DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

MANTECA GENERAL PLAN UPDATE

(SCH: 2020019010)

MARCH 2021

Prepared for:

City of Manteca
Development Services
1215 W. Center Street, Suite 201
Manteca, CA 95337
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De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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DRAFT EIR

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Appendix B – Analysis of Public Health Risks and Energy Calculations

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Appendix D – Supporting Transportation Data and Analysis

PURPOSE

The City of Manteca (City) as lead agency, determined that the Manteca General Plan project (General Plan, General Plan, or project) is a "project" within the definition of the California Environmental Quality Act (CEQA), and requires the preparation of an Environmental Impact Report (EIR). This Draft EIR has been prepared to evaluate the environmental impacts associated with implementation of the project. This EIR is designed to fully inform decision-makers in the City, other responsible and trustee agencies, and the general public of the potential environmental consequences of approval and implementation of the General Plan. A detailed description of the proposed project, including the components and characteristics of the project, project objectives, and how the EIR will be used, is provided in Chapter 2.0 (Project Description).

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the project that are known to the City, raised during the Notice of Preparation (NOP) scoping process, or were raised during preparation of the Draft EIR. This Draft EIR addresses the potentially significant impacts associated with aesthetics, agriculture and forest resources, air quality, biological resources, cultural and tribal cultural resources, geology, greenhouse gas emissions and energy, hazards and hazardous materials, hydrology and water quality, land use planning and population/housing, mineral resources, noise, public services and recreation, transportation, utilities and service systems, wildfire, and cumulative impacts.

During the NOP process, 11 comment letters were received from interested agencies and organizations. The comments are summarized in Chapter 1.0 (Introduction), and are also provided in Appendix A. The following are topics of public concern or potential controversy that have become known to the City staff based on public input, known regional issues, and staff observations:

- Impacts of traffic and congestion on local, regional, and state transportation facilities as a result of the General Plan.
- Encouragement of pedestrian-oriented transit and mixed use development.
- Consideration of issues related to housing-focused land use development.
- Effects of noise, vibrations, emissions and safety impacts to sensitive receptors as a result of the General Plan.
- Impacts on regional stormwater, drainage, groundwater, and water quality.

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. The alternatives analyzed in this EIR include the following:

- **Alternative A: No Project Alternative**. Under Alternative A, the City would not adopt the General Plan Update. The existing Manteca General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Major Street Master Plan, Proposed Truck Route, goals, policies, or actions would occur. Subsequent projects, such as amending the Municipal Code (including the zoning map) and the City's Design Guidelines, would not occur. The existing General Plan Land Use Map is shown on Figure 5.0-1 in Chapter 5.0.
- **Alternative B: Residential and Balanced Employment Growth**. Alternative B continues to provide for a balance of job-creating and residential development land uses. Alternative B would continue to encourage infill development throughout the City, as well as new growth in greenfield areas that extend the City's existing development pattern. Figure 5.0-2 in Chapter 5.0 shows the Land Use Map for Alternative B. This alternative emphasizes an increase in residential development, including multifamily, uses and a decrease in commercial and employment-generating industrial and professional land use designations to reduce total vehicle miles travelled. This alternative was developed to potentially reduce the severity of significant impacts associated with transportation and circulation and also to reduce the severity of impacts associated with air quality and greenhouse gases.
- **Alternative C: Increased Intensity Residential and Balanced Employment Growth**. Alternative C would revise the General Plan Land Use Map to place more emphasis on identifying specific areas for residential growth, including medium and high-density residential land uses and encouraging the distribution of these uses throughout residential neighborhoods. Alternative C continues to provide for a balance of job-creating and residential development land uses, but would reduce commercial and other employee-generating uses in order to reduce vehicle miles travelled. Alternative C would continue to encourage infill development throughout the City, as well as new growth in greenfield areas that extend the City's existing development pattern. Figure 5.0-3 in Chapter 5.0 shows the Land Use Map for Alternative C. This alternative emphasizes an increase in residential development, with an emphasis on increasing high and medium density residential development within neighborhoods, and a decrease in retail and other jobs to reduce total vehicle miles travelled. This alternative was developed to potentially reduce the severity of significant impacts associated with transportation and circulation and also to reduce the severity of impacts associated with air quality, greenhouse gases, and noise.

A comparative analysis of the proposed General Plan and each of the Project alternatives is provided in Table ES-1 below. The table includes a numerical scoring system, which assigns a score of 1 to 5 to each of the alternatives with respect to how each alternative compares to the proposed project in terms of the severity of the environmental topics addressed in this EIR. A score of "3" indicates that the alternative would have the same level of impact when compared to the proposed project. A score of "1" indicates that the alternative would have a better (or reduced) impact when compared to the proposed project. A Score of "2" indicates that the alternative would have a slightly better (or slightly reduced) impact when compared to the proposed project. A score of "4" indicates that the alternative would have a slightly worse (or

slightly increased) impact when compared to the proposed project. A score of "5" indicates that the alternative would have a worse (or increased) impact when compared to the proposed project. The project alternative with the lowest total score is considered the environmentally superior alternative.

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

ENVIRONMENTAL ISSUE	*PROPOSED PROJECT*	*ALTERNATIVE A (NO PROJECT)*	*ALTERNATIVE B*	*ALTERNATIVE C*
Aesthetics and Visual Resources	3 – Same	1 – Better	2 – Slightly Better*	1 – Slightly Better*
Agricultural and Forest Resources	3 – Same	1 – Better	2 – Slightly Better	2 – Slightly Better
Air Quality	3 – Same	5 - Worse	1 – Better*	2 – Better*
Biological Resources	3 – Same	1 – Better	2 – Slightly Better	2 – Slightly Better
Cultural and Tribal Resources	3 – Same	2 – Slightly Better	2 – Slightly Better	2 – Slightly Better
Geology and Soils	3 – Same	4 – Slightly Worse	2 – Slightly Better	2 – Slightly Better
Greenhouse Gases, Climate Change, and Energy	3 – Same	5 – Worse	1 – Better*	2 – Better*
Hazards and Hazardous Materials	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Hydrology and Water Quality	3 – Same	2 – Slightly Better	1 – Slightly Better*	2 – Slightly Better
Land Use and Population	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Noise	3 – Same	1 – Better	3 – Same	3 – Same
Public Services and Recreation	3 – Same	2 – Slightly Better	2 – Slightly Better*	1 – Slightly Better*
Transportation and Circulation	3 – Same	5 – Worse	1 – Better*	2 – Better*
Utilities and Service Systems	3 – Same	2 – Slightly Better	2 – Slightly Better	1 – Slightly Better*
Wildfire	3 – Same	3 – Same	3 – Same	3 – Same
Irreversible Effects	3 – Same	1 – Better	2 – Slightly Better	2 – Slightly Better
SUMMARY	**48**	**43**	**32**	**33**

**WHERE TWO ALTERNATIVES ARE TIED, THE BETTER OF THE TWO RECEIVED A HIGHER SCORE.*

Overall, Alternative B is the environmentally superior alternative as it is the most effective in terms of overall reductions of impacts compared to the proposed General Plan and all other alternatives. As such, Alternative B is the environmentally superior alternative for the purposes of this EIR analysis. Additionally, similar to the Proposed General Plan, Alternative B meets all project objectives. Like the proposed project, Alternative B reflects the current goals and vision expressed by city residents, businesses, decision-makers, and other stakeholders; addresses issues and concerns identified by city residents, businesses, decision-makers, and other stakeholders; protects Manteca's family-oriented environment, character, and sense of community; provides a range of high-quality housing options; attracts and retains businesses and industries that provide high-quality and high-paying jobs so that residents can live and work in Manteca; expands retail shopping opportunities to provide better local services and increased sales tax revenues; continues to maintain the road network and improve multimodal transportation opportunities; maintains strong fiscal sustainability; continues to provide efficient and adequate public services; and addresses new requirements of State law.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the project's 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. "Beneficial" effect is not defined in the CEQA Guidelines, but for purposes of this EIR a beneficial effect is one in which an environmental condition is enhanced or improved.

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures 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 AND VISUAL RESOURCES			
Impact 3.1-1: General Plan implementation would not have a substantial adverse effect on a scenic vista	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.1-2: General Plan implementation would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway	LS	*None Required*	LS
Impact 3.1-3: General Plan implementation would not, in a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings, or in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality	LS	*None Required*	LS
Impact 3.1-4: General Plan implementation could result in the creation of new sources of nighttime lighting and daytime glare	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
AGRICULTURAL AND FOREST RESOURCES			
Impact 3.2-1: General Plan implementation would result in the conversion of farmlands, including Prime Farmland and Unique Farmland, to non-agricultural use	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.2-2: General Plan implementation would not result in conflicts with existing zoning for agricultural use, or a Williamson Act contract	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.2-3: General Plan implementation would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland,	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
to non-agricultural use or conversion of forest land to non-forest use			
AIR QUALITY			
Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants	LS	*None Required*	LS
Impact 3.3-2: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations	LS	*None Required*	LS
Impact 3.3-3: General Plan implementation would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people)	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
BIOLOGICAL RESOURCES			
Impact 3.4-1: General Plan implementation could 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.4-2: General Plan implementation could 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.4-3: General Plan implementation could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.4-4: General Plan implementation would not 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.4-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS	*None Required*	LS
Impact 3.4-6: General Plan implementation would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
CULTURAL AND TRIBAL RESOURCES			
Impact 3.5-1: General Plan implementation could cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to Section15064.5	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.5-2: Implementation of the General Plan could lead to the disturbance of any human remains	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.5-3: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency			
GEOLOGY AND SOILS			
Impact 3.6-1: General Plan implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.6-2: General Plan implementation has the potential to result in substantial soil erosion or the loss of topsoil	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.6-3: General Plan implementation has the potential to result in development 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.6-4: General Plan implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or	LS	*None Required*	LS

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PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
alternative waste water disposal systems where sewers are not available for the disposal of waste water			
Impact 3.6-6: General Plan implementation has the potential to directly or indirectly destroy a unique paleontological resource	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY			
Impact 3.7-1: General Plan implementation has the potential to generate GHG emissions that could have a significant impact on the environment	LS	*None Required*	LS
Impact 3.7-2: General Plan implementation has the potential to conflict with adopted plans, policies, or regulations adopted for the purpose of reducing greenhouse gas emissions	LS	*None Required*	LS
Impact 3.7-3: General Plan implementation has the potential to result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency	LS	*None Required*	LS
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: General Plan implementation has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.8-2: General Plan implementation has the potential to emit hazardous emissions or	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school			
Impact 3.8-3: General Plan implementation has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS	*None Required*	LS
Impact 3.8-4: General Plan implementation is not located within an airport land use plan, two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.8-5: General Plan implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	*None Required*	LS
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: General Plan implementation could violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.9-2: General Plan implementation could result in the depletion of groundwater supplies or interfere substantially with groundwater recharge or conflict with a groundwater management plan.	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.9-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche.	LS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
LAND USE, POPULATION AND HOUSING			
Impact 3.10-1: General Plan implementation would not physically divide an established community	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.10-2: General Plan implementation would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.10-3: General Plan implementation would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)	LS	*None Required*	LS
Impact 3.10-4: General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
MINERAL RESOURCES			
Impact 3.11-1: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	LS	*None Required*	LS
Impact 3.11-2: General Plan implementation would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan	LS	*None Required*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
NOISE			
Impact 3.12-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of applicable standards	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.12-2: General Plan implementation may generate substantial temporary increases in ambient noise levels associated with construction activities in the vicinity of the project in excess of applicable standards	LS	*None Required*	LS
Impact 3.12-3: General Plan implementation may result in groundborne vibration or groundborne noise levels	LS	*None Required*	LS
PUBLIC SERVICES AND RECREATION			
Impact 3.13-1: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts and the provision of public services	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.13-2: General Plan implementation may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities	LS	*None Required*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
TRANSPORTATION AND CIRCULATION			
Impact 3.14-1: General Plan implementation may result in VMT increases that are greater than 85 percent of Baseline conditions	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.14-2: General Plan implementation may conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	LTS
Impact 3.14-3: General Plan implementation may increase hazards due to a design feature, incompatible uses, or inadequate emergency access	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
UTILITIES AND SERVICE SYSTEMS			
Impact 3.15-1: General Plan implementation would result in sufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry and multiple dry years	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.15-2: General Plan implementation may 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	LS	*None Required*	LS
Impact 3.15-3: General Plan implementation has the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.15-4: General Plan implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.15-5: General Plan implementation may require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.15-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
WILDFIRES			
Impact 3.16-1: General Plan implementation could substantially impair an adopted emergency response plan or emergency evacuation plan	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.16-2: General Plan implementation could, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.16-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources,	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment			
Impact 3.16-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
OTHER CEQA-REQUIRED TOPICS			
Impact 4.1: Cumulative degradation of the existing visual character of the region	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.2: Cumulative impact to agricultural lands and resources	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC and SU
Impact 4.3: Cumulative impact on the region's air quality	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.4: Cumulative loss of biological resources, including habitats and special status species	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.5: Cumulative impacts on known and undiscovered cultural resources	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.6: Cumulative impacts related to geology and soils	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.8: Cumulative impacts related to hazardous materials and human health risks	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.9: Cumulative impacts related to hydrology and water quality	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.10: Cumulative impacts related to local land use, population, and housing	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.11: Cumulative impacts related to mineral resources	LS	*None Required*	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 noise	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC and SU
Impact 4.13: Cumulative impacts to public services and recreation	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.14: Cumulative impacts on the transportation network	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC&SU
Impact 4.15: Cumulative impacts related to utilities	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.16: Cumulative impact related to wildfire	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.17: Irreversible and adverse effects	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU

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PS – potentially significant *SU – significant and unavoidable*

1.1 INTRODUCTION

In 2016, Manteca began a multi-year process to update the City's General Plan. State law requires every city and county in California to prepare and maintain a planning document called a general plan. A general plan is a "constitution" or "blueprint" for the future physical development of a county or city. As part of the Manteca General Plan Update process, a General Plan Existing Conditions Report was prepared to establish a baseline of existing conditions in the City. Additionally, an Opportunities and Constraints Report and a Land Use alternatives Report were prepared to identify the challenges facing the community, to provide an opportunity for citizens and policymakers to come together in a process of developing a common vision for the future, and to identify a range of options available to the City as the General Plan Land Use Map was modified and updated.

The updated Manteca General Plan includes a framework of goals, policies, and actions that will guide the community toward its common vision. The General Plan is supported with a variety of maps, including a Land Use Map and Circulation Diagram.

MANTECA GENERAL PLAN UPDATE

General Plan

The Manteca General Plan (General Plan, General Plan Update, or proposed project) is the overarching policy document that guides land use, housing, transportation, open space, public safety, community services, and other policy decisions throughout Manteca. The General Plan includes the elements and topics mandated by State law, to the extent that they are relevant locally, including: Air Quality, Circulation, Conservation, Environmental Justice, Housing, Land Use, Noise, Open Space, and Safety. The City may also address other topics of interest; this General Plan includes elements related to Public Facilities (including infrastructure), Economic Development, and Health and Wellness. The General Plan sets out the goals, policies, and actions in each of these areas, serves as a policy guide for how the City will make key planning decisions in the future, and guides how the City will interact with San Joaquin County, surrounding cities, and other local, regional, State, and Federal agencies.

