for its seismic activity (i.e. Alquist-Priolo Special Study Zone), there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the project area. Seismic activity could come from a known active fault such as the Greenville fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Additionally, the City of Lathrop has incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Geologic and soils impacts tend to be site-specific and project-specific. Implementation of the proposed project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would be a ***less than cumulatively considerable contribution***.

GREENHOUSE GASES AND CLIMATE CHANGE

The cumulative setting for greenhouse gas emissions and climate change impacts for this analysis is San Joaquin County, which is the boundary for the California Air Resources Board's regional greenhouse gas emissions reduction targets.

Impact 4.8: Cumulative Impact on Climate Change from Increased project-Related Greenhouse Gas Emissions (Cumulatively Considerable and Significant and Unavoidable)

Greenhouse gas emissions from a single project will not cause global climate change; however, greenhouse gas emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

In California, there has been extensive legislation passed with the goal of reducing greenhouse gas emissions. The legislative goals are as follows: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 80% below the 1990 levels by the year 2050. To achieve these goals the California Air Resources Board has developed regional greenhouse gas emission reduction targets for the automobile and light truck sectors (the largest single source of greenhouse gas emissions) for 2020 and 2035. The regional greenhouse gas emission reduction targets established for San Joaquin County by the California Air Resources Board require a 5 percent decrease in per capita CO_2 emissions in 2020 and 10 percent decrease in 2035 when compared to 2005 levels.

To demonstrate the ability for the region (San Joaquin County) to attain the regional reduction targets, a Sustainable Communities Strategy is currently being prepared by the San Joaquin Council of Governments, serving as the Metropolitan Planning Organization and Regional Transportation Planning Agency in San Joaquin County. The San Joaquin Council of Governments will calculate the levels of greenhouse gas (GHG) emissions using the regions travel demand model and the California Emissions Factor (EMFAC) model for a variety of growth scenarios in an effort to find an acceptable scenario that would reduce greenhouse gas emissions to the regional targets.

In August 2008, the SJVAPCD adopted its Climate Change Action Plan. The Climate Change Action Plan directed the SJVAPCD's Air Pollution Control Officer to develop guidance to assist APCD staff, Valley businesses, land use agencies and other permitting agencies in addressing GHG emissions as part of the CEQA process. Regarding CEQA guidance, some of the goals of the Climate Change Action Plan are to assist local land use agencies, developers and the public by identifying and quantifying GHG emission reduction measures for development projects and by providing tools to streamline evaluation of project-specific GHG effects, and to assist Valley businesses in complying with State law related to GHG emissions. A product of this direction to provide CEQA guidance is the Final Staff Report – Climate Change Action Plan: Addressing GHG Emissions Impacts, presented to the APCD Board in December 2009. A central component of the Final Staff Report is the establishment of Best Performance Standards, which are specifications or project design elements that identify effective, feasible GHG emission reduction measures. Emission reductions achieved through Best Performance Standards implementation would be pre-quantified, thus negating the need for project-specific quantification of GHG emissions. For projects not implementing Best Performance Standards, demonstration of a 29% reduction in GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact.

According to the Final Staff Report, projects achieving a 29% reduction in GHG emissions would be determined to have a less than significant individual and cumulative impact for GHG emissions. With the implementation of Mitigation Measure 3.6-1, the overall annual GHG emissions associated with the proposed project would be reduced by over 30.1 percent by the year 2020 when compared to the business as usual scenario. ([4,552.7760 MTCO2e – 3,182.0117 MTCO2e] / 4,552.7760 MTCO2e x 100% = 30.1%). This is consistent with applicable standards and thresholds of a 29 percent

reduction established by the SJVAPCD. Because the proposed project would meet the 29 percent minimum reduction threshold, the project would be consistent with the SJVAPCD's guidance for GHG reduction.

While the modeling shows that the proposed project would be consistent with the guidance provided by the SJVAPCD for GHG reduction, implementation of the proposed project will still generate GHG emissions that wouldn't otherwise exist without the proposed project. The construction emissions would be a short-term and one-time release totaling 623.88 CO_2e. The operational emissions would be a long-term release totaling 3,182.01 CO_2e. The City of Lathrop must weigh the economic and social benefits of development against the environment impacts associated with development. The City of Lathrop's planning efforts included targeted growth that accommodates the economic and social needs of the community, while recognizing and seeking to mitigate environmental impacts when growth occurs. The City of Lathrop's planning efforts are provided in the City's General Plan, which has specifically designated the Pilot Flying J project site for uses consistent with the proposed project. The proposed project has incorporated mitigation measures that are intended to reduce emissions to the extent feasible. The State continues to implement measures that are intended to reduce emissions on a State-wide scale (i.e. vehicle fuel efficiency standards in fleets, low carbon fuels, etc.) that are consistent with AB 32. These types of State-wide measures will benefit the proposed project (and City as a whole) in the long-term as they come into effect; however, the City does not have the jurisdiction to create far reaching (i.e. State-wide) measures to reduce GHG emissions. On a project-by-project case, the City of Lathrop evaluates a project and the potential to impose project-specific mitigation, which has been done through this GHG analysis. However, because the project would result in a net increase in CO_2e emissions even with mitigation measures incorporated into the project, it would result in a ***significant and unavoidable*** and ***cumulatively considerable*** impact.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e. Lathrop, Manteca, and San Joaquin County). As discussed in Section 3.7 Hazards and Hazardous Materials, implementation of the proposed project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.7.

Impact 4.9: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant and Less than Cumulatively Considerable)

The proposed project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the applicable General Plan. Cumulative development would include continued operation of or development of new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas

and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers). Many hazard-related impacts tend to be site-specific and project-specific. The proposed annexation area is not associated with any existing hazardous materials spills; however, there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the proposed project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would be a ***less than cumulatively considerable contribution***.

HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater in the context of a groundwater basin. Because water resources are highly interconnected, the cumulative setting is based on San Joaquin County which is located in the San Joaquin River Hydrological Region. Cumulative development in this region, including the proposed project, could impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. The City of Lathrop is located in the Eastern San Joaquin River Groundwater Basin. The basin is not adjudicated; however, a basin management plan has been created.

Impact 4.10: Cumulative Increases in Peak Stormwater Runoff from the project site (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed project would increase the amount of impervious surfaces on the Pilot Flying J project site, which could increase peak stormwater runoff rates and volumes downstream. However, the proposed project includes a system of on-site stormwater collection, and retention facilities to accommodate the increased stormwater flows that would originate on the Pilot Flying J project site. The proposed project would install storm drainage catch basins and storm water pipes throughout the Pilot Flying J project site that would route storm water to the retention basin located to the east of the project site. Storm water would be gravity fed to catch basins, which would then route the storm water through the pipes to the nearby retention basin through an outfall pipe. In accordance with the NPDES Stormwater Program, Mitigation Measure 3.5-1 contained in Section 3.5 Geology and Soils, ensures compliance with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities.

With the design and construction of storm water improvements, the proposed project is not anticipated to increase peak stormwater runoff. Implementation of the proposed project would

have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to stormwater runoff would be a ***less than cumulatively considerable contribution***.

Impact 4.11: Cumulative Impacts Related to Degradation of Water Quality (Less than Significant and Less than Cumulatively Considerable)

The proposed project, along with several of the related projects within the City of Lathrop would include, grading, excavation, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation, and introduce pollutants into runoff. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

The proposed project will be required to comply with Mitigation Measure 3.5-1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include Best Management Practices (BMPs) to regulate stormwater quality for the Pilot Flying J project site which will be designed in accordance with the City of Lathrop's Phase II National Pollutant Discharge Elimination System Permit (NPDES) issued by the RWQCB.

In accordance with the City's Storm Water Master Plan (SWMP) and NPDES Stormwater Program (General Industrial Stormwater Permit), BMPs would be implemented to reduce the amount of pollution in stormwater discharged from the Pilot Flying J project site.

Additionally, each project that would discharge stormwater runoff would be required to comply with National Pollutant Discharge Elimination System (NPDES) discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality.

Compliance with city and county water quality protection regulations, approval from the RWQCB and Mitigation Measure 3.5-1 would ensure that the proposed project minimizes impacts to surface water quality. Implementation of the proposed project would have a ***less than significant*** impact relative to this environmental topic. As such, impacts related to water quality would be a ***less than cumulatively considerable contribution***.

Impact 4.12: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge (Less than Significant and Less than Cumulatively Considerable)

The proposed project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potentials; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

As described in the City's 2005 Urban Water Management Plan (UWMP), groundwater pumping in Lathrop increased from 1,545 AFY in 1988 to a maximum of 3,471 AFY in 2004. In addition to the City potable water supply wells, there are water wells in the service area that serve private industrial facilities, and agriculture. There are also 83 private agricultural wells within or near the City. Municipal, industrial, and private (agricultural) demands combined results in an annual groundwater pumping range of approximately 4,430 to 4,530 AFY.

According to the City's 2005 UWMP, groundwater pumping is projected to increase to 9,076 AFY by the year 2030 and remain at that level unless the City alters its groundwater/surface water balance. At full buildout, the proposed Pilot Flying J Travel Center is anticipated to use approximately 16.5 AFY of water (See 3.13 Utilities Section of this EIR). This includes both surface and ground water. Based on the approximately 51 percent of the City's water supply coming from groundwater in 2015, see Table 3.13-5, the proposed Pilot Flying J Travel Center would use approximately 8.3 AFY of groundwater.