The General Plan contains the goals and policies that will guide future decisions within the City. It also identifies implementation programs, in the form of actions, that will ensure the goals and policies in the General Plan are carried out. As part of the Manteca General Plan Update, the City and the consultant team prepared several support documents that serve as the building blocks for the General Plan and analyze the environmental impacts associated with implementing the General Plan.

The following paragraphs summarize the key component documents that are the building blocks of the Manteca General Plan.

Existing Conditions Report

The Existing Conditions Report takes a "snapshot" of Manteca's current (2017) trends and conditions. It provides a detailed description of a wide range of topics within the City, such as demographic and economic conditions, land use, public facilities, and environmental resources. The Existing Conditions Report provides decision-makers, the public, and local agencies with context for making policy decisions. The Existing Conditions Report also provides the environmental setting and description contained within this Draft Environmental Impact Report (EIR).

Vision and Guiding Principles Summary

Based on public input from the community visioning process, priorities identified by the General Plan Advisory Committee, and direction from City staff, this report establishes the vision statement to guide the General Plan Update and identifies key issues and opportunities to be addressed in the General Plan Update. The Vision and Guiding Principles Summary provides the General Plan Advisory Committee, the Planning Commission, and the City Council with tools and information for the development of the General Plan Policy Document and associated Land Use and Circulation maps.

Land Use Alternatives Report

The Land Use Alternatives Report provides the City with a resource tool to examine different possible approaches to accommodate future development, provide opportunities for economic growth, maintain fiscal sustainability, and identify lands for conservation of resources and open space. The report is accompanied by a detailed fiscal analysis that addresses long-range fiscal impacts in terms of the cost to provide services to projected land uses and growth versus the revenues generated under each alternative.

Environmental Impact Report

An EIR responds to the requirements of the California Environmental Quality Act (CEQA) as set forth in Sections 15126, 15175, and 15176 of the CEQA Guidelines. The Planning Commission and City Council will use the EIR during the General Plan Update process in order to understand the potential environmental implications associated with implementing the General Plan. This EIR was prepared concurrently with the General Plan policy document in order to facilitate the development of a General Plan that is largely self-mitigating. In other words, as environmental impacts associated with the new General Plan, including the Land Use Map, were identified; policies and actions were incorporated into the General Plan policy document in order to reduce or avoid potential environmental impacts.

1.2 PURPOSE OF THE EIR

The City of Manteca, as lead agency, determined that the Manteca General Plan Update is a "project" within the meaning of CEQA. CEQA requires the preparation of an EIR prior to approving any project that 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]).

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the Manteca General Plan. A copy of the Public Draft General Plan is located on the Manteca General Plan Update website, at manteca.generalplan.org. The Draft EIR also discusses alternatives to the General Plan, and proposes mitigation measures that will offset, minimize, or otherwise avoid potentially significant environmental impacts. This Draft EIR has been prepared in accordance with CEQA, California Resources Code Section 21000 et seq.; the Guidelines for the California Environmental Quality Act (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Manteca.

An EIR must disclose the expected direct and indirect environmental impacts associated with a project, 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 significant environmental impacts of proposed development.

1.3 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 Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

"A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically;
2) As logical parts in the chain of contemplated actions;
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."

The program-level analysis considers the broad environmental effects of the proposed project. This EIR will be used to evaluate subsequent projects and activities under the proposed project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project's consistency with the General Plan and the analysis

in this EIR, as required under CEQA. It may be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities under the General Plan are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in this program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

1.4 INTENDED USES OF THE EIR

The City of Manteca, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from adoption of the Manteca General Plan and subsequent implementation of projects consistent with the General Plan. 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 project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the General Plan. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description. This EIR may also be used by other agencies within San Joaquin County.

1.5 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 project or an aspect of the project (CEQA Guidelines Section 15381). 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). While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the Manteca General Plan, implementation of future projects within Manteca may require permits and approvals from such agencies, which may include the following:

- California Department of Fish and Wildlife (CDFW);
- California Department of Transportation (Caltrans);
- Regional (Central Valley) Water Quality Control Board (RWQCB);
- U.S. Army Corps of Engineers (ACOE);
- U.S. Fish and Wildlife Service (USFWS);
- San Joaquin County Local Agency Formation Commission (LAFCO);
- San Joaquin Valley Air Pollution Control District (SJVAPCD); and
- San Joaquin Airport Land Use Commission (ALUC).

1.6 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 Manteca circulated a Notice of Preparation (NOP) of an EIR for the proposed project on January 6, 2020 to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held on January 27, 2020 at the City of Manteca City Hall. No public or agency comments on the NOP related to the EIR analysis were presented or submitted during the scoping meeting. However, during the 30-day public review period for the NOP, which ended on February 5, 2020, eleven written comment letters were received on the NOP. A summary of the NOP comments is provided later in this chapter. The NOP and all comments received on the NOP are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of the project's direct and indirect impacts on the environment 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 Manteca 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.

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the City of Manteca 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 requirements, 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:

J.D. Hightower, Interim Community Development Director
City of Manteca
1215 W. Center Street, Suite 201
Manteca, CA 95337
jhightower@ci.manteca.ca.us

RESPONSE TO COMMENTS/FINAL EIR

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

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Manteca City Council will review and consider the Final EIR. If the City finds that the Final EIR is "adequate and complete," the City Council may certify the Final EIR in accordance with CEQA. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the proposed project that intelligently take account of environmental consequences.

Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or deny the project. It the EIR determines that the project would result in significant adverse impacts to the environment that cannot be mitigated to less than significant levels, the City Council would be required to adopt a statement of overriding considerations as well as written findings in accordance with State CEQA Guidelines Sections 15091 and 15093. If additional mitigation measures are required (beyond the General Plan policies and actions that reduce potentially significant impacts, as identified throughout this EIR), a Mitigation Monitoring and Reporting Program (MMRP) 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. The MMRP would be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.7 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 for any significant impacts, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The EIR prepared reviews environmental and planning documentation developed for the project, environmental and planning documentation prepared for recent projects located within the city of Manteca, 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 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 proposed project, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

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, subsequent projects and activities, 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 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
- Agricultural and Forest Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions, Climate Change, and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning and Population/Housing
- Mineral Resources
- Noise
- Public Services and Recreation
- Transportation

- Utilities and Service Systems
- Wildfire

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 impacts, and significant and unavoidable environmental effects.

CHAPTER 5.0 - ALTERNATIVES

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

CHAPTER 6.0 - REPORT PREPARERS

Chapter 6.0 lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

APPENDICES

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

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City received eleven comment letters on the NOP. Copies of these letters are provided in Appendix A of this Draft EIR and the comments are summarized in the Executive Summary chapter. The City received the following comment letters.

- California Department of Transportation (January 27, 2020)
- Curtis Powers (February 3, 2020)
- Martin Harris (February 3, 2020)
- Centeral Valley Water Quality Control Board (January 16, 2020)
- Steven Herum (January 29, 2020)
- Judith Marek & Joann Edward, Zottarelli Ranch (January 22, 2020)
- Marian Rawlins (February 4, 2020)
- Mary Meninga (January 27, 2020)
- Native American Heritage Commission (January 7, 2020)
- Northstar Engineering Group, Inc. (February 2, 2020)
- Pacific Gas and Electric Company (January 23, 2020)

2.1 BACKGROUND AND OVERVIEW

STATE GENERAL PLAN LAW

California Government Code Section 65300 et seq. requires all counties and cities to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development and is the jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the general plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General plans must also address the topics of environmental justice and climate change and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a general plan be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 et seq.) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860, subd. [c]).

GENERAL PLAN UPDATE PROCESS

The City of Manteca's current General Plan was last comprehensively updated in 2003 to further guide the City's physical development. Since that time, the City's General Plan has been periodically amended, including updates to the Circulation Element in 2011, updates to the Safety Element to address Senate Bill 5 (i.e., 200-year flood protection) in 2016, and adoption of the updated Housing Element in 2016. Land uses in the City of Manteca have been developed based on the Land Use Map, goals, and policies established by the City's General Plan.

In April of 2016, the City issued a request for proposals (RFP) inviting bids from qualified consulting firms to assist the City in the preparation of a comprehensive update to the General Plan. The process to update the Manteca General Plan began in August 2016 and is scheduled to be completed with the adoption of the updated Manteca General Plan by the City Council in Spring 2021. The Manteca General Plan Update (General Plan Update or proposed General Plan) was

developed with extensive community input and reflects the community's vision for Manteca. A summary of the community outreach and public participation process is provided below.

Visioning Workshops

In March and April 2017, the City hosted three Visioning Workshops to help kick-off the General Plan Update process. The workshops provided an opportunity for the public to offer their thoughts on what they value about their community and the City, and what important issues should be addressed in updating the General Plan. The feedback provided by the community at the three visioning workshops and by the General Plan Advisory Committee (GPAC) provides the City with a broad overarching vision for the development of the General Plan Update, and identifies key community values and priorities that should be carefully addressed in the General Plan

The first Visioning Workshop was held on Thursday, March 23, 2017 at the Manteca Transit Center. The intent of the first Workshop was to begin a dialogue with the community regarding its priorities for the next 20 years. Following a brief presentation on the General Plan Update, the consultant team facilitated two activities to help conduct this conversation. The first activity was to identify assets, vision ideals, and challenges facing Manteca, and the second activity was to identify opportunity areas that warranted additional land use and/or policy direction.

The second Visioning Workshop was held on Thursday, April 6, 2017 at the Manteca Transit Center. The focus of the second Workshop was to identify the guiding principles that should influence the General Plan Update. The presentation included an overview of General Plan Update process, a summary of the input received during the first visioning workshop, and an overview of land use "placemaking" concepts, including activities to identify three themes and a vision statement to guide the General Plan Update. The group also participated in an interactive placemaking mapping activity to identify key destinations and community gathering places in the City and to identify areas where new community gathering areas or focal points are needed.

The third and final Visioning Workshop was held on April 20, 2017 at the Manteca Transit Center. The focus of the last Workshop was on transportation and circulation concepts and issues facing Manteca. The discussion focused on better understanding the community's issues and concerns related to transportation and identifying the top two or three transportation improvements that should be the top priorities for the General Plan Update.

The topics explored in each Workshop along with summaries of the input provided by the community are provided in the Vision and Guiding Principles Summary Report, which is available for review online at: www.manteca.generalplan.org.

Online Survey

The City of Manteca staff and consultant team developed an online survey to gather additional information from the public related to the approach to addressing the community's vision and land use preferences. The online survey was available through the General Plan Update website and was developed to build on the information obtained through the Visioning and Advisory Committee processes. The survey responses provide insight into the demographics and opinions of

Manteca community members concerning goals and topics related to the update of the City's General Plan.

General Plan Advisory Committee

The 15-member GPAC, which consisted of local business owners, stakeholders in the development community, residents, and the community at-large, collaborated with City staff and the General Plan Update consultant team throughout the development of the General Plan. The GPAC met 14 times between August 2017 and March 2019 to identify key issues and challenges that Manteca faces over the next 20 to 30 years, and develop the comprehensive set of goals, policies, and implementation measures contained in the General Plan Update. Each GPAC meeting was open to the public, and numerous members of the public and other local interested agencies attended the meetings and provided detailed input to the Advisory Committee. All meeting materials are available on the project website at manteca.generalplan.org.

City Council and Planning Commission Briefings

The City Council received one briefing, the Planning Commission received two briefings, and the City Council and Planning Commission received a joint briefing from City staff and the Consultant team to review input from the Visioning Workshops, receive information relevant to the specific topics addressed at the GPAC meetings, and provide specific direction and guidance to staff and the consultant team regarding how goals should be achieved, how to address current issues, and land use preferences which are analyzed in this Environmental Impact Report (EIR).

Community Open House and StoryMap Survey on Draft General Plan

The community was invited to one open house on the General Plan, which was held on March 14, 2019 at the Manteca Transit Center. At the open house, the City provided a brief presentation to introduce the community to the key goals of the GPAC. Following the presentation, the City hosted tables focusing on key topics/components of the General Plan Update (such as land use, community design, transportation, and public facilities) and shared key goals, policies, and actions included in the General Plan to address these topics. Community members were able to ask questions of City Staff and the Consultant team and learn more about the future of Manteca.

Concurrent with the Community Open House, an interactive StoryMap Survey was made available to the community to identify the community's preferences and obtain feedback on the GPAC Preferred General Plan Land Use Map. The StoryMap Survey provided an overview of the GPAC Preferred Land Use Map, with a focused discussion of the types of growth that would be accommodated by the GPAC Preferred Land Use Map in specific areas identified for land use changes throughout the City and Planning Area. The input received through the Open House and the StoryMap Survey provided the Planning Commission and City Council with information regarding the community's preferences for each area envisioned for change under the GPAC Draft General Plan.

Scoping Meeting

The City of Manteca circulated a Notice of Preparation (NOP) of an EIR for the proposed General Plan Update on January 6, 2020 to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held at the Manteca City Hall Council Chambers on January 27, 2020 to provide an opportunity for agency representatives and the public to assist the City in determining the scope and content of the EIR.

Truck Route Outreach

In August 2020, the City revised the General Plan Update process to include the draft Truck Route as part of the Circulation Element. The City conducted a study of truck routes and circulation from 2018 to 2020. This study included an assessment of truck patterns and routes, and it included five meetings (four in-person and one via video conference) for the public to provide input. In July 2020, the City developed a proposed truck route map including new Surface Transportation Assistance Act (STAA) truck routes and California Legal truck routes.

Public Outreach

For all public workshops and meetings, the City of Manteca conducted extensive outreach, using a wide variety of methods and tools, to inform and encourage the community to participate in the General Plan Update process. The following is a list of methods and tools used to inform the public of meetings, workshops, and the status of the General Plan Update work efforts.

- General Plan Website: The City maintains a website (manteca.generalplan.org) devoted to informing the public about, and encouraging participation in, the General Plan Update process. The website includes all public notices, all workshop materials, presentations given to the GPAC and City Council, background materials, draft policy documents, and draft versions of the General Plan Land Use Map.
- E-mail distribution list: This list was developed and maintained over time, and included approximately local and regional agencies, organizations, stakeholders, and individuals.
- Social Media: The City regularly posted meeting notices and project updates to its social media platforms, including NextDoor and Facebook.
- Flyers: Flyers were posted at City Hall and at key locations throughout the community advertising the Visioning Workshops and online survey.

2.2 PROJECT LOCATION

REGIONAL SETTING

The City of Manteca, incorporated May 28, 1918, is located in the “heartland” of California’s Great Central Valley, with historical roots as an important agricultural center. Due to excellent soil, great climate, and access to clean water, the City of Manteca was predominantly an agricultural area of much of the early 20th century; however, the community has transformed from an agricultural base to an urbanized base. The economic growth in south San Joaquin County has be powered by the area’s advanced transportation infrastructure.

The City of Manteca is located in the southern portion of San Joaquin County, approximately 10 miles south of Stockton and approximately 14 miles northwest of the City of Modesto. The City is accessed by Highway 99 from the north and south and State Route (SR) 120 from the east and west. The City is bordered by the City of Lathrop to the west and unincorporated San Joaquin County to the north, south, and east. The project's location is shown in Figure 2.0-1. The General Plan boundary (Planning Area) is shown in Figure 2.0-2.

ENVIRONMENTAL IMPACT REPORT STUDY AREA

There are three key boundary lines addressed by the General Plan, which make up the study area for the General Plan EIR. These include the City Limits, the Sphere of Influence (SOI), and the Planning Area, as shown on Figure 2.0-2 and described below.

City Limits: Includes the area within the City's corporate boundary, over which the City exercises land use authority and provides public services.

Sphere of Influence (SOI): The probable physical boundary and service area of the City, as adopted by the Local Agency Formation Commission (LAFCO). An SOI may include both incorporated and unincorporated areas within which a city or special district will have primary responsibility for the provision of public facilities and services

Planning Area: For the purposes of the General Plan, the Planning Area is the geographic area for which the General Plan provides a framework for long-term plans for growth, resource conservation, and continued agricultural activity. State law requires the General Plan to include all territory within Manteca's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the Manteca General Plan includes the entire City Limits and the City's SOI.

2.3 PROJECT OBJECTIVES

The Manteca General Plan is intended to reflect the desires and vision of Manteca's residents, businesses, the GPAC, Planning Commission, City Council, and other decision-makers for the future development and operation of Manteca.

The following objectives are identified for the proposed update to the General Plan:

1. Reflect the current goals and vision expressed by city residents, businesses, decision-makers, and other stakeholders;
2. Address issues and concerns identified by city residents, businesses, decision-makers, and other stakeholders;
3. Protect Manteca's family-oriented environment, character, and sense of community;
4. Establish a long-term plan for conservation of resources and future growth and development;
5. Provide a range of high-quality housing options and accommodate a variety of housing types;

6. Retain and attract businesses and industries that provide high-quality and high-paying jobs so that residents can live and work in Manteca;
7. Expand retail shopping opportunities to provide better local services and increased sales tax revenues;
8. Continue to maintain the road network, improve multimodal transportation opportunities, and identify truck routes;
9. Maintain strong fiscal sustainability and continue to provide efficient and adequate public services;
10. Provide a basis for City decision-makers, City departments, other public agencies, and private developers to design projects that enhance the character of the community and achieve the City's desired growth, safety, and conservation objectives; and
11. Address requirements of State law.

2.4 DESCRIPTION OF PROPOSED GENERAL PLAN PROJECT

The City of Manteca is preparing a comprehensive update to its existing General Plan, which was prepared in 2003 (with partial updates to the Circulation Element in 2011, updates to the Safety Element to address Senate Bill 5 [i.e., 200-year flood protection] in 2016). The Housing Element was adopted in 2016 and is not anticipated to be significantly revised by the General Plan Update. The General Plan Update is expected to be complete in Spring 2021 and will guide the City's development and conservation of its resources. The Plan is intended to be an expression of the community's vision for the City and Planning Area and constitutes the policy and regulatory framework by which future development projects will be reviewed and public improvements will be implemented. The City will implement the Plan by requiring development, infrastructure improvements, and other projects to be consistent with its policies and by implementing the actions included in the Plan. The key components of the General Plan will include broad goals for the future of Manteca, and specific policies and actions that will help implement the stated goals.

State law requires the City to adopt a comprehensive, long-term general plan for the physical development of its planning area. The Plan must include land use, circulation, housing, conservation, open space, noise, and safety elements, as specified in Government Code Section 65302, to the extent that the issues identified by State law exist in the City's planning area. Additional elements that relate to the physical development of the City may also be addressed in the Plan. The degree of specificity and level of detail of the discussion of each Plan element need only reflect local conditions and circumstances. The Plan has been prepared to address the requirements of State law and the relevant items addressed in Government Code Section 65300 et seq.

This EIR analyzes potential impacts to the environment associated with implementation and buildout of the proposed General Plan, which includes future development projects, infrastructure improvements, and the implementation of policies and actions included in the proposed General Plan. These proposed General Plan components are described in greater detail below.

GUIDING PRINCIPLES

The Guiding Principles for the General Plan Update were identified by the community through the Visioning process:

- Provide for logical, orderly growth from the City's compact, historic center extending to well-delineated residential neighborhoods, employment centers, and community amenities;
- Maintain a family-oriented community with gathering places, activities, and parks/recreation opportunities for all ages located in attractive, sustainable neighborhoods and throughout the community;
- Preserve access to the area's agricultural and natural characteristics, including green space, farmland, and orchards;
- Revitalize and enhance the downtown;
- Provide and encourage housing and places for all income levels; and
- Provide and promote high-paying, local employment opportunities and attract high-quality businesses and industry.

GENERAL PLAN ELEMENTS

The Proposed General Plan will include a comprehensive set of goals, policies, and actions (implementation measures), as well as a revised Land Use Map (see Figure 2.0-3). The State requires that the General Plan contain seven mandatory elements: Land Use, Circulation, Housing, Open Space, Noise, Safety, and Conservation, as well as address issues related to climate adaptation and resiliency planning and environmental justice, either as separate Elements or as components of the required Element framework. The Plan includes all of the State-mandated elements, including Land Use (addresses Environmental Justice), Circulation, Resource Conservation (combines Open Space, Conservation, and Air Quality topics), and Safety (also addresses Climate Adaptation and Noise) as well as optional elements, including Growth Management, Community Design, Economic Development, and Community Facilities and Services. As previously noted, the Housing Element was adopted in 2016 and is not anticipated to be significantly revised by the General Plan Update.

The **Land Use Element** ensures that Manteca has sufficient capacity to support a diverse mix of land uses essential to the community's ability to thrive and be sustainable over time. The goals, policies, and measures in this element address the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, education, public buildings and grounds, waste disposal, and open space, including agriculture, natural resources, recreation, scenic areas, and greenways. The Land Use Element includes the Land Use Map, which identifies land use designations for each parcel in the City Limits and Planning Area (Figure 2.0-3). It also identifies high-level community design objectives for the City of Manteca, including the relationship between the public and private realm, streetscapes, best site planning practices, and placemaking strategies and establishes the City's framework for addressing environmental justice in the General Plan. This Element establishes the following goals and include policies and implementation measures to address each goal:

- LU-1: Maintain a land use plan that provides a mix and distribution of uses that meet the identified needs of the community;
- LU-2 Promote infill development and provide for orderly, well-planned, and balanced growth that does not exceed the City's available infrastructure capacity and resources and is consistent with the General Plan;
- LU-3: Establish and maintain residential neighborhoods that meet the housing needs of all residents and are safe and attractive places to live with convenient access to services, recreation, schools, and employment;
- LU-4: Provide for a broad range of commercial uses that serve the needs of Manteca's residents and the region-at-large, provide dynamic and attractive focal points and gathering areas, and increase Manteca's sales tax base;
- LU-5: Increase employment opportunities across all sectors of the economy to enhance Manteca's reputation as an employment center in southern San Joaquin County and to improve upon Manteca's jobs-to-housing ratio;
- LU-6: Increase the presence of mixed-use development to revitalize Downtown and aging commercial centers and create vibrant centers in new growth areas;
- LU-7: Provide adequate land for development of public and quasi-public uses, including parks, schools, and community facilities, to support existing and new development and the community's needs;
- LU-8: Provide for creativity and desired growth in strategic areas, while providing flexibility to address change, refinement of the anticipated uses, and integration with future development projects;
- LU-9: Create an environmentally just city with an equitable distribution of public facilities and services, a safe and healthy environment, including access to healthy foods, recreation and activity, and public services, and opportunities for public input for all community members;
- LU-10: Maintain a high quality natural environment and recreational opportunities in and around Manteca; and
- LU-11: Preserve Manteca's agricultural heritage by protecting and maintaining significant areas of agricultural lands around the city.

The **Growth Management Element** provides a framework for pacing growth in the context of ensuring a high-quality life for the community's residents and on-going provision of community services and infrastructure that meet the community's existing needs as well as increasing capacity necessary to accommodate growth. This element provides for an annual report of planned growth and development and associated service levels, serving to inform decision-makers and the community regarding the implementation of the City's growth management program and to provide an opportunity for community input. This Element establishes the following goal and include policies and implementation measures to address the goal:

- GM-1: Maintain appropriate growth management measures that ensure a high quality of life, appropriate levels of service, and address anticipated development patterns and timing of public services, facilities, and infrastructure to serve new growth.

The **Circulation Element** correlates closely with the Land Use Element and identifies the general locations and extent of existing and proposed major thoroughfares, transportation routes, terminals, military airports and ports, and other public utilities and facilities necessary to support a multi-modal transportation system. This element provides the framework for decisions concerning the City's multi-modal transportation system, which includes automobile, truck, transit, bicycle, and pedestrian modes of travel. This Element establishes the following goals and include policies and implementation measures to address each goal:

- C-1: Provide for a complete multimodal circulation system designed for the safe, balanced movement of all users, including children, persons with disabilities, and seniors, goods, and services to destinations inside and outside of Manteca while minimizing vehicle miles traveled (VMT) public costs to build and maintain the system;
- C-2: Provide a safe, high-quality transportation system that addresses all modes of travel and includes attractive streetscapes with landscaping, street trees, planted berms, and landscaped medians;
- C-3: Establish reasonable parking requirements (minimum and maximum rates for uses) that limit parking encroachment while minimizing the amount of land consumed by parking lots;
- C-4: Provide a safe, secure, comfortable, and convenient pedestrian and bicycle system that connects riders of all ages and abilities to schools, including safe routes to schools, retail, employment centers, public facilities, and parks;
- C-5: Maintain a coordinated, efficient bus service that provides an effective alternative to automobile use, serves members of the community that cannot drive, and includes regional transit connections that link Manteca to other destinations;
- C-6: Accommodate truck and freight movements by developing city-wide truck routes and encouraging the development of freight and warehousing centers near existing rail lines and spurs; and
- C-7: Reduce vehicle miles traveled associated with trips within, to, and from the City while expanding access and mobility options for residents, employees, and visitors.

The **Community Design Element** addresses the quality and character of Manteca's urban form, comprising, the built environment, open spaces, and the natural landscaping. This Element establishes the following goals and include policies and implementation measures to address each goal:

- CD-1: Strengthen Manteca's identity and sense of place by reinforcing the community's distinctive, high-quality urban form, natural landscape, and character;
- CD-2: Ensure project designs reinforce a sense of place, reflect human scale and orientation, and are cohesive and sensitive to the surrounding built environment and/or natural landscape;
- CD-3: Enhance gateways, key corridors, and wayfinding for an improved sense of arrival and orientation for residents and visitors throughout Manteca;
- CD-4: Maintain and enhance the character and distinct identities of Manteca's residential neighborhoods, districts, and centers;

- CD-5: Enhance the corridors, pathways, and edges that form physical boundaries and provide transitions and connections throughout the community;
- CD-6: Provide appropriate transitions between land uses to avoid conflicts and perpetuate the community's harmonious character;
- CD-7: Maintain and enhance Manteca's commitment to sustainable design by minimizing negative environmental impacts and utilizing resources efficiently; and
- CD-8: Preserve and enhance the character of the city's rural areas and agricultural heritage; and
- CD-9: Celebrate public art and expand the significant role that the arts play in Manteca's quality of life.

The **Economic Development Element** addresses providing appropriate and adequate sites and programs to support existing businesses as well as to encourage diverse economic growth, efforts to ensure that the City's labor force is skilled and provided a broad range of employment opportunities, ensuring that the City's housing and quality of life are of a caliber to attract employers, ensure that infrastructure is in place or planned to support a successful commercial and industrial base, including telecommunications and emerging technologies, and providing a sustainable fiscal base for the City. This element provides a framework to guide and support Manteca's fiscal and economic development. This Element establishes the following goals and include policies and implementation measures to address each goal:

- ED-1: Provide adequate commercial, office, and industrial-designated land in appropriate locations to meet the community's employment, shopping, and service needs, ensure Manteca's market competitiveness within the region, and minimize land use conflicts;
- ED-2: Encourage the retention and expansion of the city's existing businesses and the attraction of new businesses that are compatible with the city's economic development objectives and character;
- ED-3: Encourage a broad range of employment opportunities and expand educational and training opportunities to support residents finding gainful, well-paid employment within the community;
- ED4-: Promote the development of affordable and market rate housing that matches with the needs of the present and future Manteca work force;
- ED-5: Position Manteca to attract a high-quality labor force and employers that are seeking top talent through the provision of a safe, attractive, enjoyable, and close-knit community;
- ED-6: Assure that adequate public and private infrastructure is available to support new and the expansion of existing businesses; and
- ED-7: Provide an adequate and sustainable fiscal base.

The **Community Facilities and Services Element** includes goals, policies, and actions that seek to ensure that community facilities and services are provided, maintained, and expanded, so that Manteca can continue to grow and thrive. This element addresses General Service, Police, Fire, Parks and Recreation, Education, Domestic Water, Sewer, Major Drainage, Telecommunications,

Electricity and Natural Gas, and Solid Waste. This Element establishes the following goals and include policies and implementation measures to address each goal:

- CF-1: Provide innovative, affordable, and high quality community services and facilities to all residents, businesses, and visitors in Manteca;
- CF-2: Prioritize a safe community through the provision of high quality police services and crime prevention measures;
- CF-3: Ensure the provision of high quality and responsive fire protection services;
- CF-4: Maintain a diverse and comprehensive system of parks, trails, recreation facilities, and recreation programs that meets the needs of all segments of the community and supports economic development and residential growth in the city;
- CF-5: Coordinate with the school districts to provide superior educational opportunities, adequate school sites to serve existing and planned growth, and to ensure sufficient land inventory to accommodate educational facilities needs of Manteca residents;
- CF-6: Provide an adequate, reliable, and safe water supply, storage, and distribution system to meet the needs of existing and projected development;
- CF-7: Maintain an adequate sewage collection, treatment, and disposal system to meet the needs of existing and projected development;
- CF-8: Provide an adequate level of service in the City's drainage system to accommodate runoff from existing and projected development and to prevent property damage due to flooding;
- CF-9: Ensure state-of-the-art technology and telecommunications services for households, businesses, and the community is available throughout the city;
- CF-10: Ensure adequate, reliable electric and natural gas service is available to all users; and
- CF-11: Increase recycling service while maintaining adequate solid waste service for all users.

The **Resource Conservation Element** establishes Manteca's approach to the conservation and enhancement of Manteca's natural resources: water, land/soils, open space, and ecosystem, approach to addressing air quality, energy conservation, and climate adaptation, conservation of agricultural and mineral resources, and preservation of the City's cultural and historic heritage. This Element establishes the following goals and include policies and implementation measures to address each goal:

- RC-1: Conserve and enhance water resources in local waterways, wetlands, and aquatic habitat, protecting water quality and minimizing the consumption of water through use of careful and empirically-backed planning;
- RC-2: Manage and enhance groundwater as a valuable and limited shared resource on a sustainable yield basis that can provide water purveyors and individual users with reliable, high quality groundwater to serve existing and planned land uses during prolonged drought periods;
- RC-3: Preserve and maintain Manteca's soils to avoid the pollution of surface waters, decreased air quality, and erosion;

- RC-4: Minimize risks to life, property, the economy, and the environment resulting from climate change, including extreme weather events;
- RC-5: Promote the conservation of energy;
- RC-6: Protect the health and welfare of city residents and visitors by promoting development and planning practices that are compatible with federal, state, and local air quality standards and regulations and implement regional efforts to improve air quality;
- RC-7: Provide and preserve a network of diverse and accessible open spaces;
- RC-8: Encourage the continuation of agricultural uses and discourage the premature conversion of agricultural land to nonagricultural uses;
- RC-9: Protect sensitive native vegetation and wildlife communities and habitat in Manteca;
- RC-10: Manage Manteca's mineral resources while preserving development and conservation options for the future;
- RC-11: Preserve and enhance Manteca's archaeological and historic resources for their aesthetic, educational and cultural values; and respect Manteca's Native American heritage; and
- RC-12: Protect the health of the Bay Delta.