According to the City of Lathrop Municipal Services Review and Sphere of Influence Plan, with groundwater pumping projected to increase, absolute preservation of groundwater quality does not appear possible (City of Lathrop, 2009). The impact, however, will be mitigated through: 1) the implementation of the SCWSP and the subsequent blending of groundwater with low-TDS surface water; 2) water treatment; and, 3) pursuit of alternative water supplies in accordance with WSS findings. In addition, regional implementation of the integrated conjunctive use program presented in the ESJGB-GMP (including groundwater recharge, increased surface water use, and reduced rates of groundwater pumping) could slow or reverse the migration of the groundwater salinity front.

Much of the groundwater recharge in the basin occurs in the sand and gravels along the San Joaquin River from Sierra snowmelt flowing downstream. Precipitation in the region is 13.81 inches, most of which falls between November through April. A portion of this annual rainfall infiltrates the soil and groundwater basin, while a portion is discharged downstream into the Delta. While the proposed project would reduce the amount of pervious surfaces within the Pilot Flying J project site, it will retain portions of the site as a pervious surface, and stormwater would be routed to a retention basin that will infiltrate onsite runoff.

The proposed project is not anticipated to require more groundwater pumping than is already identified by the City of Lathrop. Additionally, site runoff will be routed to a nearby retention area. Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to water quality would be a ***less than cumulatively considerable contribution***.

Impact 4.13: Cumulative Impacts Related to Flooding (Less than Significant and Less than Cumulatively Considerable)

The Pilot Flying J project site is located in "Zone X, protected by levee", which by definition indicates an area protected by levees from the 1% annual chance flood. According to the FEMA Map Service Center, San Joaquin County GIS, and ArcGIS Online Imagery (as of December 2, 2015), the project site is located in an "Area with reduced flood risk due to levee". However, the southeastern corner of the proposed project may be nominally subject to a 200-year flood risk (Kjeldsen, Sinnock & Neudeck, 2015). Nevertheless, the development of the proposed project would not place housing or structures in a flood hazard area because the new Travel Center building would not be built within the portion of the approximately 9 acre Pilot Flying J project site that is subject to 200 year flood risk (Kjeldsen, Sinnock & Neudeck, 2015). Additionally, the portion of the project site that is subject to 200-year flood risk would not be subject to SB-5 because 200-year flood depth would be less than 3 feet.

Furthermore, the closest levee system ("RD-17") was improved circa 2009/10 with seepage berms and/or other improvements to increase the resistance of RD-17's levee system to under-seepage and through-seepage and bring the levee system into compliance with applicable Federal and State standards. The cities are moving forward with the program to complete RD-17 levee evaluations, secure construction funding, and then design and construction necessary improvements for 200-year flood plain protection (City of Lathrop, 2015).

The proposed project would not result in additional discharges of stormwater into the San Joaquin River during storm events; therefore, there would not be an incremental increase in peak stormwater runoff to the San Joaquin River.

Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to flooding would be a ***less than cumulatively considerable contribution***.

LAND USE

The cumulative setting for land use impacts is the City of Lathrop. As described in the Initial Study prepared for the proposed project, there are no housing units located on, or proposed for the Pilot Flying J project site. Therefore, the project would not result in the displacement of people or housing. Sewer and water infrastructure and services will be extended to the Pilot Flying J project site, however no additional housing development is planned for the project area. Therefore, the proposed project would not induce substantial population growth to the area. This CEQA topic (Population) is not relevant to the proposed project.

Impact 4.14: Cumulative Impact on Communities and Local Land Uses (Less than Significant and Less than Cumulatively Considerable)

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and project-specific. The proposed project would result in the annexation of a total of three parcels totaling approximately 26 acres into the City of Lathrop. The proposed project would be consistent with the City's land use designation and the Lathrop General Plan Map. The City's general plan designates the entire proposed annexation area as Freeway Commercial (FC). The proposed pre-zoning to Highway Commercial (CH) is consistent with the existing land use designation of Freeway Commercial. The pre-zoning would go into effect upon annexation into the City of Lathrop. The City of Lathrop is currently processing Municipal Code Text Amendment No. TA-16-18 and the proposed project is consistent with this amendment. Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to flooding would be a ***less than cumulatively considerable contribution***.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the proposed project or surrounding uses.

Impact 4.15: Cumulative Exposure of Existing and Future Noise- Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Cumulatively Considerable and Significant and Unavoidable)

Construction Noise: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to construction noise would be a ***less than cumulatively considerable contribution***.

Traffic Noise: Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways within the area. Table 4.0-2 shows cumulative traffic noise levels with and without the proposed project.

TABLE 4.0-2: CUMULATIVE TRAFFIC NOISE LEVELS VS. CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO CUMULATIVE + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]		
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}	60 DB L_{DN}
Roth Road	East of McKinley Ave.	73.2	73.5	0.2	172	372	800
McKinley Ave.	North of Roth Road	62.3	62.5	0.2	16	34	73

[1] DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND J.C. BRENNAN & ASSOCIATES, INC. 2015.

Table 4.0-2 data indicate that some noise sensitive receptors located along the project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Lathrop 60 dB Ldn/CNEL exterior noise level standard for residential uses. These receptors will continue to experience elevated exterior noise levels with implementation of the proposed project.

The project's contribution to existing traffic noise increases is predicted to be 0.2 dB, or less. This is less than the FICON substantial increase criteria of 1.5-5 dB. Therefore, the increase of 0.2 dB Ldn is considered less than significant relative to the substantial increase threshold.

However, as indicated the existing noise levels exceed the City of Lathrop 60 dB L_{dn}/CNEL exterior noise level standard for residential uses and these receptors will continue to experience elevated exterior noise levels with implementation of the proposed project. While this existing condition is not directly caused by the proposed project, the proposed project will contribute to the exceedance. This is considered a ***significant and unavoidable*** impact and is a ***cumulatively considerable contribution***.

Non-Traffic Noise: On-site noise sources were evaluated through noise measurements conducted at a similar truck stop in Ripon, California. The noise measurements were conducted on February 3rd and 4th, 2015. Noise level measurements included both short-term and continuous 24-hour noise

level measurements. Noise measurements were conducted at varying distances from the truck parking areas (rest areas) and fueling areas. The results of the noise level measurements indicated that the primary noise sources are the truck circulation on the site and idling of trucks at the rest areas during the morning hours. Based upon the continuous noise measurement results, a noise level of approximately 68 dB L_{eq} can be expected at a distance of 100 feet from the center of the truck parking areas. The nearest residences are located at a distance of approximately 540 feet from the center of the truck parking and fueling area. The calculated hourly L_{eq} is 53 dB at the nearest residences to the east.

The predicted noise level of 53 dB L_{eq} would comply with the City of Lathrop daytime noise level standard of 60 dB for residential uses. The 53 dB L_{eq} noise level would comply with the City's 70 dB L_{eq} noise standard for Light Industrial zoned properties.

It should be noted that the existing ambient noise levels at the nearest residential uses substantially exceed 50 dB L_{eq} due to traffic on the local roadway network and existing surrounding industrial uses. One substantial source of ambient noise is the Diamond Pet Foods facility which was measured to generate a steady noise level of 65 dB at a distance of 350 feet. At the residential uses east of S. McKinley Avenue, the noise level from Diamond Pet Foods is approximately 56 dB L_{eq} during nighttime hours, not accounting for any additional ambient noise from traffic or other surrounding uses. Therefore, application of a nighttime noise level standard of 50-55 dB L_{eq} at this location would be less than existing ambient noise and is not warranted. The project's contribution of 53 dB L_{eq} to the existing ambient noise environment of approximately 56 dB L_{eq} would increase ambient noise by 1.8 dB. This increase is substantially less than the 3-5 dB required to be perceptible. Therefore, this would be a ***less than significant*** impact. As such, impacts related to on-site noise would be a ***less than cumulatively considerable contribution***.

PUBLIC SERVICES

Cumulative setting would include all areas covered in the service areas of the City of Lathrop Police Department, Lathrop-Manteca Fire Protection District, French Camp-McKinley Fire District, City of Lathrop Parks and Recreation Department, and the Manteca Unified School District.

Impact 4.16: Cumulative Impact on Public Services (Less than Significant and Less than Cumulatively Considerable)

The proposed project does not include any new residential development and will not directly or indirectly increase the City's population. As such the need for additional public services (e.g. library services, animal services, and schools) is not anticipated. However, fire and police protection services would be required to serve the proposed project.

The City collects Capital Facilities Fee from new development. These fees include an impact fee for police services. In addition, local Fire Districts collect Capital Facilities Fees from new development within their boundaries to fund capital construction of Fire Service Facilities. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property tax, override tax by the Fire Districts, sales taxes, and other revenues generated by the

project, would assist in maintaining existing fire, and police services. Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to public services would be a ***less than cumulatively considerable contribution***.

TRANSPORTATION AND CIRCULATION

A Cumulative Conditions analysis was performed to identify potential impacts in year 2040. Roadway assumptions and associated traffic forecasts plus the results of the intersection and freeway segment operations analysis, both with and without the project, are presented in this chapter.