The **Safety Element** addresses emergency preparedness and critical facilities, geologic and seismic hazards, flood hazards, hazardous materials, and noise. The goals, policies, and implementation measures in this element are designed to protect and enhance the public health and safety of Manteca residents, property, and environment. This Element establishes the following goals and include policies and implementation measures to address each goal:

- S-1: Ensure that City emergency procedures and critical facilities are adequate in the event of potential natural or man-made disasters;
- S-2: Prevent loss of lives, injury, and property damage due to geological hazards and seismic activity and prevent disruption of essential services in the event of an earthquake;
- S-3: Protect life and property from flood events through providing a planning framework for flood protection and risk management consistent with Federal and State law and pursuing flood control solutions that minimize environmental impacts;
- S-4: Protect the health, safety, natural resources, and property of the community, including residents, businesses, and visitors through regulation of use, storage, transport, and disposal of hazardous materials; and
- S-5: Protect the quality of life by protecting the community from harmful and excessive noise.

The Implementation Element addresses the administration and implementation of the General Plan, including and Implementation Plan that prioritizes and tracks the actions identified in the General Plan. This Element establishes the following goal and include policies and implementation measures to address this goal:

- I-1: To provide for the ongoing administration and implementation of the General Plan.

GOALS, POLICIES, AND ACTIONS

Each element of the Manteca General Plan contains an introduction, several goals and related policies, and a description of related plans, programs and legislation. The goals and policies provide guidance to the City on how to direct change, manage growth, and manage resources over the 20- to 30-year life of the General Plan. In order to ensure that the goals and policies in the General Plan are effectively implemented, a series of actions, or implementation measures, have been developed. The following provides a description of each and explains the relationship of each:

- A **goal** the broadest statement of community values. It is a generalized ideal which provides a sense of direction for action and statement of the desired future conditions.
- A **policy** is a specific statement that guides decision-making as the City works to achieve its goals. Once adopted, policies represent statements of City regulations. The General Plan's policies set out the standards that will be used by City staff, the Planning Commission, and the City Council in their review of land development projects, resource protection activities, infrastructure improvements, and other City actions. Policies are on-going and require no specific action on behalf of the City.
- An **action** is an implementation measure, procedure, technique, or specific program to be undertaken by the City to help achieve a specified goal or implement an adopted policy. The City must take additional steps to implement each action in the General Plan. An action is something that can and will be completed.

GENERAL PLAN LAND USE MAP

The proposed General Plan Land Use Map identifies land use designations for each parcel within the City Limits, SOI, and Planning Area. The proposed General Plan Land Use Map is attached as Figure 2.0-3.

GENERAL PLAN LAND USE DESIGNATIONS

The Land Use Element of the proposed General Plan defines various land use designations by their allowable uses, minimum parcel sizes, and maximum development densities. The following describes the proposed land use designations for the General Plan. Table 2.0-1 shows the total acreage for each land use designation shown on the proposed Land Use Map.

Residential Land Use Designations

Very Low Density Residential (VLDR); 0-2 dwelling units per acre (du/ac) – The VLDR land use designation provides for the development of provides for residences on larger lots and small, quasi-agricultural activities, including raising and boarding livestock. Clustering is encouraged to allow continuation of agricultural uses or to provide common amenities for the development.

Uses such as schools, churches, compatible public institutional and utilities facilities, and greenways are allowed in the VLDR land use designation.

Low Density Residential (LDR); 2.1-8 du/ac - The LDR land use designation provides for a mix of single-family housing, including small lots, clustered lots, attached homes, and conventional large lot detached residences at a maximum of eight dwelling units per net acre of land. The density range allows substantial flexibility in selecting dwelling unit types and parcel configurations to suit particular site conditions and housing needs.

Uses such as schools, churches, compatible public institutional and utilities facilities, and greenways are allowed in the LDR land use designation.

Medium Density Residential (MDR); 8.1-15 du/ac - The MDR land use designation provides for smaller single family homes in more imaginative lotting arrangements, duplex and triplex development, smaller scale multifamily developments, including cottage homes, garden apartments, townhouses, and cluster housing, and mobile home parks. The density range will accommodate small-lot single family homes that will typically be smaller in size and more affordable to residents.

Uses such as schools, churches, compatible public institutional and utilities facilities, and greenways are allowed in the MDR land use designation.

High Density Residential (HDR); 15-25 du/ac – The HDR land use designation provides for multi-family townhome, condominium, and apartment style housing and mobile home parks. The multi-family dwelling sites are typically located with direct access to arterial streets. The sites have access to the pedestrian and bikeway network along the street corridor and are located along the conceptual route of a public transportation shuttle route. Sites should be located near a neighborhood park, a neighborhood commercial center, or jobs centers and should provide pedestrian and bicycle connections to these amenities and services.

Uses such as schools, churches, compatible public institutional and utilities facilities, and greenways are allowed in the HDR land use designation.

Mixed-Use Land Use Designations

Commercial Mixed-Use (CMU); Residential: 15.1 to 25du/ac; 50 percent site coverage; Non-Residential: 1.0 Maximum Floor-Area-Ratio (FAR) – The CMU land use designation provides for high density residential, employment centers, retail commercial, and professional offices. A mix of compatible uses is encouraged to provide neighborhood-serving sales, services, and activities, as well as employment opportunities, including offices. Developments shall include community-serving amenities and connections that distinguish them from conventional multifamily, neighborhood commercial, or office development, with the intent that a recreational area and neighborhood serving uses will provide a local gathering place for recreation and socializing much as does a small town square. Mixed uses may be integrated vertically or horizontally and shall be linked together through common walkways, plazas and parking areas, as well as linkages to the adjoining bicycle and pedestrian system. Where required, open space, detention facilities, and parks, will be designed as an amenity within the site.

Public facilities, such as a post office, library, fire station, or satellite government office, shall be included where feasible. Developments shall have a shared parking program with the objective of reducing the parking required for each individual use. Uses such as schools, churches, compatible public institutional and utilities facilities, and greenways are allowed in the CMU land use designation.

Downtown (DW); Residential: 15.1 to 25du/ac; 75 percent site coverage; Non-Residential: 1.5 Maximum FAR – The DW land use designation provides for the mixture of retail and service commercial, office, and/or multiple-family residential uses that are intended to preserve and enhance the historic and pedestrian-scale character of the Downtown. Preferred residential uses include condominiums and townhomes and high quality second and third floor apartment uses. Short-term rentals are not allowed in this designation, unless developed as part of a hotel. Multi-family residential uses are required to be permanent dwellings with each unit having separate restrooms, kitchens, and thermostats. The designation also provides for public/quasi-public uses, parks and urban open spaces, and similar and compatible uses.

Uses such as schools, churches, compatible public institutional and utilities facilities, and greenways are allowed in the DW land use designation.

Commercial, Professional, and Industrial Land Use Designations

Business Industrial Park (BIP); 1.0 Maximum FAR; 50 percent lot coverage – The BIP land use designation provides for sites for large uses in an office park environment that would include multi-tenant buildings. Business parks of this nature are well suited for research and development facilities and also provide an attractive business environment for unrelated businesses. Allowed uses in the BIP land use designation includes administrative, offices, research and development, light industrial, including manufacturing and assembly, and commercial storage. Warehouse, storage, and distribution that support the industrial uses shall not comprise more than 20 percent of a business industrial park. Service commercial and retail activities provided for the convenience of the employees shall not comprise more than 10 percent of a business industrial park.

Business Professional (BP); 1.5 Maximum FAR; 50 percent lot coverage – The BP land use designation provides for professional and administrative offices, medical and dental clinics, laboratories, financial institutions, public and quasi-public uses, and similar and compatible uses. The designation is specifically intended for the frontage along SR 120, and along other major roads and in the Central Business District to provide an attractive, landscaped setting for one, two, and three-story office buildings

Commercial I; 2.0 or 0.6 Maximum FAR; 50 percent lot coverage – The C land use designation provides for neighborhood, community, and regional-serving retail and service uses; offices; restaurants; service stations; highway-oriented and visitor commercial and lodging; auto-serving and heavy commercial uses; wholesale; warehousing; public and quasi-public uses; commercial recreation and public gathering facilities, such as amphitheaters or public gardens; and similar and compatible uses. Uses that are incompatible with residential uses due to noise, vibration, or other

characteristics are not permitted in locations that may impact existing or future residential development.

Industrial (I); 0.7 Maximum FAR; 60 percent lot coverage – The I designation provides for manufacturing, processing, assembling, research, wholesale, and storage uses, trucking terminals, railroad and freight stations, industrial parks, warehouses, distribution centers, light manufacturing, public and quasi-public uses and similar and compatible uses. Uses that are incompatible with residential uses due to noise, vibration, or other characteristics are not permitted in locations that may impact existing or future residential development.

Agricultural Industrial (AI); 0.4 Maximum FAR; 50 percent lot coverage – The AI designation provides limited industrial uses directly related to agriculture and compatible uses, such as wineries, food packaging and processing, storage of food and beverages processed on-site, agricultural education, agricultural research and development (irrigation, production yield, pest resistance, etc.), and agricultural extension services. T

Public Land Use Designations

Public/Quasi-Public (PQP); 0.5 Maximum FAR and 50 percent lot coverage – The PQP land use designation provides opportunities for government owned facilities, public and private schools, institutions, civic uses, assembly uses, and public utilities, and quasi-public uses such as hospitals and churches. Multifamily and congregate residential housing is allowed when secondary to the primary use. This designation also allows commercial recreation uses, including public and private parks, beach and water access, recreation fields, lifestyle centers that include upscale specialty stores with dining and entertainment in an outdoor setting, and other community- and visitor-oriented recreation, provided that the project includes a component that provides a significant public benefit to the community.

Park (P); 0.2 Maximum FAR and 20 percent lot coverage – The P designation provides for neighborhood, community and regional parks, greenways, golf courses, and other outdoor recreational facilities within urban development. Specific uses include public recreation sites, including ball fields, tot lots and play apparatus, adult softball and soccer playing fields, swimming pools, community center buildings, meeting facilities, libraries, art centers, after school care facilities, art in public places, facilities for night-time recreation, trails benches, interpretive markers, picnic areas, barbecue facilities, landscaping, irrigation, City wells, trees, and natural habitat areas.

Open Space (OS); 0.05 Maximum FAR and 5 percent lot coverage – The OS designation provides for habitat, open space, natural areas, lands of special status species, wetlands, and riparian areas. These areas are set aside as permanent open space preserves to protect environmentally sensitive areas. Development is limited to improvements, such as parking, restrooms, and walkways, etc., to provide for public access to open space and educational facilities, such as learning centers or space for hosted talks and tours of the open space.

Other Land Use Designations

Agriculture (AG); 0.2 Maximum FAR and 20 percent lot coverage - The AG land use designation provides for agricultural uses (such as vineyards, orchards, and row crops), single family homes directly related to the agricultural use of the property, limited industrial uses directly related to the agricultural use of the property, and similar and compatible uses.

Urban Reserve Overlay -- The Urban Reserve Overlay designation provides is applied to select properties around the perimeter of the City and the Planning Area where the City intends to expand its urbanized development pattern in the time horizon beyond the General Plan. The overlay accompanies an underlying Agricultural, Very Low Density Residential, Low Density Residential, Business Industrial Park, or Industrial land use designation. The maximum intensity of development is based on the underlying land use designation.

Policy Area – The Policy Area designation is applied to provide for flexibility in achieving the vision of the General Plan for select areas that either 1) have approved land use entitlements, or 2) require a comprehensive approach to planning to achieve a broad goal, such as providing a high-quality transit corridor and opportunities for expansion of necessary community services. The maximum intensity of development is based on General Plan policies associated with the specific policy area.

TABLE 2.0-1: ACREAGE BY LAND USE DESIGNATION IN THE PROPOSED LAND USE MAP

LAND USE DESIGNATION	*CITY LIMITS*	*PLANNING AREA (OUTSIDE OF CITY)*	*TOTAL ACRES*
RESIDENTIAL LAND USES			
Very Low Density Residential	42	404	446
Low Density Residential	5,584	2,911	8,495
Medium Density Residential	404	172	575
High Density Residential	321	96	418
Residential Subtotal	*6,351*	*3,583*	*9,934*
MIXED USE LAND USES			
Commercial Mixed Use	450	120	570
Downtown	160	0	160
Mixed Use Subtotal	*610*	*120*	*730*
COMMERCIAL, PROFESSIONAL, AND INDUSTRIAL LAND USES			
Business Professional	58	68	126
Business Industrial Park	103	611	714
Commercial	972	220	1,192
Industrial	1,335	1,245	2,581
Agricultural Industrial	0	232	232
Commercial, Professional, and Industrial Subtotal	*2,468*	*2,377*	*4,845*
PUBLIC LAND USES			
Public/Quasi-Public	1,016	383	1,399
Park	565	133	698
Open Space	359	88	447
Public Subtotal	*1,940*	*604*	*2,544*

LAND USE DESIGNATION	*CITY LIMITS*	*PLANNING AREA (OUTSIDE OF CITY)*	*TOTAL ACRES*
OTHER LAND USES			
Agriculture	118	3,886	4,004
Right-of-Way	90	89	179
Water	0	180	180
Other Subtotal	*208*	*4,156*	*4,364*
URBAN RESERVE			
Urban Reserve – Very Low Density Residential	0	775	775
Urban Reserve – Low Density Residential	0	576	576
Urban Reserve – Medium Density Residential	0	20	20
Urban Reserve – High Density Residential	0	19	19
Urban Reserve – Business Industrial Park	0	700	700
Urban Reserve – Commercial	0	32	32
Urban Reserve – Industrial	0	321	321
Urban Reserve – Park	0	16	16
Urban Reserve – Public/Quasi-Public	0	1	1
Urban Reserve Subtotal	*0*	*2,460*	*2,460*
TOTAL	**11,577**	**13,300**	**24,877**

SOURCE: DE NOVO PLANNING GROUP, 2020

2.5 GENERAL PLAN BUILDOUT ANALYSIS AND GROWTH PROJECTIONS

The EIR evaluates the anticipated development that could occur within the Planning Area if every parcel in the City developed at the densities and intensities expected under the proposed General Plan. While no specific development projects are proposed as part of the General Plan Update, the proposed General Plan will accommodate future growth in Manteca, including new businesses, expansion of existing businesses, and new residential uses. The buildout analysis anticipates full buildout of the Planning Area, based on the proposed Land Use Map.

State General Plan law requires that the General Plan indicate the maximum densities and intensities permitted within the Land Use Plan. Maximum allowable development on individual parcels of land is governed by these measures of density or intensity.

Anticipated growth accommodated by the General Plan Update within the Planning Area includes new and expanded businesses, new and expanded governmental and educational uses, and new residential development. Table 2.0-2 below summarizes the range of net growth, including residential units (single family and multifamily) and non-residential square footage (commercial, office, industrial, governmental, public/quasi-public) that could occur. Growth is projected for the area within the City as well as for the Planning Area, with includes areas outside of the City but within the SOI and Planning Area identified for the General Plan Update. It is noted that the total growth estimates anticipate buildout of the entire Planning Area, with the exception of areas identified as Urban Reserve.

Growth projections should not be considered a prediction for growth, as the actual amount of development that will occur throughout the 20- to 30-year planning horizon of the General Plan is based on many factors outside of the City's control. Actual future development would depend on

future real estate and labor market conditions, property owner preferences and decisions, site-specific constraints, and other factors.

TABLE 2.0-2:GROWTH PROJECTIONS OF PROPOSED LAND USE MAP

DEVELOPMENT	RESIDENTIAL				NON-RESIDENTIAL	
	SINGLE-FAMILY UNITS	MULTI-FAMILY UNITS	TOTAL UNITS	POPULATION	NON-RESIDENTIAL SQUARE FOOTAGE	JOBS
Existing Conditions (City)	23,697	4,5553	28,250	89,835	N/A	16,381
Net Growth: City Limits	11,737	6,703	18,440	58,639	16,002,227	17,924
Net Growth: Planning Area (outside of City)	14,827	3,383	18,210	57,907	19,456,210	20,045
Total Net Growth	***26,564***	***10,086***	***36,650***	***116,546***	***35,458,437***	***37,969***
Total (Existing + Net Growth)	50,261	14,639	64,900	206,381	-	54,530

[1]E-5 ESTIMATES, DEPARTMENT OF FINANCE, 2020; ONTHEMAP, CENSUS.GOV, 2020; CITY DEVELOPMENT PROJECTS DATA, 2020

SOURCE: DE NOVO PLANNING GROUP, 2020

Table 2.0-3 below includes a comparison of the current General Plan Land Use Map and the proposed General Plan Land Use Map in terms of population, housing units, jobs, and the jobs-to-housing ratio.

TABLE 2.0-3: COMPARATIVE GROWTH PROJECTIONS OF CURRENT GENERAL PLAN LAND USE MAP AND PROPOSED GENERAL PLAN LAND USE MAP

	HOUSING UNITS	POPULATION	JOBS	JOBS PER HOUSING UNIT
BUILDOUT CONDITIONS: CITY + PLANNING AREA				
Current General Plan	54,405	172,998	42,457	0.84
Draft General Plan	64,900	206,381	54,530	0.74
NEW GROWTH: CITY + PLANNING AREA				
Change from Current General Plan	10,498	33,383	13,990	0.04

SOURCE: DE NOVO PLANNING GROUP, 2020

As shown in Table 2.0-2, buildout of the proposed General Plan could yield new growth that totals up to 36,650 housing units, a population of 116,546 people, 35,458,437 square feet of non-residential building square footage, and 37,969 jobs within the Planning Area. As shown in Table 2.0-3, this represents development growth over the existing General Plan of up to 10,498 new housing units, 33,383 more people, and 13,990 more jobs.[1]

GENERAL PLAN BUILDOUT BY TYPE OF GROWTH

The General Plan Update anticipates development of pending, approved, and under construction development projects that are generally consistent with the General Plan Update. Development

[1] Assumptions regarding expected densities, intensities, land use mixes, persons per household, and employment density are included as Appendix B.

associated with these development projects is included in the projections reflected in Table 2.0-2 and includes 7,291 single family units, 1,295 multifamily units, and 8,647,145 non-residential square feet. These development projects would result in a population of approximately 27,303 and 8,775 new jobs.

Table 2.0-4 identifies growth accommodated by the proposed General Plan, when compared to the existing conditions versus growth accommodated by the proposed General Plan when the City's current development projects are factored into the baseline condition. It is noted that this EIR analyzes environmental impacts based on buildout of the General Plan, including growth associated with development projects.

TABLE 2.0-4: GROWTH PROJECTIONS OF PROPOSED GENERAL PLAN BASED ON EXISTING CONDITIONS VERSUS EXISTING CONDITIONS PLUS DEVELOPMENT PROJECTS

CONDITION	*DEVELOPMENT PROJECTS*	*REMAINING GENERAL PLAN BUILDOUT (LESS DEVELOPMENT PROJECTS*	*FULL GENERAL PLAN BUILDOUT*
RESIDENTIAL DEVELOPMENT			
Single Family Units	7,291	19,273	26,564
Multifamily Units	1,295	8,791	10,086
Total Housing Units	**8,586**	**28,064**	**36,650**
NON-RESIDENTIAL DEVELOPMENT			
Commercial	3,052,187	8,063,995	11,116,182
Office	1,114,694	3,853,950	4,968,634
Industrial	4,438,868	14,744,350	19,183,218
Other	41,396	149,007	190,403
Total Non-Residential Square Feet	**8,647,145**	**26,811,302**	**35,458,437**

2.6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed project.

CITY OF MANTECA

The City of Manteca is the lead agency for the proposed project. The proposed General Plan Update will be presented to the Planning Commission for review and recommendation and to the City Council for comment, review, and consideration for adoption. The City Council has the sole discretionary authority to approve and adopt the Manteca General Plan. In order to approve the proposed project, the City Council would consider the following actions:

- Certification of the General Plan EIR;
- Adoption of required CEQA findings and Statement of Overriding Considerations for the above action;
- Adoption of a Mitigation Monitoring and Reporting Program; and
- Approval of the General Plan Update.

SUBSEQUENT USE OF THE EIR

This EIR provides a review of environmental effects associated with implementation of the proposed General Plan. When considering approval of subsequent activities under the proposed General Plan, the City of Manteca would utilize this EIR as the basis in determining potential environmental effects and the appropriate level of environmental review, if any, of a subsequent activity. Projects or activities successive to this EIR may include, but are not limited to, the following:

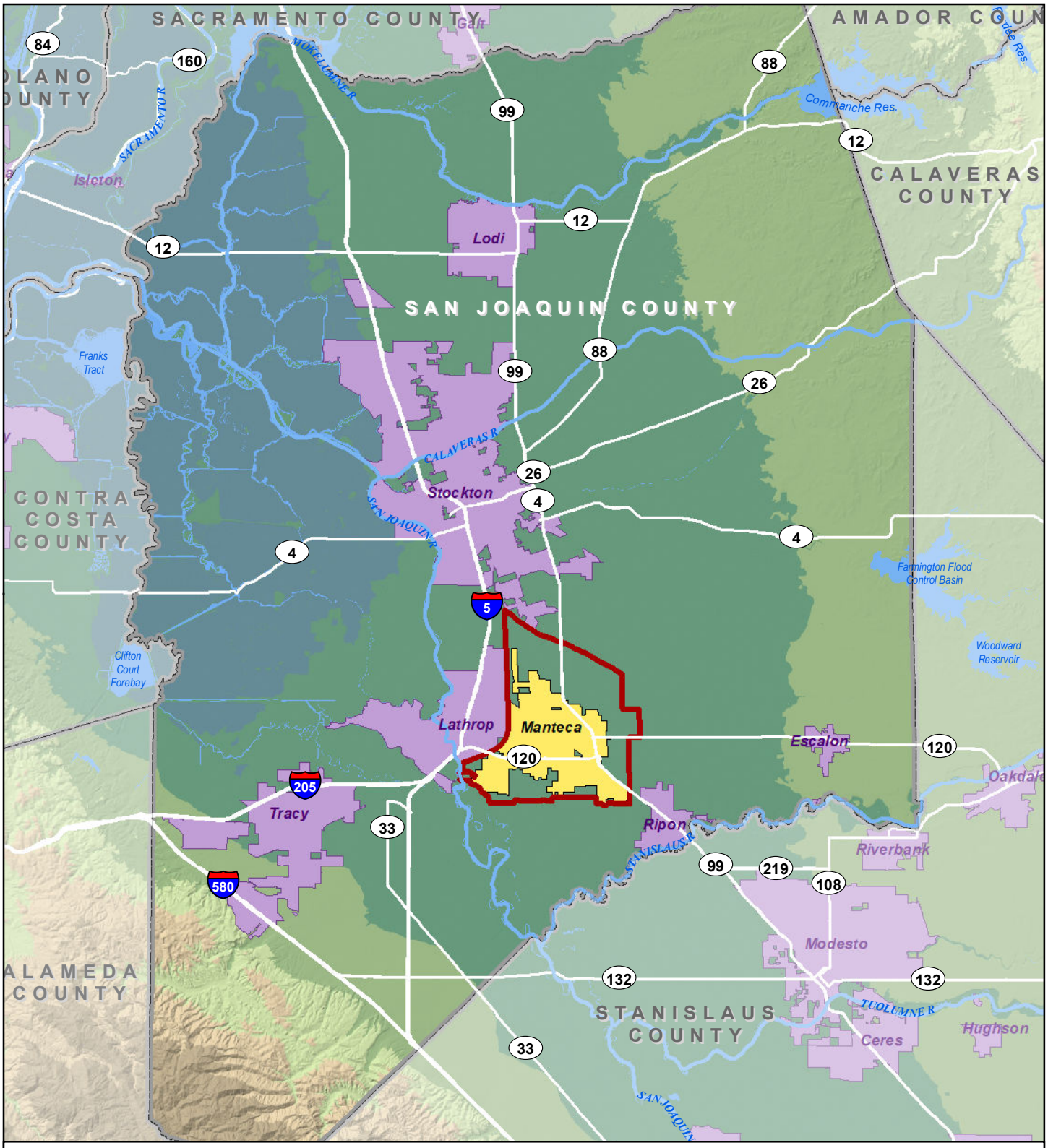
- Approval and funding of major projects and capital improvements;
- Future Specific Plan, Planned Unit Development, or Master Plan approvals;
- Annexations;
- Revisions to the Manteca Zoning Ordinance;
- Development plan approvals, such as tentative subdivision maps, variances, conditional use permits, and other land use permits;
- Development Agreements;
- Property rezoning consistent with the General Plan;
- Permit issuances and other approvals necessary for public and private development projects; and
- Issuance of permits and other approvals necessary for implementation of the General Plan.

OTHER GOVERNMENTAL AGENCY APPROVALS

City approval of the proposed project would not require any actions or approvals by other public agencies. Subsequent projects and other actions to support implementation of the proposed project would require actions, including permits and approvals, by other public agencies that may include, but are not necessarily limited to:

- California Department of Fish and Wildlife (CDFW) approval of potential future streambed alteration agreements, pursuant to Fish and Game Code. Approval of any future potential take of State-listed wildlife and plant species covered under the California Endangered Species Act.
- California Department of Transportation (Caltrans) approval of projects and encroachment permits for projects affecting State highway facilities.
- Regional Water Quality Control Board (RWQCB) approval for National Pollution Discharge Elimination System compliance, including permits and Storm Water Pollution Prevention Plan approval and monitoring.
- San Joaquin Valley Air Pollution Control District (SJVAPCD) approval of construction-related air quality permits, authority to Construct, Permit to Operate for stationary sources of air pollution.
- U.S. Fish and Wildlife Service (USFWS) approvals involving any future potential take of Federally listed wildlife and plant species and their habitats, pursuant to the Federal Endangered Species Act.

- San Joaquin Local Agency Formation Commission (LAFCO) approval of Sphere of Influence modifications and annexations.



Legend

- City of Manteca
- Manteca Planning Area
- Other Incorporated Area
- County Boundary

CITY OF MANTECA GENERAL PLAN

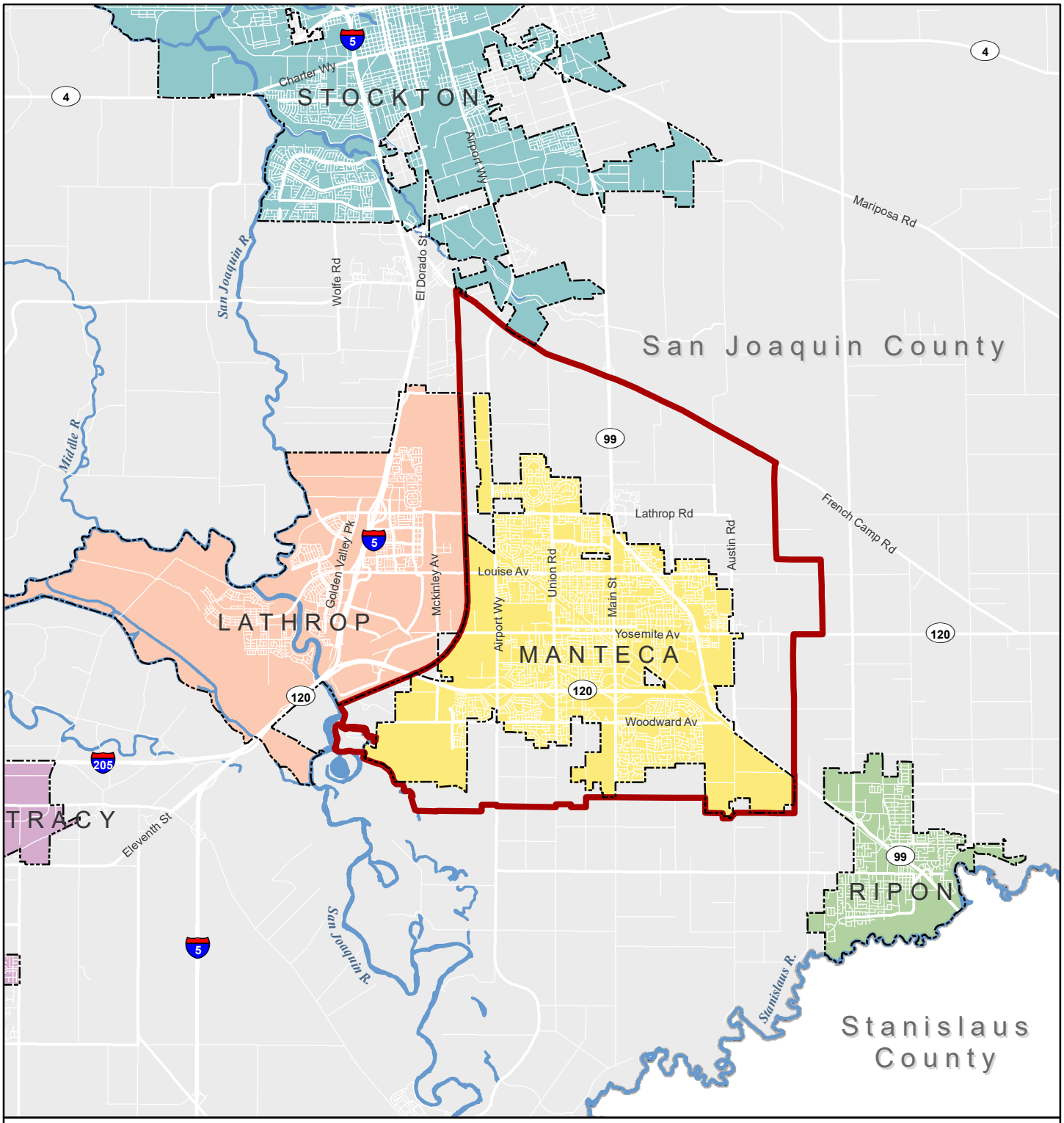
Figure 2.0-1. Regional Location Map

0 2½ 5
Miles

Sources: California State Geoportal; San Joaquin County GIS.
Map date: October 26, 2020. Revised: December 14 2020.