Cumulative Roadway Assumptions

The future cumulative roadway network includes certain roadway improvements, consistent with the SJCCOG RTP Tier I projects, which support the level of development anticipated to be in place in before Year 2040. Major improvements included under Cumulative Conditions are summarized below:

- Realignment of Harlan Road / Roth Road intersection and signalization;
- I-5 widened to four lanes with one HOV lane between French Camp Road and SR 120; and
- Roth Road widened to four lanes from I-5 to the Union Pacific Railroad Tracks
- Roth Road widened to four lanes from the Union Pacific Railroad tracks (located east of the project site) to Airport Way.

Cumulative Intersection Improvements

The following selected intersection improvements identified by the City of Lathrop or San Joaquin County are anticipated to be in place before Year 2040 are summarized below.

- Improvements to the Interstate 5 / Roth Road interchange;
- Signalization of Roth Road / I-5 SB Ramps and the addition of a southbound right-turn lane;
- Signalization of Roth Road / I-5 NB Ramps and the addition of a northbound left-turn lane, northbound right-turn lane, and westbound right turn lane;
- Signalization of Harlan Road / Roth Road, the conversion of the eastbound right-turn lane to a shared through and right–turn lane, and the addition of a northbound left-turn lane, southbound left-turn lane, southbound right-turn lane, and westbound left-turn lane; and
- Widen Roth Road to provide two additional through lanes between Harlan Road and the Union Pacific Railroad tracks (located east of the project site).

Cumulative Traffic Forecasts

Cumulative project traffic forecasts were developed using the SJCOG travel demand forecasting model that includes full build-out of the City of Lathrop, San Joaquin County, City of Manteca, and City of Stockton. The process of developing forecasts followed a series of industry-standard quantitative steps in which the amount of growth projected by the regional travel demand model is

added to existing counts in order to estimate future year morning and evening peak hour traffic volumes. The specific steps used to develop traffic forecasts from the SJCOG model are presented below.

CUMULATIVE PROJECT TRAFFIC

Traffic forecasts for the Cumulative (2040) Year analysis were developed for the following project scenarios:

- The **Cumulative No Build** scenario includes the 2040 planned roadways and developments without the proposed travel center project.
- The **Cumulative Plus Project** scenario includes the 2040 planned roadways and developments, along with full build-out of the travel center project.

Traffic forecasts for the Cumulative No Project and Cumulative Plus Project scenarios were developed using the SJCOG travel demand model. A forecasting procedure known as the "difference method" was utilized to develop year 2040 forecasts from the SJCOG future year model. This method accounts for potential differences between the base year model and existing traffic counts that could otherwise transfer to the future year traffic forecast. This forecasting procedure is calculated as follows:

Year 2040 Forecast = Existing Volume + (Year 2040 SJCOG TDM – Base Year SJCOG TDM)

Figure 3.14-8 in Section 3.11 shows the peak hour traffic volumes for Cumulative No Project conditions. Figure 3.14-9 (Section 3.11) shows the peak hour traffic volumes for Cumulative Plus Project conditions. The distribution of project trips is slightly different under cumulative conditions (versus existing conditions) due to additional development in the Lathrop area.

Intersection Operations

The study intersections were analyzed under Cumulative No Project and Cumulative Plus Project conditions. As shown in Table 4.0-3 below, and Figure 3.14-10 (Section 3.11), five of the six study intersections are projected to operate at acceptable service levels under Cumulative No project except the McKinley Avenue / Roth Road intersection. The technical calculations for intersection LOS for Cumulative No Project conditions are located in Appendix E.6. The technical calculations for intersection LOS for Cumulative Plus Project conditions are located in Appendix E.8.

Under Cumulative Plus Project conditions, the side-street stop control (SSSC) McKinley Avenue / Roth Road intersection operates at unacceptable LOS D during the AM peak hour and LOS F during the PM peak hour for the southbound stop controlled movements. The 30 vehicles during the AM peak hour and 70 vehicles during the PM peak hour making the southbound left turn movement at this intersection must wait for acceptable gaps in eastbound through traffic, and the signalization of the Harlan Road / Roth Road may help create more gaps in traffic. The 22 vehicles during the AM

peak hour and 66 vehicles during the PM peak hour making the eastbound left-turn onto northbound also must wait for gaps in the westbound through traffic.

In addition, the two project driveways would also operate at unacceptable LOS conditions for the side street stop controlled movements. The project driveway serving passenger vehicles operates at unacceptable LOS E during the PM peak hour, when 47 vehicles exiting the project site with a southbound left turn must wait for gaps in both eastbound and westbound traffic and 15 cars turning into the project site making the eastbound left turn must wait for gaps in westbound traffic. The project driveway serving trucks operates at unacceptable LOS D during the AM peak hour and LOS F during the PM peak hour. During the AM peak hour, there are 18 trucks making a southbound left turn at the driveway that must wait for gaps in eastbound and westbound traffic, and 36 trucks making the eastbound left turn must wait for gaps in the westbound through traffic. During the PM peak hour, there are 15 trucks and 37 trucks making these same movements, respectively.

Table 4.0-3
Cumulative (2040) Conditions – Intersection Operations

Intersection	Jurisdiction	Traffic Control	LOS / Delay			
			No Project		Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. I-5 Southbound Ramps / Roth Rd	Caltrans	Signal	37 / D	47 / D	43 / D	34 / C
2. I-5 Northbound Ramps / Roth Rd	Caltrans	Signal	18 / B	21 / C	28 / C	35 / C
3. Harlan Rd / Roth Rd	City of Lathrop	Signal	18 / B	21 / C	20 / C	30 / C
4. McKinley Ave / Roth Rd	City of Lathrop	SSSC	**1 (23) / A (C)**	**10 (>120) / A (F)**	**1 (25) / A (D)**	**13 (>120) / C (F)**
5. Roth Road / Project Driveway (Cars)	City of Lathrop	SSSC	-	-	2 (19) / A (C)	**4 (40) / A (E)**
6. Roth Road / Project Driveway (Trucks)	City of Lathrop	SSSC	-	-	**2 (32) / A (D)**	**3 (80)/ A (F)**

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2010).
3. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2015

Peak Hour Traffic Signal Warrant Analysis

The three unsignalized study intersections were re-evaluated under cumulative conditions to determine if they would satisfy the Peak Hour warrant for consideration of a traffic signal. As shown in Table 4.0-4, two of three unsignalized intersections satisfy the warrant during one or both peak hours under cumulative no project and plus project conditions. The calculations for the peak hour

signal warrant for Cumulative No Project and Cumulative Plus Project conditions are in Appendix E.6.

Table 4.0-4
Cumulative (2040) Conditions – Peak Hour Signal Warrant Analysis

Intersection	Traffic Control[1]	No Project	Plus Project
		Peak Hour Warrant Met?	Peak Hour Warrant Met?
4. Roth Road / McKinley Ave	SSSC	Yes	Yes
5. Roth Road / Driveway (Cars)	SSSC	-	Yes
6. Roth Road / Driveway (Trucks)	SSSC	-	No

Note:
1. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection
Source: Fehr & Peers, 2015

Freeway Analysis

Cumulative No Project and Cumulative Plus Project freeway operations were evaluated for the AM and PM peak hours. Interstate 5 (north of SR 120) is planned to be widened to four lanes with one HOV lane, and I-5 (south of SR 120) is planned to be widened to six lanes in each direction. The HCS output of the freeway analysis for Cumulative No Project and Cumulative Plus Project conditions is in Appendix E.7 and Appendix E.9, respectively.

Table 4.0-5
Cumulative (2040) Conditions – Freeway Analysis

Freeway	Location	Type	LOS / Average Density			
			Cumulative No Project		Cumulative Plus Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Southbound I-5	North of Roth Rd	Basic	D / 29.0	C / 22.4	D / 29.0	C / 22.5
	Roth Rd Off-Ramp	Diverge	D / 34.4	D / 30.5	D / 34.6	D / 30.8
	Between Roth Rd Ramps	Basic	C / 25.3	C / 18.6	C / 25.2	C / 18.4
	Roth Rd On-Ramp	Merge	C / 27.5	C / 22.3	C / 27.7	C / 22.6
	South of Roth Rd	Basic	D / 28.1	C / 20.7	D / 28.2	C / 20.7
Northbound I-5	South of Roth Road	Basic	C / 20.0	**E / 35.8**	C / 20.1	**E / 35.8**
	Roth Road Off-Ramp	Diverge	C / 27.4	**E / 40.4**	C / 27.6	**E / 40.7**
	Between Roth Road Ramps	Basic	B / 17.4	D / 28.8	B / 17.3	D / 28.6
	Roth Road On-Ramp	Merge	C / 26.3	D / 32.3	C / 26.4	D / 32.5
	North of Roth Road	Basic	C / 22.1	D / 34.8	C / 22.1	D / 34.9

Notes:
1. Density estimates are rounded to nearest tenth. Corresponding LOS is based on first significant digit using HCM thresholds.

2. Weave sections were analyzed using the Leisch Method. Density is not reported.
3. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.

Source: Fehr & Peers, 2015

As shown in Table 4.0-5, the following freeway segments are projected to operate unacceptably under Cumulative No Project and Cumulative Plus Project conditions:

- With an unconstrained demand volume of 7,271 vehicles (and 12 percent trucks), northbound I-5 mainline from Lathrop Road to Roth Road would operate at unacceptable LOS E during the PM peak hour.
- With an unconstrained volume of 968 vehicles on the northbound I-5 off-ramp diverge segment the Roth Road off-ramp would operate at unacceptable LOS E during PM peak hours.

Impact 4.17: Under cumulative conditions, project implementation would exacerbate levels of service at the McKinley Avenue / Roth Road intersection (Cumulatively Considerable and Significant and Unavoidable)

The McKinley Avenue / Roth Road intersection would operate at unacceptable LOS D during the AM peak hour and LOS F during the PM peak hour under Cumulative Plus Project conditions. The addition of project-generated traffic would exacerbate unacceptable operations and would increase the control delay for the southbound left turn by more than five seconds. This intersection also satisfies the peak hour signal warrant of installation of a traffic signal control for both PM Peak Hour conditions. This is a **significant impact**.

MITIGATION MEASURES

Mitigation Measure 4.17-1: *The project applicant shall pay its fair share toward improvements to the McKinley Avenue / Roth Road intersection. The project's fair share traffic contribution to these improvements is projected to be eight (8) percent[1] of the total cost of signalizing this current side-street stop controlled (SSSC) intersection. As an alternative, the Lathrop traffic mitigation fees may be amended to include a traffic signal at the McKinley Avenue/Roth Road intersection, and payment of the mitigation fee would mitigate this impact. The following mitigation measures would be necessary to provide acceptable operations under cumulative conditions:*

- *Install traffic signal control at the intersection. An evaluation of all applicable signal warrants should be conducted and additional factors (e.g., congestion, approach*

[1] Fair share calculation is based on the project's cumulative traffic contribution (total AM and PM peak hour volumes on the four freeway on- and off-ramps using the following formula:

Fair Share Percentage = [Project Only Total Volume / (Cumulative Plus Project Total Volume – Existing County Volume)]

Fair Share Percentage = [199 / (3,269 – 863)] = 8 %

conditions, driver confusion) should be considered before the decision to install a signal is made.

SIGNIFICANCE AFTER MITIGATION

As shown on Table 4.0-6, if the City of Lathrop approves the proposed improvements and full funding is secured, the McKinley Avenue / Roth Road intersection would operate at LOS A with 7 seconds of delay in the AM peak hour and LOS C with 34 seconds of delay in the PM peak hour. Appendix E.10 contains the technical calculations for this intersection analysis. Funding for the remaining share of the cost of this improvement has not been secured. Because full funding has not been secured the impact would remain ***significant and unavoidable***, and ***cumulatively considerable***.

Impact 4.18: Under cumulative conditions, project implementation would result in unacceptable levels of service at the Project Driveways (Cumulatively Considerable and Significant and Unavoidable)

The Roth Road / Project Driveway (Cars) intersection would operate at unacceptable LOS D during the AM peak hour and LOS F during the PM peak hour. The Roth Road / Project Driveway (Trucks) intersection would operate at unacceptable LOS E conditions during the AM peak hour and LOS F conditions during the PM peak hour. This is a **significant impact.**

MITIGATION MEASURES

Mitigation Measure 4.18-1: *The project applicant shall pay its fair share toward the widening of Roth Road. This project includes the addition of a two-way left turn median in the center of Roth Road for vehicles entering and exiting the project site. This improvement is in the 2014 SJCOG RTP.*

SIGNIFICANCE AFTER MITIGATION

As shown in Table 4.0-6, if the City of Lathrop approves the proposed improvements and full funding is secured, the Roth Road / Project Driveway (Cars) intersection movement with the greatest delay is the southbound movement, which will operate with 14 seconds of delay at LOS B during the AM peak hour and with 18 seconds of delay at LOS C during the PM peak hour. Additionally, the Roth Road / Project Driveway (Trucks) intersection movement with the greatest delay is the southbound movement, which will operate with 19 seconds of delay at LOS C during the AM peak hour and 31 seconds of delay at LOS D during the PM peak hour. Appendix E.10 contains the technical calculations for this intersection analysis. Since LOS D is unacceptable for a City of Lathrop intersection, this impact is ***significant and unavoidable*** and ***cumulatively considerable.***

Table 4.0-6
Cumulative Plus Project with Mitigations – Intersection Operations

Intersection	Jurisdiction	LOS / Delay[1]					
		Cumulative No Project		Cumulative Plus Project		Cumulative Plus Project with Mitigation	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
4. McKinley Ave / Roth Rd	City of Lathrop	**1 (37) / A (E)**	**12 (>120) / B (F)**	**2 (43) / A (E)**	**17 (>120) / C (F)**	4 / A	5 / A
5. Roth Road / Project Driveway (Cars)	City of Lathrop	-	-	**2 (34) / A (D)**	**9 (102) / A (F)**	1 (14) / A (B)	2 (18) / A (C)
6. Roth Road / Project Driveway (Trucks)	City of Lathrop	-	-	**2 (48) / A (E)**	**3 (85)/ A (F)**	1 (19) / A (C)	**1 (31) / A (D)**

Notes:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
2. SSSC = Side-Street-Stop Controlled intersection; AWS = All-Way Stop Controlled intersection
3. Level of Service based on Highway Capacity Manual (Transportation Research Board, 2010).
4. Bold and underlined text indicates unacceptable operations. Shaded cells indicate a significant impact.
5. Refer to previous page(s) for description of mitigations.

Source: Fehr & Peers, 2015

Impact 4.19: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service on I-5 (Cumulatively Considerable and Significant and Unavoidable)

The addition of project traffic would exacerbate unacceptable LOS in the AM and PM peak hours at two (2) of the ten (10) study freeway facilities I-5. This is considered a **significant impact** at the following locations:

- Northbound I-5 mainline from Lathrop Road to Roth Road would operate at unacceptable LOS E during the PM peak hour.
- Northbound I-5 diverge to at Roth Road would operate at unacceptable LOS E during PM peak hours.

MITIGATION MEASURES

Mitigation Measure 4.19-1: *The project applicant shall pay appropriate San Joaquin County Regional Traffic Impact Fee (RTIF), which is collecting fees from new development to help fund regional improvements to I-5.*

The cumulative conditions analysis assumed the programmed widening of I-5 from four to six lanes. These improvements are partially paid for with the RTIF, which the development will be subject to. Without these assumed improvements, freeway operations would be worse than described. In addition, the commercial components of the project will generate additional revenues through the Measure K sales, which helps fund I-5 improvements.

Additional improvements, beyond widening the I-5 mainline to six lanes, are not currently programmed. However, implementation of planned parallel arterial roadway improvements and system-wide operational improvements such as ramp metering and auxiliary lane improvements, will benefit I-5 mainline operation during peak travel periods. However, the impact would remain **significant and unavoidable,** and **cumulatively considerable** because the improvements on I-5 are within the jurisdiction of Caltrans and because implementation of operational improvements, while beneficial, would not reduce the impact to a less than significant level.

UTILITIES

The cumulative setting would include all areas covered in the service areas of the City's wastewater system, water system, and stormwater system, as well as, the Lathrop Environmental Services, who is the provider of solid waste services in the City. Under General Plan buildout conditions, the City would see an increased demand for water service, sewer service, solid waste disposal services, and stormwater infrastructure needs.

Impact 4.20: Cumulative Impact on Wastewater Utilities (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.13 (Utilities), The City of Manteca's wastewater treatment system is currently in compliance with the WDR requirements of Order No. R5-2009-0095 NPDES NO. CA0081558. The wastewater treatment system options covered under this Order include: City of Manteca Wastewater Quality Control Facility (WQCF) including the collection system, basin/disposal fields, discharge to the San Joaquin River, and recycling conveyance and irrigation system. The development of the proposed project under this permitted option would not exceed the wastewater discharge requirements in this Order.

The proposed project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the WQCF. Occupancy of the proposed project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the WQCF with a subsequent allocation of capacity to the proposed project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Mitigation Measure 3.13-1 requires that prior to occupancy of any building that would require wastewater treatment services; the project proponent shall secure adequate wastewater treatment allocation through the City's allocation process. Additionally, the project

proponent would be required to install/connect the necessary collection/transmission infrastructure to ensure the appropriate treatment of all wastewater (per Chapter 13.16.190 of the Lathrop Municipal Code), as determined by the City of Lathrop.

Through the payment of impact fees, and compliance with mitigation identified in Section 3.13, Implementation of the proposed project would have a ***less than significant*** impact relative to this environmental topic. As such, impacts related to utilities would be a ***less than cumulatively considerable contribution*.**

Impact 4.21: Cumulative Impact on Water Utilities (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.13, the proposed project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for potable water. The proposed project would require the construction of new potable water conveyance lines. Water service for the proposed project would be extended from existing services located along Roth Road to the project site. The exact size of the water mains will be determined through a water model analysis to be submitted with improvements plans that considers the rest of the City's water system and pressures necessary to meet fire flow requirements.

The proposed project is on a site that would be annexed by the City of Lathrop. This area is currently in the City of Lathrop Sphere of Influence. The proposed project would not require any additional water infrastructure other than the extension of water services to the Pilot Flying J project site from existing infrastructure located on Roth Road, located directly south of the project site.

The proposed project would be expected to generate an annual water demand of 16.5 AFY. The City of Lathrop 2005 UWMP describes that the City would have available water supply for 839 AFY for a normal year, and 839 AFY for the single-year and a multi-dry year scenarios. The proposed project would generate an annual water demand that would be well within the limits of water demand, as described in the UWMP.