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Legend

- Manteca Planning Area
- City of Manteca
- City of Lathrop
- City of Ripon
- City of Stockton
- City of Tracy

CITY OF MANTECA GENERAL PLAN

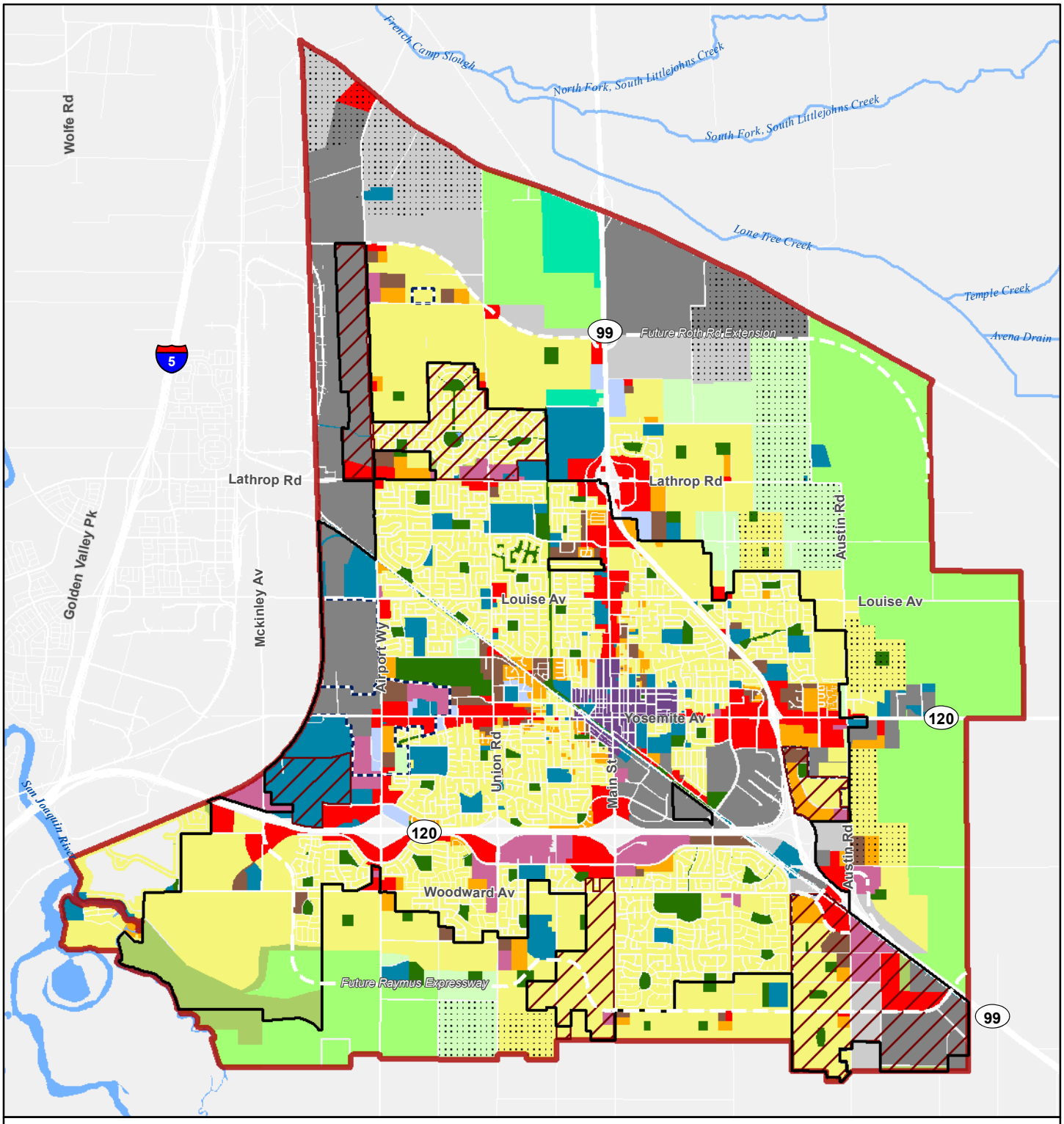
Figure 2.0-2. Vicinity Map

0 1 2 Miles

Sources: San Joaquin County GIS. Map date: December 16, 2019.
Revised: January 10, 2020; December 14, 2020.

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Legend

- City of Manteca
- Manteca Planning Area
- Policy Area
- Urban Reserve Overlay
- Master/Specific Plan Overlay

General Plan Designations

- Agricultural Industrial
- Agriculture
- Commercial
- Commercial Mixed Use
- Downtown
- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Business Industrial Park
- Business Professional
- Industrial
- Open Space
- Park
- Public/Quasi-Public

CITY OF MANTECA GENERAL PLAN

Figure 2.0-3. Land Use Map

0 ½ 1 Miles

Sources: City of Manteca; San Joaquin County. Map date: December 14, 2020.

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The City of Manteca possesses multiple scenic resources, and there are also scenic resources within the unincorporated areas of San Joaquin County. These resources enhance the quality of life for Manteca residents, and provide for outdoor recreational uses. Landscapes can be defined as a combination of four visual elements: landforms, water, vegetation, and man-made structures. Scenic resource quality is an assessment of the uniqueness or desirability of a visual element.

This section was prepared based on existing reports and literature for Manteca and the surrounding areas in San Joaquin County. Additional sources of information included the California Department of Transportation's (Caltrans) Designated Scenic Route map for San Joaquin County.

This section provides a background discussion of the scenic highways and corridors, and natural scenic resources such as creeks, wildlife areas, and prominent visual features found in the Manteca Planning Area. This section is organized with an existing setting, regulatory setting, and impact analysis.

There were no comments received during the NOP comment period related to this environmental topic.

CONCEPTS AND TERMINOLOGY

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area. Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

Visual Character. Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features. The appearance of the landscape is described in terms of the dominance of each of these components.

Visual Quality. Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration, employing the concepts of vividness, intactness, and unity, which are described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.

- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Viewer Exposure and Sensitivity. The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related, in part, to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic region or types of terrain, the standard foreground zone is 0.25 to 0.5 mile from the viewer, the middle ground zone is from the foreground zone to 3 to 5 miles from the viewer, and the background zone is from the middle ground to infinity.

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure, people engaging in recreational activities such as hiking, biking, or camping, and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work. Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based on a regional frame of reference. The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill

may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

Scenic Highway Corridor. The area outside of a highway right-of-way that is generally visible to persons traveling on the highway.

Scenic Highway/Scenic Route. A highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources and access or direct views to areas or scenes of exceptional beauty (including those of historic or cultural interest). The aesthetic values of scenic routes often are protected and enhanced by regulations governing the development of property or the placement of outdoor advertising. Until the mid-1980's, general plans in California were required to include a Scenic Highways Element.

View Corridor. A view corridor is a highway, road, trail, or other linear feature that offers travelers a vista of scenic areas within a city or county.

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.

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 route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Manteca is not visible from this roadway segment.

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.

The City of Manteca General Plan does not designate any scenic corridors or viewsheds. 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. The City of Manteca is located south of Stockton, and Manteca is not visible from this segment of Interstate 5.

Visual Character and Other Scenic Resources Areas

Manteca's visual character is shaped by its agricultural heritage and suburban development pattern. The City is mostly urbanized with commercial, residential, and industrial uses concentrated along the Highway 99 and Highway 120 interchanges and corridors and other major roadway corridors, including Yosemite Avenue, Airport Way, Main Street, Union Road, Louise Avenue, and Atherton Drive. Residential neighborhoods, including parks and schools, occupy the remainder of the City's urbanized area. Much of the undeveloped land within the Planning Area surrounding the developed portion of Manteca is predominantly farmland, including alfalfa, orchards, row crops, and pasture, and rural residential uses.

Farmland and open space, interspersed with rural residential, agricultural, and industrial uses, generally border the City to the north, south, and east. To the west, the City is bordered by industrial uses, the City of Lathrop, the San Joaquin River, Oakwood Lake, and the Oakwood Shores community.

Much of the undeveloped land within the City Limits, sphere of influence (SOI), Planning Area, and areas surrounding the urbanized portion of Manteca is predominantly farmland, including alfalfa, orchards, row crops, and pasture. Agricultural lands have become important visual resources that contribute to the community identity of Manteca, and the Central Valley region. Agricultural lands provide for visual relief form urbanized areas and act as community separators to nearby urban areas.

Water resources are important visual resources that draw tourists to the area for recreational opportunities, provide critical habitat, and provide for scenic areas within and surrounding urban areas. The most visually significant water body in the region is the San Joaquin River located along the southwest border of the City and the Planning Area.

LIGHT AND GLARE

During the day, sunlight reflecting from structures is a primary source of glare, while nighttime light and glare can be divided into both stationary and mobile sources. Stationary sources of nighttime light include structure illumination, interior lighting, decorative landscape lighting, and streetlights. The principal mobile source of nighttime light and glare is vehicle headlamp illumination. This ambient light environment can be accentuated during periods of low clouds or fog.

The variety of urban land uses in the Planning Area are the main source of daytime and nighttime light and glare. They are typified by single and multi-family residences, commercial structures, industrial areas, and streetlights. These areas and their associated human activities (inclusive of vehicular traffic) characterize the existing light and glare environment present during daytime and nighttime hours in the urbanized portions of the Planning Area. Areas to the north, east and south, outside of the city limits and near the fringes of the Planning Area, are characterized primarily by open space, agricultural and lower intensity residential development, and generally have lower levels of ambient nighttime lighting and daytime glare. However, areas along State Route (SR) 120 at the southern portion of the City as well as the areas along SR 99 at the eastern portion of the City generally have more sources of glare.

Sources of glare in urbanized portions of the Planning Area come from light reflecting off surfaces, including glass, and certain siding and paving materials, as well as metal roofing. The urbanized areas of Manteca contain sidewalks and paved parking areas which reflect street and vehicle lights. The existing light environment found in the project area is considered typical of suburban areas.

Sky glow is the effect created by light reflecting into the night sky. Sky glow is of particular concern in areas surrounding observatories, where darker night sky conditions are necessary, but is also of concern in more rural or natural areas where a darker night sky is either the norm or is important

to wildlife. Due to the urban nature of the city limits, a number of existing light sources affect residential areas and illuminate the night sky. Isolating impacts of particular sources of light or glare is therefore not appropriate or feasible for the project.

3.1.2 REGULATORY SETTING

FEDERAL

There are no Federal regulations that apply to the proposed project related to visual resources in the study area.

STATE

Caltrans California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. As previously described, there are no scenic highways in the Planning Area or with views of the Planning Area.

LOCAL

City of Manteca Zoning Code

Chapter 17.48, Landscaping, of the City Zoning Ordinance contains standards and provisions related to landscaping design requirements. The primary intent of Chapter 17.48, Landscaping, is to require water efficient landscaping and to promote water conservation. However, this chapter also includes provisions related to landscape design. These applicable provisions include parking lot landscaping design standards, setback area landscaping standards, and landscaping standards adjacent to fences and walls.

Chapter 17.50, Lighting, of the City Zoning Ordinance contains standards and provisions related to exterior lighting. The primary purpose of this chapter is to regulate lighting to balance the safety and security needs for lighting with the City's desire to preserve dark skies and to ensure that light trespass and glare have negligible impacts on surrounding property (especially residential) and roadways. Section 17.50.070 requires the preparation of an outdoor lighting plan as part of each Site Plan and Design Review application. At a minimum, the outdoor lighting plan shall include the following:

1. Manufacturer specifications sheets, cut sheets, and other manufacturer-provided information for all proposed outdoor light fixtures to show fixture diagrams and outdoor light output levels.
2. The proposed location, mounting height, and aiming point of all outdoor lighting fixtures.

3. If building elevations are proposed for illumination, drawings of all relevant building elevations showing the fixtures, the portions of the elevations to be illuminated, the illumination level of the elevations, and the aiming point for any remote light fixture.
4. Photometric data including a computer-generated photometric grid showing foot-candle readings every 10 feet within the property or site and 10 feet beyond the property lines.

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;
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; and/or
- 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: General Plan implementation would not have a substantial adverse effect on a scenic vista (Less than Significant)

While the Manteca Planning Area contains areas and viewsheds with scenic characteristics, such as views of open space and agricultural land, there are no officially designated scenic vista points in the Planning Area. Additionally, as described above, there are no officially designated scenic highways located in the vicinity of Manteca. The most significant visual features within or adjacent to the Manteca Planning Area are the San Joaquin River located to the west of the city and agricultural land and open space located in undeveloped areas within and around the city.

The City is mostly urbanized with commercial, residential, and industrial uses concentrated along the Highway 99 and Highway 120 corridors and other major roadway corridors, including Yosemite Avenue, Airport Way, Main Street, Union Road, Louise Avenue, and Atherton Drive and residential neighborhoods occupying most other developed areas. Much of the undeveloped land within the Planning Area surrounding the urbanized portion of Manteca is predominantly farmland, including alfalfa, orchards, row crops, and pasture, and rural residential uses. Agricultural lands have become important visual resources that contribute to the community identity of Manteca, and the Central Valley region.

However, as noted in greater detail in the Project Description chapter (Chapter 2.0), implementation of the proposed General Plan could lead to new and expanded urban and suburban development throughout the City and Planning Area, particularly in areas designated for residential, commercial, professional, industrial, mixed use, and public/quasi-public uses by the Land Use Map (Figure 2.0-3). This new development may result in changes to the skyline throughout the Planning Area, which may obstruct or interfere with views of visual features surrounding the Planning Area.

Furthermore, buildout under the proposed General Plan and implementation of the General Plan Land Use Map has the potential to result in new and expanded development along highway corridors with scenic values, even though these corridors are not officially designated as State Scenic Highways. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

Future development would be required to be consistent with the proposed General Plan. A central theme of the General Plan is to preserve and protect the City's natural resources and scenic resources, including designating lands for agricultural use in the eastern and southern portions of the Planning Area and designating open space lands along Walthall Slough in the southwestern portion of the Planning Area. Other General Plan policies promote open space within the Planning Area, maintenance of the existing open space within the City, and visually-appropriate on-site design and amenities, such as design and maintenance standards for City amenities. Moreover, other policies promote the installation of specific visual features, such as context planning and design integration. Other policies are directed more generally at integrating land uses and visual quality between land uses, such as major corridors, walkability, building massing, and connectivity.

The Manteca General Plan has been developed to preserve expansive areas of open space and to ensure that new development is located in and around existing urbanized areas, thus ensuring that new development is primarily an extension of the existing urban landscape, and minimizes interruption of views of nearby visual features.

In addition to the policies and actions identified below that provide protection for open space resources and visually prominent resources in the Planning Area, a range of policies and actions contained in the Land Use and Community Design Elements are intended to maintain and enhance the overall visual character of the Planning Area, and to avoid the installation of structures or features that conflict with the character of the surrounding area. These polices seek to ensure that new development fits within the existing community setting and is compatible with surrounding uses, support the preservation and protection of the City's existing neighborhoods, maintain homes, structures, and property at high standards, and promote the City visually through design and physical features.

The implementation of the policies and actions contained in the General Plan listed below would ensure agricultural, riparian, and other open space uses are preserved consistent with the General Plan Land Use Map, that new urban residential and non-residential development in the Manteca Planning Area is located in and around existing urbanized areas and developed to be visually

compatible with nearby agricultural and other open space resources. Additionally, the implementation of the policies and actions contained in the Land Use and Community Design Elements would further ensure that new development is designed in a way that enhances the visual quality of the community, compliments the visual character of the City, and that adverse effects on public views are minimized. Therefore, the impact on scenic vistas would be **less than significant** following implementation of the policies and actions listed below.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-1.2: Promote land use compatibility through use restrictions, development standards, environmental review, and design considerations.