Therefore, this would result in a ***less than significant*** impact, and a ***less than cumulatively considerable contribution.***

Impact 4.22: Cumulative Impact on Stormwater Facilities (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.13, the City of Lathrop requires all development projects in the City to be consistent with the drainage regulations established in the Storm Water Development Standards Plan (SWDS). These standards have been developed in response to the requirements contained in its Municipal Separate Storm Water Sewer System (MS4) NPDES Permit.

Storm drainage infrastructure to serve the proposed project will include gutters, catch basins, underground piped drainage system, and retention ponds located on and adjacent to the Pilot Flying J project site to capture storm water runoff, none of which are anticipated to result in significant environmental effects. Therefore, the proposed project would result in a ***less than significant*** impact, and a ***less than cumulatively considerable contribution***.

Impact 4.23: Cumulative Impact on Solid Waste Facilities (Less than Significant and Less than Cumulatively Considerable)

The City of Lathrop disposed of 31,450 tons of solid waste in 2014. The City achieved a diversion rate of 80 percent in 2004, exceeding the State-mandated requirement of 50 percent. The latest information available from Cal Recycle shows that the City of Lathrop has a solid waste disposal rate of 8.7 pounds per resident per day for household waste and 23.9 pounds per employee for business waste in 2014 (CalRecycle 2014). Waste from the City of Lathrop went primarily to two landfills in 2014; the Foothill Sanitary Landfill and the Forward Landfill.

Solid waste generated in the City is disposed at the Forward Landfill and Foothill Sanitary Landfills. Permitted maximum disposal at the Forward Landfill is 8,669 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2020. The remaining capacity is 23.7 million cubic yards.

Permitted maximum disposal at Foothill Sanitary Landfill is 1,500 tons per day. The total permitted capacity of the landfill is 138 million cubic yards, which is expected to accommodate an operational life until December 31, 2082. The remaining capacity is 125 million cubic yards at this landfill.

Solid waste generated by the proposed Pilot Flying J Travel Center was estimated based on CalRecycle generation rates (discussed below). The addition of the volume of solid waste associated with the proposed project to the landfill would not exceed the landfills' remaining capacity.

The proposed Pilot Travel Center is a commercial project. Based on CalRecycle waste generation estimates, the proposed project is estimated to generate 3.12 pounds of solid waste per 100 square feet per day. The proposed project would developed over a site of approximately 9 acres, and would primarily include service sector space, including fueling facilities, a drivers' lounge, several restaurants including a market/deli, and other retail space. The total solid waste that would be generated by the project is estimated to be 12,463 pounds per day, or 6.2 tons per day. The proposed project would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling.

As described above, Foothill Sanitary Landfill is expected to have an operational life until December 31, 2082, and Forward Landfill is expected to have an operational life until January 1, 2020. The addition of the volume of solid waste associated with the proposed project, approximately 6.2 tons per day, would not exceed the landfills' remaining capacity. Existing landfills have permitted capacity to handle this additional waste.

Implementation of the proposed project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to solid waste facilities would be a ***less than cumulatively considerable contribution***.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), requires that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed project would result in the conversion of approximately 9 acres of land currently used for truck and trailer storage for the development of freeway commercial travel serving uses and facilities. Development of the project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its original condition as vacant/unimproved land.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued maintenance. Construction would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the facility. The introduction of freeway commercial uses will result in an increase in area traffic over existing conditions, the use of fossil fuels and the increased consumption of available supplies, including gasoline and diesel, and electricity. These energy resource demands relate to initial project construction, project operation and site maintenance and the transport of people and goods to and from the project site.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of

insignificance. The following significant and unavoidable impacts of the proposed project are discussed in Chapters 3.1 through 3.13 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.2-5: The proposed project has the potential for exposure to odors
- Impact 3.6-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases
- Impact 3.10-1: The proposed project has the potential to increase traffic noise levels at existing receptors
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region
- Impact 4.8: Cumulative Impact on Climate Change from Increased project-Related Greenhouse Gas Emissions
- Impact 4.15: Cumulative Exposure of Existing and Future Noise- Sensitive Land Uses to Increased Noise Resulting from Cumulative Development
- Impact 4.17: Under cumulative conditions, project implementation would exacerbate levels of service at the McKinley Avenue / Roth Road intersection
- Impact 4.18: Under cumulative conditions, project implementation would result in unacceptable levels of service at the Project Driveways
- Impact 4.19: Under cumulative conditions, project implementation would exacerbate cumulatively unacceptable levels of service on I-5

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5.1 CEQA REQUIREMENTS

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

The principal objective of the proposed project is the approval of the Lathrop Pilot Flying J Travel Center that includes development of the approximately 9 acre site for travel serving uses. Implementation of the project would involve the development of fueling facilities, traveler amenities, and parking facilities for passing motorists and commercial truck operators.

The quantifiable objectives and operational characteristics of the proposed project include the development of Freeway Commercial, and travel support facilities on the approximately 9 acre project site that would include:

- 9 diesel fueling lanes (including diesel, diesel exhaust fluid (DEF) and Bio diesel) with 10 fueling islands
- 12 gas fueling lanes with 6 fueling islands
- 106 truck parking spaces
- 64 passenger vehicle parking spaces
- 3 handicapped parking spaces
- 1 service island parking space
- CAT Certified Scales
- One 110 ft. tall pole sign with LED lights (advertising for interstate traffic)
- One 100 ft. tall monopole lighting structure (site lighting)
- One 31 ft. tall goalpost sign located along Roth Road
- One 100 ft. tall monopole for site lighting
- One 13,011 square foot building that will include:
    - A drivers lounge
    - Restroom facilities, that include showers and laundry facilities
    - 2,660 square feet of retail space for traveler serving amenities
    - One 1,260 square foot market/deli
    - One 1,445 square foot Subway restaurant
    - One Cinnabon kiosk
- The creation of 75 new jobs to the City of Lathrop and surrounding communities

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed project.

- **No Project Alternative**: Under this alternative, development of the proposed project would not occur, and the project site would remain in its current condition and the proposed annexation area would not be annexed by the City.
- **Reduced Project Alternative:** Under this alternative, the project would be developed with the same components as described in the Project Description, but the area utilized would be reduced by one third.
- **Alternative Location:** Under this alternative, the proposed project would be developed at an alternate location near to I-5, off of Harlan Road, south of East Louise Avenue.

NO PROJECT ALTERNATIVE

Under the No Project Alternative, development of the project would not occur, and the project site would remain in its current existing condition and the proposed annexation area would not be annexed by the City. It is noted that the No Project Alternative would fail to meet the project objectives identified by the project applicant.

REDUCED PROJECT ALTERNATIVE

Under this alternative, the proposed project would be developed with the same components as described in the Project Description for the proposed project, but the size of the developed area and the Pilot Flying J Travel Center building would be reduced, resulting in an increase of undeveloped land for the proposed project. The total acreage dedicated to proposed project would be reduced by approximately one third. Additionally, the number of parking spaces would be reduced by one third, and the building footprint for the Pilot Flying J Travel Center would be reduced by one third, from 13,011 square feet to 8,674 square feet. The number of gasoline and diesel refueling stations would remain the same as in the proposed project.

ALTERNATIVE LOCATION

Under this alternative, the proposed project would be developed with the same general characteristics as described in the Project Description (Section 2.0) for the proposed project. However, the proposed project would be sited at an alternative location, and no annexation of

land by the City of Lathrop would be required. The alternative location would be at a vacant lot in the southern portion of the City of Lathrop, to the south of East Louise Avenue and southeast of Harlan Road (adjacent to, and just east of, ITT Technical Institute). This alternative project site is located in the southern portion of the City of Lathrop, and would be adjacent to commercial (retail) uses.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-2 summarizes the comparative effects of each alternative.

NO PROJECT ALTERNATIVE

Aesthetics and Visual Resources

The No Project Alternative would leave the proposed annexation area in its existing state and would not result in increases in daytime glare or nighttime lighting. The visual character of the proposed annexation area would not change under this alternative compared to existing conditions.

As described in Section 3.1 (Aesthetics and Visual Resources), the visual character of the proposed annexation area would be significantly altered as a result of project implementation. The new 100 foot monopole for project lighting, and 110 foot advertising sign with LED lighting would be visible from adjacent residences and businesses in the City of Lathrop and portions of unincorporated San Joaquin County. The addition of these signs could degrade the existing visual character and/or quality of the site and its surroundings. Therefore, the proposed project would cause a significant and unavoidable impact related to the potential for degrading the existing visual character of the site surroundings.

Implementation of the lighting and design standards in the proposed project would ensure that proposed project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements in the proposed project and the subsequent design review of future projects within the proposed annexation area would ensure that excessively reflective building materials are not used, and that the proposed project would not result in significant impacts related to daytime glare. However, the increase in nighttime lighting and daytime glare from the lighting/signage aimed at capturing traffic on I-5 would be significant and unavoidable.

The proposed project would result in potentially significant new sources of light and glare, and would result in impacts to the existing visual character or quality of the proposed annexation area and its surroundings. However, the No Project Alternative would avoid these impacts altogether and would overall have less of an impact than the proposed project on aesthetics and visual resources.

Air Quality

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.2, San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. Table 3.2-2 in Section 3.2 presents the state and federal attainment status for San Joaquin County.

As discussed under Impact 3.2-1 in Section 3.2, the proposed project would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, PM_{10} and $PM_{2.5}$ would not exceed the SJVAPCD thresholds of significance. Additionally, the proposed project would not result in a significant impact related to public exposure to toxic air contaminants or be expected to cause a carbon monoxide hotspot impact. As discussed in Impact 3.2-5, diesel exhaust from trucks and other on-site activities could cause a nuisance to nearby residents, which would be a significant and unavoidable impact.

Under the No Project Alternative, the project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to air quality. Although the proposed project would not have any significant impacts to air quality, the No Project Alternative would avoid air quality impacts altogether and would have less of an impact than the proposed project on air quality.

Biological Resources

As described in Section 3.3 (Biological Resources), construction within the project site has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the project site. Mitigation Measure 3.3-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Additionally, Mitigation Measure 3.2-2 would require that pre-construction surveys are conducted to prevent impact to nesting birds. With this mitigation, impacts to special status bird species would be less than significant. All other impacts are less than significant. As such, overall, implementation of the proposed project will have a less than significant impact.

Under the No Project Alternative, the proposed project would not be constructed, no habitat would be removed, and no ground disturbing activities would occur. It is noted that the project site is a highly disturbed site with limited to no habitat value. Therefore, potential for impacts to biological resources would be eliminated under the No Project Alternative.

Cultural Resources

As described in Section 3.4 (Cultural Resources), during the field surveys conducted on the project site there were no historical, archaeological, or paleontological resources identified. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.4 would reduce unknown cultural resources impacts to a less than significant level.

The No Project Alternative would result in no ground disturbing activities related to the proposed project and would not have the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed project is not anticipated to result in significant impacts to cultural resources with mitigation, the No Project Alternative would result in less potential for impacts to cultural resources as the entire site would be used for agriculture production.

Geology and Soils

The No Project Alternative would result in the project site remaining in its existing condition. The proposed structures on the project site would be subject to seismic or geologic risks, including earthquakes, liquefaction, subsidence, etc. However, the No Project Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards, thus this alternative would have no potential for impact. As such, this alternative would have less impact relative to the proposed project.

Greenhouse Gases and Climate Change

As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed project. With mitigation measures, the overall annual GHG emissions associated with the proposed project would be reduced by over 30 percent by the year 2020 compared to the business as usual scenario which is consistent with the SJVAPCD guidance. Nevertheless, the proposed project would result in a significant and unavoidable net increase in GHG emissions.

Under the No Project Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to GHG reductions. As such, this impact would be significantly reduced when compared to the proposed project.

Hazards and Hazardous Materials

The proposed project includes components which will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health. However, implementation of mitigation measures 3.7-1 through 3.7-3 are intended to reduce the potential for an impact to a less than significant level.

Under the No Project alternative, no new land uses would be introduced to the Project site, and the potential for hazardous material release in the Project site would be eliminated. As such, this alternative would have less impact relative to the proposed project.

Hydrology and Water Quality

As described in Section 3.8 (Hydrology and Water Quality), implementation of the proposed project has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.8 reduce potential water quality impacts to a less than significant level. The proposed project would not substantially alter groundwater recharge, or place persons or structures in a flood hazard zone.

Under the No Project Alternative, potential water quality impacts from construction and operation of the proposed project would be eliminated. While groundwater recharge is not considered a significant impact under the proposed project, under this alternative, the land will be kept in its present state with the majority of the project site either fallow land or being used for agricultural purposes. The site characteristics of the project site are not considered optimal for groundwater recharge; however the No Project Alternative will have a greater chance of groundwater recharge because it does not introduce areas of impervious surfaces as would the proposed project. As such, potential impacts related to hydrology and water quality would be reduced under the No Project Alternative when compared to the proposed project.

Land Use

The proposed project would be consistent with the City's land use designation and the Lathrop GP Land Use Map. The City's General Plan designates the entire project site as Freeway Commercial (FC). The proposed project is consistent with the General Plan land use designation for the project site and the Pilot Flying J Travel Plaza is consistent with the General Plan's land use requirements as well as policies that address specific environmental issues, as discussed in the relevant sections of this EIR. However, amendments to the Zoning Ordinance required by the proposed project conflict with applicable land use, regulations adopted to avoid or mitigate an environmental effect. As further discussed in the Section 3.1 (Aesthetics and Visual Resources) of the document, the increased height limit for the project signage, and its associated impact to visual resources constitutes a significant and unavoidable environmental impact. Therefore, implementation of the proposed project, including the Zoning Text Amendment, would constitute a ***significant and unavoidable*** impact relative to Zoning.

The No Project Alternative would not require changes to the City's Zoning Ordinance. Therefore, the No Project Alternative would not conflict with applicable land use, regulations adopted to

avoid or mitigate an environmental effect, and would have fewer impacts to this topic when compared to the proposed project.

Noise

As described in Section 3.10 (Noise), the proposed project would not be expected to be a significant noise generating use. However, the proposed project would generate noise from the construction of the proposed project, and generate noise at nearby streets and within the vicinity of the project site, primarily due to the increase in mobile vehicles travelling to, from, and within the project site. The existing noise levels exceed City standards, and while the proposed project does not increase noise above the noise increase thresholds of significance, it would contribute to an already existing noise exceedance. This would be a significant and unavoidable impact.

Under the No Project Alternative, the project site would not be developed and there would be no potential for new noise sources. This alternative would not reduce the noise levels to below the existing levels that are already exceeding the City's thresholds of significance. However, this alternative would have slightly less impact relative to the proposed project.

Public Services

As described in Section 3.11 (Public Services), implementation of the proposed project would not result in any significant public services impacts. The proposed project does not include residential units and is not expected to increase the population within Lathrop. Although the proposed project would increase the City's demand for fire, police, and other public services, the proposed project would not cause a significant adverse impact with respect to these public services.

Under the No Project Alternative the project site would remain undeveloped, and, there would be no increased demand for police, fire and other public services but alternatively, no increased recreational facilities and opportunities for City residents would be provided. Therefore, the No Project Alternative would have slightly less demand on public services compared to the proposed project.

Transportation and Circulation

The No Project Alternative would not introduce additional vehicle trips onto the study area roadways. As described in Section 3.12 (Transportation and Circulation), implementation of the proposed project would cause an increase in traffic on roadways or intersections that would cause traffic operations to degrade to an unacceptable level of service. Under the No Project Alternative, these potential impacts would be avoided, and the No Project Alternative would have less of an overall traffic impact than the proposed project.

Utilities

Implementation of the proposed project would result in impacts to the public wastewater system. However mitigation measures provided in Section 3.13 (Utilities), would reduce these

impacts to a less than significant level. Project impacts to water, stormwater and solid waste facilities would be less than significant.

Under the No Project Alternative the proposed annexation area would continue to have the existing demand for any utilities, including wastewater services, potable water supplies, or solid waste disposal. There would be no need to construct stormwater drainage infrastructure. Overall, the demand for utilities would be reduced under the No Project Alternative when compared to the proposed project.

REDUCED PROJECT ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1 (Aesthetics and Visual Resources), the visual character of the proposed annexation area would be significantly altered as a result of project implementation. The proposed monopole project lighting structure, and 110 foot tall LED advertising sign would be visible from adjacent residences and businesses in the City of Lathrop and portions of unincorporated San Joaquin County. The addition of these signs could degrade the existing visual character and/or quality of the site and its surroundings. Therefore, the proposed project would cause a significant and unavoidable impact related to degrading the existing visual character of the site surroundings.

Implementation of the lighting and design standards in the proposed project would ensure that proposed project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements in the proposed project and the subsequent design review of future projects within the proposed annexation area would ensure that excessively reflective building materials are not used, and that the proposed project would not result in significant impacts related to daytime glare. However, the increase in nighttime lighting and daytime glare from the lighting/signage aimed at capturing traffic on I-5 would be significant and unavoidable.

These impacts would be similar with the Reduced Project Alternative as this alternative is located on the same site and has similar uses. This alternative would reduce the building square footage, and reduce the acreage by 1/3. The impacts of light and glare would still occur and would be significant and unavoidable. The impacts to the existing visual quality would be similar as the proposed annexation area would be developed with the same uses as under the proposed project, just on a smaller scale and on slightly less acreage. The Reduced Project Alternative would have a slightly less impact on visual resources when compared to the proposed project.

Air Quality

As described in Section 3.2 (Air Quality), San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$.

Table 3.2-2 in Section 3.2 presents the state and federal attainment status for San Joaquin County.

As discussed under Impact 3.2-1 in Section 3.2, the proposed project would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, PM_{10} and $PM_{2.5}$ would not exceed the SJVAPCD thresholds of significance. Additionally, the proposed project would not result in a significant impact related to public exposure to toxic air contaminants or be expected to cause a carbon monoxide hotspot impact. As discussed in Impact 3.2-5, diesel exhaust from trucks and other on-site activities could generate increased odors at nearby receptors, which would be a significant and unavoidable impact.

The Reduced Project Alternative would reduce the amount of traffic generated from the project site. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would reduce the mobile source emissions by an amount equivalent to the reduction on mobile source air emissions. Additionally, this alternative would have a reduction in area source emissions proportional to the reduction in square footage. The decrease in square footage and reduced traffic volumes would result in reductions in air emissions. The Reduced Project Alternative would result in slightly less air emissions when compared to the proposed project.