LU-3.2: Require the design of new residential development to be consistent with any applicable design guidelines, to ensure harmony with Manteca's unique character and compatibility with existing surrounding land uses.

LU-3.8: Where planned residential areas and expansions of existing residential neighborhoods interface with commercial, industrial, agricultural industrial, and other non-residential development, require that the proposed development be designed to maximize the compatibility between the uses and reduce any potentially significant or significant impacts associated with aesthetics, land use and planning, noise, safety, odor, and lighting that are identified through the California Environmental Quality Act (CEQA) review to less than significant.

LU-5.4: Ensure that employment-generating development is compatible with adjacent land uses, particularly residential uses, based upon the location and scale of buildings, lighting, noise, and smell. When development is incompatible, require adequate buffers and/or architectural consideration to protect residential areas, developed or undeveloped, from intrusion of nonresidential activities that may degrade the quality of life in such residential areas.

LU-10.1: Promote the provision of both public and private open space within Manteca to provide visual contrast with the built-environment and to increase recreational opportunities for Manteca residents. Private open space shall not be considered for public use, other than as visual open space, and shall not be constrained from other uses as identified in the General Plan, unless as provided for by agreement with the land owner.

LU-10.2: Protect those environmental features that make Manteca an attractive and desirable place to live, work, play, and visit.

LU-10.3: Protect significant open space and/or habitat areas for their ecological, educational, scenic, and recreational values.

LU-11.1: Protect agricultural land from urban development except where the General Plan Land Use Map has designated the land for urban uses.

CD-1.1: Require development projects to preserve positive characteristics and unique features of the site and consider the scale and character of adjacent uses.

CD-1.2: Maintain and enhance the city's compact and cohesive urban form.

CD-1.3: Recognize and enhance natural features and protect cultural and historic resources.

CD-1.4: Emphasize landscaping as a fundamental design component, retaining mature landscaping when appropriate, to reinforce a sense of the natural environment and to maintain an established appearance.

CD-1.5: Require property owners to maintain structures and landscaping to high standards of design, health, and safety.

CD-1.7: Minimize the visual impacts of public and private communication, service, and utility facilities by requiring the provider to incorporate sensitive site design techniques, including, but not limited to the placement of facilities in less conspicuous locations, the undergrounding of facilities wherever possible, incorporating aesthetic features such as murals and civic enhancements, and the screening of facilities.

CD-2.9: Ensure that new development and redevelopment reinforces desirable elements of its neighborhood, district, or center, including architectural style, scale, and setback patterns.

CD-2.10: Encourage context-sensitive transitions in architectural scale and character between new and existing residential development.

CD-2.12: For infill development, incorporate context sensitive design elements that maintain compatibility and raise the quality of the area's architectural character.

CD-2.16: Design retention/detention basins to be visually attractive and well-integrated with any associated project and with adjacent land uses.

CD-4.1: Strengthen the positive qualities of the City's neighborhoods, districts, and centers.

CD-4.3: Strengthen the identity of individual neighborhoods, districts, and centers through the use of entry monuments, flags, street signs, themed streets, natural features, landscaping, and lighting.

CD-4.6: Design neighborhoods, districts, and centers to provide access to adjacent open spaces.

CD-4.7: Design neighborhoods in new growth areas to incorporate the following characteristics:

- *The edges of the neighborhood shall be identifiable by use of landscaped areas along major streets or natural features, such as permanent open space. Primary arterial streets may be used to define the boundaries of neighborhoods. The street system shall be designed to discourage high volume and high speed traffic through the neighborhood.*
- *Neighborhoods shall be not more than one mile in length or width.*
- *Each neighborhood shall include a distinct center, such as an elementary school, neighborhood park(s), and/or a mixed-use commercial area within a reasonable walking distance of the homes, approximately one-half mile.*
- *Each neighborhood shall include an extensive pedestrian and bikeway system comprised of sidewalks and bike lanes along streets and dedicated trails.*

CD-4.10: Strengthen the aesthetic and functional links between Downtown, the Civic Center, and other surrounding neighborhoods and districts.

CD-5.1: Encourage new and, when necessary, existing streets to improve walkability, bicycling, and transit integration; strengthen connectivity; and enhance community identity through improvements to the public right-of-way such as sidewalks, street trees, parkways, curbs, street lighting, and street furniture.

CD-5.2: Require major arterial streets to include a common landscape theme that includes primary street trees, groundcover, sidewalks, bus shelters where required, and lighting applied throughout the City.

CD-5.3: Require the planting of street trees throughout the city to define and enhance the character of the street and the adjacent development.

CD-5.4: To retain a visual reminder of the city's agricultural heritage, permit the use of non-fruiting species, such as flowering pear and plum, as secondary accent trees in landscape corridors along major streets.

CD-5.7: Limit uses that require soundwalls adjacent to the highways. Where soundwalls and other barriers surrounding neighborhoods, districts, and centers are necessary pursuant to the City's street standards and specifications, require the incorporation of aesthetic enhancements that reinforce the area's identity and present an attractive façade along the adjoining corridor. The first development to include construction of a sound wall shall set the design theme to be maintained along the arterial street until a roadway intersection.

CD-5.8: Allow recreation uses adjacent to the highways, where practical, that are attractive and provide a high level of day and evening activity.

CD-6.1: Encourage the mixing of land uses, where appropriate, but provide physical separation and/or buffers between incompatible land uses.

CD-6.2: Encourage the use of creative landscape design to create visual interest and reduce conflicts between different land uses.

CD-6.4: Avoid the blocking of public views by solid walls.

CD-6.5: Use open space, greenways, recreational lands, and water courses as community separators.

CD-8.1: To the extent possible, require new development to retain or incorporate visual reminders of the agricultural heritage of the community.

CD-9.1: Continue to encourage the use of murals and similar public art on buildings.

CD-9.2: Incorporate public art along public sidewalks and within parking areas.

CD-9.3: Where feasible, include public art at key gateways and in major projects and public gathering places.

RC-9.1: Protect sensitive habitats that include creek corridors, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the United States, sensitive natural communities, and other habitats designated by State and Federal agencies.

RC-9.2: Preserve and enhance those biological communities that contribute to Manteca and the region's biodiversity, including but not limited to, wetlands, riparian areas, aquatic habitat, and agricultural lands.

ACTIONS

LU-3e: Develop and periodically update design and performance standards that update and complement Chapter 17.58 of the Zoning Code to provide recommended design solutions available to proposed development projects to reduce impacts associated with aesthetics, noise, safety, odor, glare, and lighting, including land use conflicts between residential uses and nearby industrial and agricultural uses, in compliance with Chapter 17.58 of the Zoning Ordinance, as amended.

LU-5d: As part of the City's development review process, continue to ensure that employment-generating projects are designed to minimize conflicts with residential uses. Review of employment generating projects should ensure that the following design concepts are addressed in projects that abut residential areas:

- *Appropriate building scale and/or siting;*
- *Site design and noise-attenuating features to avoid exposure to excessive noise due to long hours of operation or inappropriate location of accessory structures;*
- *Site and structure design to avoid excessive glare or excessive impacts from light sources onto adjacent properties; and*
- *Site design to avoid unnecessary loss of community and environmental resources (archaeological, historical, ecological, recreational, etc.).*

CD-1a: Consider implementing a program of local improvements, including, but not limited to, street tree planting, annual clean-up days, sidewalk installation and repair, and similar local activities, to enhance the visual quality of the city.

CD-4a: As part of the design review of development and capital projects, encourage the integration of civic, cultural, natural, art, and other themes that create a sense of place for each neighborhood, district, and center, and contribute to the overall character of the community.

CD-4b: Periodically review the Downtown Design Improvement Plan and Streetscape Improvement Program and update as necessary to maintain consistency with the General Plan, the City's Zoning regulations, and current best practice design solutions.

CD-4c: Approve development projects within new growth areas that support Downtown's identity as the city's central business district.

CD-5a: Establish a street tree program for residential neighborhoods.

CD-5b: Periodically review the Design Standards for Yosemite Avenue and Main Street and update as necessary to maintain consistency with the General Plan, the City's Municipal Code, and current best practice design solutions.

CD-5c: Continue to work with Caltrans on implementing a freeway and interchange landscaping planting and maintenance program to improve the appearance of the community from SR 99 and SR 120.

CD-5d: Establish design guidelines for non-residential uses within 200 feet of SR 99 and SR 120. The guidelines should address the following concepts.

- *New office and commercial land use shall provide attractive landscaping, lighting, and signage adjacent to all buildings oriented to SR 99 or SR*
- *Encourage buildings that include attractive focal elements, such as a tower or articulated roofline in each non-residential development adjacent to SR 99 or SR 120 to serve as visual landmarks.*
- *New non-residential buildings oriented to SR 99 or SR 120 shall provide an attractive facade similar in articulation, and using the same materials and colors, as the primary facade of the building.*
- *Truck loading and refuse collection areas adjacent to SR 99 and SR 120 shall be screened from view.*
- *The landscape along SR 120 and SR 99 will reflect the natural character of the region in the selection of trees and groundcover.*

LU-10a: Preserve, enhance, and restore selected existing natural habitat areas.

Impact 3.1-2: General Plan implementation would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a State scenic highway (Less than Significant)

As discussed in the Existing Setting section, no adopted State scenic highway is located in Manteca. 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 Interstate 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. However, this officially designated scenic highway does not provide views of Manteca or the immediate surrounding areas, and there are no sections of highway in the Manteca vicinity eligible for Scenic Highway designation.

As previously described, the County has designated one scenic route, which is Interstate 5 from the Sacramento County line south to Stockton and does not provide views of the Planning Area.

Given that no adopted State scenic highways are located within the Planning Area or provide views of the Planning Area, State scenic highway impacts associated with General Plan implementation would be **less than significant**.

Impact 3.1-3: General Plan implementation would not, in a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings, or in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality (Less than Significant)

CEQA Guidelines Section 15387 defines an urbanized area as a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. The Planning Area consists of the City of Manteca, which is an urbanized area, as well as various rural residential, agricultural, industrial, and open space uses located in the unincorporated and non-urbanized portion of the Planning Area.

As described under Impact 3.1-3, the City is largely developed with commercial, residential, and industrial uses concentrated along the Highway 99 and Highway 120 corridors and other major roadway corridors, including Yosemite Avenue, Airport Way, Main Street, Union Road, Louise Avenue, and Atherton Drive and residential neighborhoods occupying most other developed areas. Much of the undeveloped land within the Planning Area surrounding the urbanized portion of Manteca is predominantly farmland, including alfalfa, orchards, row crops, and pasture, and rural residential uses.

Implementation of the proposed General Plan could lead to new and expanded urban and suburban development throughout the City and Planning Area, particularly in areas designated for residential, commercial, professional, industrial, mixed use, and public/quasi-public uses by the Land Use Map (Figure 2.0-3).

Policies in the proposed General Plan are intended to complement and further the intent of these provisions regulating scenic quality and resources, and any development occurring under the proposed General Plan would be subject to compliance with these guidelines, as well as the applicable regulations set forth in the Manteca Municipal Code. The General Plan includes policies and actions to promote land use compatibility, ensure that new development is consistent with design guidelines and compatible with surrounding uses, protect and conserve open space, agricultural, riparian habitats, and other scenic and natural resources, ensure that in-fill development is designed to be sensitive to surrounding uses, and to strengthen the qualities of the City's neighborhoods, districts, and downtown. The City's Zoning Ordinance (Manteca Municipal Code Title 17) is the primary tool meant to implement the General Plan. It consists of a zoning map defining the location of districts and code sections detailing requirements for each district. The Zoning Ordinance establishes specific, enforceable standards with which development must comply such as minimum lot size, maximum building height, minimum building setback, and a list of allowable uses. Zoning applies lot-by-lot, whereas the General Plan has a community-wide perspective. Provisions pertaining to visual resources such as site-specific design standards, preservation of open space, landscaping, trees, and signs, are addressed. State law requires the City's Zoning Code to be consistent with the General Plan. Development as a result of the proposed General Plan will be required to be consistent with the zoning code. The proposed General Plan would therefore not substantially degrade the existing visual character or quality of

public views of the SOI and its surroundings. Scenic quality-related impacts associated with the General Plan implementation would thus be **less than significant**. In order to further ensure that future development allowed under the General Plan would not degrade the existing visual character of the environment, the City has included the following policies and actions in the General Plan.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

Policies LU-1.2, LU-2.1, LU-3.2, LU-3.8, LU-5.4, LU-10.1, LU-10.2, LU-10.3, CD-1.1, CD-1.2, CD-1.3, CD-1.4, CD-1.5, CD-1.7, CD-2.9,CD-2.10, CD-2.12, CD-2.16, CD-4.1, CD-4.3, CD-4.6, CD-4.7, CD-4.10, CD-5.1, CD-5.2, CD-5.3, CD-5.4, CD-5.7, CD-5.8, CD-6.1, CD-6.2, CD-6.4, CD-6.5, CD-8.1, CD-9.1, CD-9.2, CD-9.3, RC-9.1, and RC-9.2 and Actions LU-3e, LU-5d, CD-1a, CD-4a, CD-4b, CD-4c, CD-5a, CD-5b, CD-5c, CD-5d, and LU-10a, as discussed under Impact 3.1-1.

Impact 3.1-4: General Plan implementation could result in the creation of new sources of nighttime lighting and daytime glare (Less than Significant with Mitigation)

The primary sources of daytime glare are generally sunlight reflecting from structures and other reflective surfaces and windows. Implementation of the proposed General Plan would introduce new sources of daytime glare into previously developed areas of the Planning Area and increase the amount of daytime glare in existing urbanized areas. The General Plan Land Use Map identifies areas for the future development of residential, commercial, industrial, recreational, and public uses. Such uses may utilize materials that produce glare. Daytime glare impacts would be most severe in the limited areas of the city that have not been previously disturbed, including the limited number of vacant parcels designated for urbanized land uses, and in areas that receive a high level of daily viewership.

The primary sources of nighttime lighting are generally from exterior building lights, street lights, and vehicle headlights. Exterior lighting around commercial and industrial areas may be present throughout the night to facilitate extended employee work hours, ensure worker safety, and to provide security lighting around structures and facilities. Nighttime lighting impacts would be most severe in areas that do not currently experience high levels of nighttime lighting. Increased nighttime lighting can reduce visibility of the night sky, resulting in fewer stars being visible and generally detracting from the quality of life in Manteca. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies listed below.

Future development would be required to be consistent with the General Plan, as well as lighting and design requirements in the Manteca Municipal Code, including Chapter 17.50. The proposed General Plan contains policies and actions, listed below, related to the regulation and reduction of daytime glare and nighttime lighting, including requirements that residential, commercial, and employment-generating projects are designed to address lighting and glare impacts.LU-4b would require that new commercial projects do not generate excessive glare or light onto adjacent properties and Action LU-5d would ensure that employment-generating projects are designed to minimize glare and light impacts onto residential uses. Action CD-8 would ensure that projects

developing on the fringes of the City or in rural or agricultural areas are designed to be compatible with the area, including the city's light and glare standards. These actions would ensure that new development projects utilize appropriate building materials that do not result in significant increases in nighttime lighting or daytime glare.