Biological Resources

As described in Section 3.3 (Biological Resources), construction within the project site has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the project site. Mitigation Measure 3.3-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Additionally, Mitigation Measure 3.2-2 would require that pre-construction surveys are conducted to prevent impact to nesting birds. With this mitigation, impacts to special status bird species would be less than significant. All other impacts are less than significant. As such, overall, implementation of the proposed project will have a less than significant impact.

The Reduced Project Alternative would result in development in the proposed project site, but would only utilize 2/3 of the project site for urban development. It is noted that the project site is a highly disturbed site with limited to no habitat value. The Reduced Project Alternative would result in a slightly less impact to biological resources when compared to the proposed project.

Cultural Resources

As described in Section 3.4 (Cultural Resources), during the field surveys conducted on the project site there were no historical, archaeological, or paleontological resources identified. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.4 would reduce unknown cultural resources impacts to a less than significant level.

The Reduced Project Alternative would result in development in the project site, but would only utilize 2/3 of the project site for development. The remaining acreage would remain as undeveloped. Under this alternative, there would be less ground disturbing activities related to development and there would a reduced potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed project is not anticipated to result in significant impacts to cultural resources with mitigation, the Reduced Project Alternative would result in slightly less potential for impacts to cultural resources as less of the project site would be developed.

Geology and Soils

As described in Section 3.5 (Geology and Soils), implementation of the proposed project would result in the construction of new commercial structures at the project site, which could expose the proposed project to geological risks. Under the Reduced Project Alternative there would be less developed area that would be subject to geological conditions. This alternative would result in more of the proposed project site remaining in its existing condition. While the proposed project is not anticipated to result in significant impacts from geology and soils with mitigation, the Reduced Project Alternative would result in slightly less potential for impacts when compared to the proposed project, given its smaller size and overall reduced building footprint.

Greenhouse Gases and Climate Change

As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed project. With mitigation measures, the overall annual GHG emissions associated with the proposed project would be reduced by over 30 percent by the year 2020 compared to the business as usual scenario which is consistent with the SJVAPCD guidance. Nevertheless, the proposed project would result in a significant and unavoidable net increase in GHG emissions.

Under the Reduced Project Alternative, the project site would be developed with the same facilities and amenities as the proposed project, but the total footprint and square footage would be reduced. While the commercial uses in the Reduced Protection Alternative would be required to adhere to the same mitigation measure as the proposed project, the decrease in square footage decreases the total greenhouse gas emissions. As such, the greenhouse gas emissions impact is slightly less than the proposed project.

Hazards and Hazardous Materials

The proposed project includes components which will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health. However, implementation of mitigation measures 3.7-1 through 3.7-3 in Section 3.7 (Hazards and Hazardous Materials), reduce this impact to a less than significant level.

Under the Reduced Project Alternative, all project components would remain the same with the exception of reduced size of the proposed project and reduced building footprint. This alternative would still use the hazardous materials identified under the proposed project. This alternative would have the similar impacts relative to hazardous materials and emergency response plans during project operation. However, do to the reduced size of the project, the project would require the use of fewer hazardous materials during construction, and would have less runoff potential due to the reduced onsite surface area.

As such, this alternative would have slightly less impacts from hazards and hazardous materials impacts when compared to the proposed project.

Hydrology and Water Quality

As described in Section 3.8 (Hydrology and Water Quality), implementation of the proposed project has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.8 reduce potential water quality impacts to a less than significant level. The proposed project would not significantly impact groundwater recharge, or place persons or structures in a flood hazard zone.

Under the Reduced Project Alternative, potential construction related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be reduced equivalent to the amount of land area that remains undisturbed by construction of the smaller building footprints. As such, potential impacts related to hydrology and water quality would be slightly less under the Reduced Project Alternative when compared to the proposed project.

Land Use

The Reduced Project Alternative is not expected to induce substantial population growth in the area and does not displace persons or remove housing units. This is similar to the proposed project. As discussed previously, amendments to the Zoning Ordinance required for the proposed project would also be required for the Reduced Project Alternative. Amendments to

increase height allowances within the Highway Commercial Zone would cause an environmental impact associated with aesthetics. As such, this alternative would have a similar impact relative to the proposed project.

Noise

As described in Section 3.10 (Noise), the proposed project would not be expected to be a significant noise generating use. However, the proposed project would generate noise from the construction of the proposed project, and generate noise at nearby streets and within the vicinity of the project site, primarily due to the increase in mobile vehicles travelling to, from, and within the project site. The existing noise levels exceed City standards, and while the proposed project does not increase noise above the noise increase thresholds of significance, it would contribute to an already existing noise exceedance. This would be a significant and unavoidable impact.

Under the Reduced Project Alternative the reduction in the size of the area for development and site capacity, would reduce noise related impacts proportionate to the reduced vehicular and operational activities. This alternative would not reduce the noise levels to below the existing levels that are already exceeding the City's thresholds of significance. However, under this Alternative, impacts are slightly reduced when compared to the proposed project.

Public Services and Recreation

As described in Section 3.11 (Public Services), implementation of the proposed project would not result in any significant public services or recreation impacts. The proposed project does not include residential units and is not expected to increase the population within Lathrop. Although the proposed project would increase the City's demand for fire, police, and other public services, the proposed project would not cause a significant adverse impact with respect to these public services.

Under the Reduced Project Alternative, the proposed project would cause a slightly reduced impact to fire, police, and other public services. As in the proposed project, this alternative does not directly increase population within the City. Overall, this alternative would have less demand for public services when compared to the proposed project.

Transportation and Circulation

As described in Section 3.12 (Transportation and Circulation), implementation of the proposed project would cause an increase in traffic on roadways and intersections that would cause traffic operations to degrade to an unacceptable level of service.

The Reduced Project Alternative would produce fewer trips than that the proposed project proportionate to the reduction in the project. As such, this alternative would have slightly reduced impacts to transportation and circulation when compared to the proposed project.

Utilities

Implementation of the proposed project would result in impacts to the public wastewater system. However, mitigation measures provided in Section 3.13 (Utilities), would reduce these impacts to a less than significant level. As described in section 3.13, project impacts to water, stormwater, and solid waste facilities are all less than significant.

The Reduced Project Alternative would decrease commercial square footage in the project site. This decrease would also decrease the amount of wastewater generated in the project site which would reduce the demand for wastewater treatment and disposal. Based on the demand factors identified in Table 3.13-13, the wastewater demand for the Reduced Project Alternative was calculated and is shown in Table 5.0-1. This calculation determined the Reduced Project Alternative would generate 7,366 gallons per day (gpd) of wastewater. This is 3,368 gpd less than the proposed project.

TABLE 5.0-1: WASTEWATER DEMAND COMPARISON

LAND USE DESCRIPTION	*AVERAGE DEMAND FACTOR (GPD/AC)*	*Reduced Project Alternative*		*Proposed Project*	
		ACRES	*AVERAGE DEMAND (GPD)*	*ACRES*	*AVERAGE DEMAND (GPD)*
Commercial Office	1,200	6.12	7,366	9.17	11,004
Total		**6.12**	**7,366**	**9.17**	**11,004**

Additionally, the Reduced Project Alternative would reduce the demand for water and waste. Development of the project site under the Reduced Project Alternative would consume approximately 11 AFY (5.5 AFY less than the proposed project). Additionally, development of the project site under the Reduced Project Alternative would produce approximately 4.1 tons of solid waste annually (2.1 tons per year less than the proposed project).

Impacts to stormwater facilities are assumed to be similar to those of the proposed project as the storm drainage infrastructure would be largely the same.

Overall, this alternative would have less wastewater treatment demand, less water demand, and less solid waste generated when compared to the proposed project. As such, this alternative would have less impact when compared to the proposed project.

ALTERNATIVE LOCATION

Aesthetics and Visual Resources

As described in Section 3.1 (Aesthetics and Visual Recourses), the visual character of the proposed annexation area would be significantly altered as a result of project implementation. The addition of a 100 foot lighting monopole, and 110 foot advertising LED sign would be visible from adjacent residences and businesses in the City of Lathrop and portions of unincorporated San Joaquin County. The addition of these signs could degrade the existing visual character and/or quality of the site and its surroundings. Therefore, the proposed project would cause a

significant and unavoidable impact related to degrading the existing visual character of the site surroundings.

Implementation of the lighting and design standards in the proposed project would ensure that proposed project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements in the proposed project and the subsequent design review of future projects within the proposed annexation area would ensure that excessively reflective building materials are not used, and that the proposed project would not result in significant impacts related to daytime glare. However, the increase in nighttime lighting and daytime glare from the lighting/signage aimed at capturing traffic on I-5 would be significant and unavoidable.

Relocation of the project site would not change any of the project components of the proposed project. However, relocation of the project site to the southern portion of the City of Lathrop, south of Harlan Road and adjacent to ITT Technical Institute, would convert vacant agricultural land into a developed site. Reduction of City agricultural land could cause a greater potential impact to visual resources than in the proposed project. The impact associated with increased light and glare in the developed area would be similar to the proposed project. Overall, this alternative would have slightly greater impact when compared to the proposed project.

Air Quality

As described in Section 3.2 (Air Quality), San Joaquin County has a state designation of nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. Table 3.2-2 in Section 3.2 presents the state and federal attainment status for San Joaquin County.

As discussed under Impact 3.2-1 in Section 3.2, the proposed project would result in increased emissions primarily from vehicle miles travelled associated with project implementation. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NOx, PM_{10} and $PM_{2.5}$ would not exceed the SJVAPCD thresholds of significance. Additionally, the proposed project would not result in a significant impact related to public exposure to toxic air contaminants or be expected to cause a carbon monoxide hotspot impact. As discussed in Impact 3.2-5, diesel exhaust from trucks and other on-site activities odors to nearby areas, which would be a significant and unavoidable impact.

The Alternative Location would be expected to produce roughly the same number of trips as the proposed project. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the trip volume would keep mobile source emissions at roughly the same as expected for the proposed project. Additionally, other sources of air emissions, area source emissions, would be similar between this alternative and the proposed project. Based on this analysis, this alternative would have similar air quality impacts when compared to the proposed project.

Biological Resources

As described in Section 3.3 (Biological Resources), construction within the project site has the potential to result in impacts to special-status species in the region. There are no known special-status species that have been observed in the project site. Mitigation Measure 3.3-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Additionally, Mitigation Measure 3.2-2 would require that pre-construction surveys are conducted to prevent impact to nesting birds. With this mitigation, impacts to special status bird species would be less than significant. All other impacts to biological resources are less than significant. As such, overall, implementation of the proposed project will have a less than significant impact.

The Alternative Location would result in development of the alternative project site in the southern portion of the City of Lathrop, as opposed to the site identified for the proposed project. Under this alternative, there would be greater risk of habitat loss, since the project site identified for the Alternative Location is vacant agricultural land, covered with vegetation. This alternative would eliminate more acres of agricultural land that would otherwise provide open space habitat for a variety of wildlife species, predominately associated with foraging (i.e. protected raptors including Swainson's hawk, migratory birds). Therefore, the Alternative Location would result in a greater impact to biological resources when compared to the proposed project.

Cultural Resources

As described in Section 3.4 (Cultural Resources), during the field surveys conducted on the project site there were no historical, archaeological, or paleontological resources identified. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of mitigation measures in Section 3.4 would reduce unknown cultural resources impacts to a less than significant level.

Under the Alternative Location, there would be a similar level of ground disturbing activities related to development and there would a reduced the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. The proposed project is not anticipated to result in significant impacts to cultural resources with mitigation incorporated. The Alternative Location would result in a similar potential for impacts to cultural resources when compared to the proposed project.

Geology and Soils

As described in Section 3.5 (Geology and Soils), implementation of the proposed project would result in the construction of new commercial structures at the project site, which could expose

the proposed project to geological risks. Under the Alternative Location, there would be a similar level of area developed, resulting in the same structures that would be subject to geological conditions. The proposed project is not anticipated to result in significant impacts from geology and soils. The Alternative Location would result in a similar potential for impacts when compared to the proposed project.

Greenhouse Gases and Climate Change

As stated previously, short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed project. With mitigation measures, the overall annual GHG emissions associated with the proposed project would be reduced by over 30 percent by the year 2020 compared to the business as usual scenario, which is consistent with the SJVAPCD guidance. Nevertheless, the proposed project would result in a significant and unavoidable net increase in GHG emissions.

Under the Alternative Location, the project site would be developed with the same facilities and amenities as the proposed project, just at a different site location. Additionally, under this alternative, the level of trip generation, as well as the construction and operations of the proposed project, would remain roughly equal as in the proposed project. As such, the greenhouse gas emissions impact is similar to the proposed project.

Hazards and Hazardous Materials

The proposed project includes components which will likely use a variety of hazardous materials including: paints, cleaners, and cleaning solvents, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health. Implementation of Mitigation Measures 3.7-1 through 3.7-3 reduce the potential for an impact to a less than significant level.

Under the Alternative Location, all project components would remain the same. This alternative would still use the hazardous materials identified under the proposed project. This alternative would have the same potential impacts relative to hazardous materials and emergency response plans. The commercial uses of the alternative would be required to adhere to the same hazardous materials regulations as the proposed project. The potential for hazards and hazardous materials impacts roughly equal when compared to the proposed project.

Hydrology and Water Quality

As described in Section 3.8 (Hydrology and Water Quality), implementation of the proposed project has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed project could result in long-term impacts to surface water quality from urban

stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.8 reduce potential water quality impacts to a less than significant level. The proposed project would not negatively impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the Alternative Location, potential construction related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be roughly equivalent to the proposed project, since the amount and use of land area would be equivalent to the proposed project. As such, potential impacts related to hydrology and water quality would be roughly equivalent under the Alternative Location when compared to the proposed project.

Land Use

The Alternative Location would not require annexation of any land by the City of Lathrop, since the site for this alternative is already within the City of Lathrop. As with the proposed project, the Alternative Location is not expected to induce substantial population growth in the area and does not displace persons or remove housing units. As discussed previously, amendments to the Zoning Ordinance required for the proposed project would also be required for the Alternative Location. Amendments to increase height allowances within the Highway Commercial Zone would cause an environmental impact associated with aesthetics. As such, this alternative would have a similar impact relative to the proposed project.

Noise

As described in Section 3.10 (Noise), the proposed project would not be expected to be a significant noise generating use. However, the proposed project would generate noise from the construction of the proposed project, and generate noise at nearby streets and within the vicinity of the proposed annexation area, primarily due to the increase in mobile vehicles travelling to, from, and within the project site. The existing noise levels exceed City standards, and while the proposed project does not increase noise above the noise increase thresholds of significance, it would contribute to an already existing noise exceedance. This would be a significant and unavoidable impact.

The Alternative Location would result in the same development at a different location, and the noise impacts associated with future industrial uses would be roughly the same. The existing noise levels at the project site would continue to exceed City standards even with the relocation of the project. There would continue to be a significant and unavoidable impact relative to existing noise at the project site. Overall, all noise issues would be similar to the proposed project. Therefore, under this alternative, noise impacts would be similar to those of the proposed project.

Public Services and Recreation

As described in Section 3.11 (Public Services), implementation of the proposed project would not result in any significant impacts to public services. The proposed project does not include

residential units and is not expected to increase the population within Lathrop. Although the proposed project would increase the City's demand for fire, police, and other public services, the proposed project would not cause a significant adverse impact with respect to these public services.

Under the Alternative Location, the proposed annexation area would still require fire protection, police protection, and access to public services similar to the proposed project. As such, this alternative would result in impacts similar to the proposed project.

Transportation and Circulation

As described in Section 3.12 (Transportation and Circulation), implementation of the proposed project would cause an increase in traffic on roadways. The Alternative Location would produce roughly the same number of trips as the proposed project, since it includes all of the same uses as the proposed project and no reduction in size of the project components. Based on this analysis, this alternative would be expected to have a similar impact to traffic when compared to the proposed project.

Utilities

Implementation of the proposed project would result in impacts to the public wastewater system. However mitigation measures provided in Section 3.12 (Utilities) would reduce these impacts to a less than significant level. Project impacts to water, stormwater and solid waste facilities are all less than significant.

However, the proposed project would include a sewer line extension. The proposed sewer line extension would be a gravity line that ends at the pump station currently being constructed on Harlan Road, approximately 2200 feet south of Roth Road. The size of the line is expected to be 15" in diameter from the pump station to Roth Road, and 12" in diameter from Roth to the project site. Ultimately, the pipeline along Roth Road would be extended to serve other properties along Roth Road, to the limit of Lathrop's General Plan boundaries and adopted Sphere of Influence.

The Alternative Location would place the project at a location with a more developed utilities infrastructure than the proposed project. The alternative location is already within the boundaries of the City of Lathrop, and would therefore be in a location that would require less new physical infrastructure to be developed to connect the project components to City infrastructure. For example, the Alternative Location would not require a sewer line extension, as would be required for the proposed project. Overall, since connections to existing infrastructure would be easier at the Alternative Location site as compared with the proposed project site, this impact would have slightly less impact when compared to the proposed project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior

alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed project.

As Table 5.0-2 presents a comparison of the alternative project impacts with those of the proposed project. As shown in the table, the No Project Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Project ranks higher than the proposed project. Comparatively, the Alternative Location would result in an impact roughly equivalent to the proposed project, with a slightly greater increase in aesthetics and visual resources impacts, but a slightly reduced impact to utilities impacts. From a Land Use Planning perspective, the Alternative Location is not as desireable for a travel plaza because the surrounding uses not as supportive. For instance, the proposed project is located adjacent to several truck repair and sales facilities that the general vicinity is more conducive to truck travel. It should be noted that the Reduced Project Alternative does not meet all of the project objectives.

TABLE 5.0-2: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT ALTERNATIVE*	*REDUCED PROJECT ALTERNATIVE*	*ALTERNATIVE LOCATION*
Aesthetics and Visual Resources	Less	Slightly Less	Slightly Greater
Air Quality	Less	Less	Equal
Biological Resources	Less	Less	Equal
Cultural Resources	Less	Less	Equal
Geology and Soils	Less	Less	Equal
Greenhouse Gases and Climate Change	Less	Less	Equal
Hazards and Hazardous Materials	Less	Less	Equal
Hydrology and Water Quality	Less	Less	Equal
Land Use	Less	Equal	Equal
Noise	Less	Less	Equal
Public Services	Less	Less	Equal
Transportation and Circulation	Less	Less	Equal
Utilities	Less	Less	Slightly Less

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

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