Through the implementation of these actions during the development review process, the City can ensure that adverse impacts associated with daytime glare and nighttime lighting are reduced to a **less than significant** level.

GENERAL PLAN ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-3.8: Where planned residential areas and expansions of existing residential neighborhoods interface with commercial, industrial, agricultural industrial, and other non-residential development, require that the proposed development be designed to maximize the compatibility between the uses and reduce any potentially significant or significant impacts associated with aesthetics, land use and planning, noise, safety, odor, and lighting that are identified through the California Environmental Quality Act (CEQA) review to less than significant.

LU-4.4: Ensure that all commercial and other non-residential development is compatible with adjacent land uses, particularly residential uses, based upon the location and scale of buildings, lighting, and in conformance with the noise standards of the Safety Element. When development is incompatible, require commercial uses to provide adequate buffers and/or architectural features to protect residential areas, developed or undeveloped, from intrusion of nonresidential activities that may degrade the quality of life in such residential areas.

LU-5.4: Ensure that employment-generating development is compatible with adjacent land uses, particularly residential uses, based upon the location and scale of buildings, lighting, noise, and smell. When development is incompatible, require adequate buffers and/or architectural consideration to protect residential areas, developed or undeveloped, from intrusion of nonresidential activities that may degrade the quality of life in such residential areas.

CD-2.18: Encourage the incorporation of lighting into signage design when appropriate in order to minimize glare and light spillage while accentuating the design of the signage.

CD-8.4: For lighting in rural areas of the community, provide:

- *Minimal levels of street, parking, building, site and public area lighting to meet safety standards and provide direction.*
- *Directional shielding for all exterior lighting to minimize the annoyance of direct or indirect glare.*
- *Automatic shutoff or motion sensors for lighting features in newly developed areas.*

ACTIONS

LU-3e: Develop and periodically update design and performance standards that update and complement Chapter 17.58 of the Zoning Code to provide recommended design solutions available to proposed development projects to reduce impacts associated with aesthetics, noise, safety, odor, glare, and lighting, including land use conflicts between residential uses and nearby industrial and agricultural uses, in compliance with Chapter 17.58 of the Zoning Ordinance, as amended.

LU-4b: As part of the City's development review process, ensure that commercial projects are designed to minimize conflicts with residential uses. Review of commercial projects should ensure that the following design concepts are avoided in projects that abut residential areas:

- *Inappropriate building scale and/or siting on the lot.*
- *Excessive glare or excessive impacts from light sources onto adjacent properties.*
- *Excessive noise generated from freight and waste management activities during night hours.*
- *Excessive air pollutant emissions from freight trucks and large expanses of parking lot areas.*

LU-5d: As part of the City's development review process, continue to ensure that employment-generating projects are designed to minimize conflicts with residential uses. Review of employment generating projects should ensure that the following design concepts are addressed in projects that abut residential areas:

- *Appropriate building scale and/or siting;*
- *Site design and noise-attenuating features to avoid exposure to excessive noise due to long hours of operation or inappropriate location of accessory structures;*
- *Site and structure design to avoid excessive glare or excessive impacts from light sources onto adjacent properties; and*
- *Site design to avoid unnecessary loss of community and environmental resources (archaeological, historical, ecological, recreational, etc.).*

CD-8a: Require projects developing on the fringe of the City or adjacent to agricultural or rural residential uses to be compatible with the character of the area, including implementing the City's light and glare standards, use of appropriate materials and design, and siting of more intense uses away from rural and agricultural uses, where feasible.

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This section provides a background discussion of agricultural lands, agricultural resources, and forest/timber resources found in the Manteca Planning Area. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments on this environmental topic were received during the NOP comment period.

3.2.1 ENVIRONMENTAL SETTING

AGRICULTURAL RESOURCES

San Joaquin County occupies a central location in California's vast agricultural heartland, the San Joaquin Valley. The County's Agricultural Commissioner's most recent published Agricultural Reports (2017 and 2018) contains the following information relating to agriculture in the county.

San Joaquin County has a total land area of 1,391 square miles. The total acreage of crop land in the county is approximately 784,800. The gross value of agricultural production in San Joaquin County for 2018 was $2,594,246,000 which represents a 2.6 percent increase from 2017 when gross production value totaled $2,527,989,000. Table 3.2-1 lists the top eight commodities in San Joaquin County in 2017 and 2018.

TABLE 3.2-1: SUMMARY COMPARISON OF CROP VALUES

PRODUCT TYPE	*2017 VALUE IN DOLLARS*	*2018 VALUE IN DOLLARS*
Field Crops	$208,839,000.00	$200,369,000
Vegetable Crops	$255,928,000.00	$245,902,000
Fruit and Nut Crops	$1,362,531,000.00	$1,403,768,000
Nursery Products	$117,294,000.00	$120,004,000
Livestock and Poultry	$122,270,000.00	$120,100,000
Livestock and Poultry Products	$429,910,000.00	$467,289,000
Seed Crops	$4,671,000.00	$3,904,000
Apiary Products	$26,546,000.00	$32,910,000

SOURCE: SAN JOAQUIN COUNTY AGRICULTURAL REPORT, 2017 AND 2018.

Agricultural Capability

The California Department of Conservation Farmland Mapping and Monitoring Program identifies lands that have agriculture value and maintains a statewide map of these lands called the Important Farmlands Inventory (IFI). IFI classifies land based upon the productive capabilities of the land, rather than the mere presence of ideal soil conditions.

The suitability of soils for agricultural use is just one factor for determining the productive capabilities of land. Suitability is determined based on many characteristics, including fertility, slope, texture, drainage, depth, and salt content. A variety of classification systems have been devised by the state to categorize soil capabilities. The two most widely used systems are the Capability Classification System and the Storie Index. The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating. The IFI is in part based upon both of these two classification systems.

Soil Capability Classification

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class 1 soils, which have few limitations for agriculture, to Class 8 soils that are unsuitable for agriculture. Generally, as the rating of the capability classification increases, yields and profits are more difficult to obtain. A general description of soil classifications, as defined by the Natural Resources Conservation Service (NRCS) is provided in Table 3.2-2 below.

A Custom Soil Survey was completed for the Planning Area using the NRCS Web Soil Survey program. Table 3.2-3 identifies the soils and soil classifications found in the Planning Area. The NRCS Soils Map is provided on Figure 3.6-2.

TABLE 3.2-2: SOIL CAPABILITY CLASSIFICATION

CLASS	*DEFINITION*
1	Soils have slight limitations that restrict their use.
2	Soils have moderate limitations that restrict choice plants or that require moderate conservation practices.
3	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
4	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
5	Soils are not likely to erode but have other limitations; impractical to remove that limits their use largely to pasture or range, woodland, or wildlife habitat.
6	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
7	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
8	Soils and landforms have limitations that preclude their use for commercial plans and restrict their use to recreation, wildlife habitat, water supply, or aesthetic purposes.

SOURCE: USDA SOIL CONSERVATION SERVICE.

TABLE 3.2-3: SOIL CLASSIFICATION

UNIT SYMBOL	*NAME*	*ACRES IN AOI*	*PERCENT OF AOI*	*CAPABILITY CLASSIFICATION**	*STORIE INDEX*
108	Arents, saline-sodic, 0 to 2 percent slopes	395.45	1.47%	3-4	4
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	515.08	1.91%	3-4	4
130	Columbia fine sandy loam, drained, 0 to 2 percent slopes	390.26	1.45%	2-4	2
131	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes, occasionally flooded	14.70	0.05%	4-4	2
141	Delhi fine sand, 0 to 5 percent slopes	1,126.56	4.18%	3-4	3
142	Delhi loamy sand, 0 to 2 percent slopes, MLRA 17	3,857.41	14.31%	3-4	2
143	Delhi-Urban land complex, 0 to 2 percent slopes	3,626.69	13.46%	3-4	2
144	Dello sand, partially drained, 0 to 2 percent slopes, occasionally flooded	59.89	0.22%	3-4	4

UNIT SYMBOL	*NAME*	*ACRES IN AOI*	*PERCENT OF AOI*	*CAPABILITY CLASSIFICATION**	*STORIE INDEX*
145	Dello loamy sand, drained, 0 to 2 percent slopes	279.24	1.04%	3-4	4
150	Dumps	35.86	0.13%	8-8	--
152	Egbert mucky clay loam, partially drained, 0 to 2 percent slopes	23.78	0.09%	2-4	3
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	84.96	0.32%	2-4	3
160	Galt clay, 0 to 1 percent slopes, MLRA 17	87.86	0.33%	3-3	5
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	85.32	0.32%	2-4	2
169	Guard clay loam, drained, 0 to 2 percent slopes	100.71	0.37%	2-4	3
175	Honcut sandy loam, 0 to 2 percent slopes	416.88	1.55%	2-4	1
196	Manteca fine sandy loam, 0 to 2 percent slopes	113.20	0.42%	3-4	4
197	Merritt silty clay loam, partially drained, 0 to 2 percent slopes	364.64	1.35%	2-4	3
254	Timor loamy sand, 0 to 2 percent slopes	2,020.36	7.50%	3-4	2
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	7,724.89	28.66%	3-4	2
260	Urban land	125.55	0.47%	8-8	--
265	Veritas sandy loam, partially drained, 0 to 2 percent slopes	32.31	0.12%	2-4	2
266	Veritas fine sandy loam, 0 to 2 percent slopes	5,377.84	19.95%	2-4	1
284	Water	93.31	0.35%	--	--
--	**Totals**	26,952.75	100.00%	--	

*NOTES: AOI = AREA OF INTEREST. * DEPICTS IRRIGATED VS NON-IRRIGATED CAPABILITY RATING.*

SOURCE: NRCS CUSTOM WEB SOIL SURVEY, 2016.

Important Farmlands

The California Department of Conservation (DOC), as part of its Farmland Mapping and Monitoring Program (FMMP), prepares Important Farmland Maps indicating the potential value of land for agricultural production. The San Joaquin County Important Farmland Map identifies five agriculture-related categories and three non-agricultural categories:

Prime Farmland: Prime farmland is land with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance: Farmland of statewide importance is farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil

moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland: Unique farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance: Farmland of local importance is considered land important to the local agricultural economy but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock or dairy facilities, aquaculture, poultry facilities, and dry grazing. It also includes soils previously designated by soil characteristics as "Prime Farmland," "Farmland of Statewide Importance," and "Unique Farmland" that has since become idle.

Grazing Land: Grazing land is land on which the existing vegetation is suitable for the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for this category is 40 acres.

Urban and Built-up Land: This category consists of non-agricultural land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land: Other land is non-agricultural land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Water Area: This category consists of bodies of water.

IMPORTANT FARMLANDS IN PLANNING AREA

The State of California Department of Conservation Farmland Mapping and Monitoring Program and San Joaquin County GIS data were used to illustrate the farmland characteristics for the Planning Area. Farmlands in the Planning Area are identified in Table 3.2-4 and are shown on Figure 3.2-1. The farmland classifications for the site and surrounding area are described below.

TABLE 3.2-4: FARMLAND CLASSIFICATION

LAND CLASSIFICATION	*CITY*	*PLANNING AREA*	*TOTAL*
Cl - Confined Animal Ag	29.0	65.1	94.2
D - Urban/Built Up Land	7,897.9	1,063.9	8,948.8
L - Farmland of Local Importance	570.7	328.8	899.6
NV - Nonagricultural or Natural Vegetation	4.9	32.1	37.0
P - Prime Farmland	1,095.5	3,734.1	4,829.7
R - Rural Residential	264.781	577.6	842.4
S - Farmland of Statewide Importance	3,278.1	7,377.9	10,669.0
sAC - Semi-agricultural and Rural Commercial Land	68.5	76.8	145.4
V - Vacant or Disturbed Land	189.1	120.5	309.6
W - Water	0.0	177.1	177.1
Total	**13,398.6**	**13,545.1**	**26,952.7**

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION; CALIFORNIA IMPORTANT FARMLAND FINDER, 2016.

Farmland Conversion

Data from the Department of Conservation indicates that approximately 762 acres of Prime Farmland in the County was developed for other uses between 2014 and 2016, resulting in an existing total of 382,879 acres of Prime Farmland (42 percent of agricultural land). The remaining agricultural land is comprised of Farmland of Statewide Importance (9 percent), Unique Farmland (9 percent), Farmland of Local Importance (8 percent), and Grazing Land (14 percent). The types and acreages of farmland in 2014 and 2016 are shown below in Table 3.2-5.

TABLE 3.2-5: SAN JOAQUIN COUNTY FARMLANDS SUMMARY AND CHANGE BY LAND USE CATEGORY

LAND USE CATEGORY	*2014-2016 ACREAGE CHANGES*							
	TOTAL ACREAGE INVENTORIED				*ACRES LOST*	*ACRES GAINED*	*TOTAL ACREAGE CHANGED*	*NET ACREAGE CHANGED*
	2014		*2016*		*(-)*	*(+)*		
	Acres	*Percent*	*Acres*	*Percent*				
Prime Farmland	382,879	42%	381,634	42%	4,338	3,093	7,431	-1,245
Farmland of Statewide Importance	82,271	9%	82,618	9%	1,189	1,536	2,725	347
Unique Farmland	76,415	8%	81,920	9%	830	6,335	7,165	5,505
Farmland of Local Importance	73,429	8%	68,903	8%	9,150	4,624	13,774	-4,526
IMPORTANT FARMLAND SUBTOTAL	614,994	67%	615,075	67%	15,507	15,588	31,095	81
Grazing Land	132,950	15%	129,760	14%	3,385	195	3,580	-3,190
AGRICULTURAL LAND SUBTOTAL	747,944	82%	744,835	82%	18,892	15,783	34,675	-3,109
Urban and Built-up Land	93,888	10%	95,329	10%	365	1,806	2,171	1,441
Other Land	59,004	6%	60,602	7%	1,482	3,080	4,562	1,598
Water Area	11,766	1%	11,836	1%	235	305	540	70
TOTAL AREA INVENTORIED	912,602	100%	912,602	100%	20,974	20,974	41,948	0

SOURCE: CA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION TABLE A-30, 2016.

Farmland Preservation

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. The Williamson Act is described in greater detail under the Regulatory Setting section of this chapter.

Table 3.2-6 shows lands within the city and SOI that are under a Williamson Act contract and the status of the contract. Figure 3.2-2 shows Williamson Act Contracts within the city and Planning Area. Of the 2,285.647 acres of Williamson Act Contract lands in the City and Planning Area, approximately 114.5 acres are in non-renewal.

TABLE 3.2-6: SUMMARY OF WILLIAMSON ACT CONTRACTS

CONTRACT LOCATION AND TYPE	*PARCEL COUNT*	*TOTAL ACRES*
City	1	21.5137
WA-Non-Renewal	1	21.5137
Planning Area	68	2,264.133
WA-Farmland Security Zone	1	37.6947
WA-Non-Prime	43	1,375.834
WA-Non-Renewal	2	92.9555
WA-Prime	22	757.6485
Total	**69**	**2,285.647**

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, SAN JOAQUIN COUNTY, WILLIAMSON ACT FY 2015/2016.

Agricultural Zoning

Zoning Districts within Manteca are established in order to classify, regulate, restrict, and segregate the uses of land and buildings, to regulate and restrict the height and bulk of buildings, to regulate the area of yards and other open spaces around buildings, and to regulate the density of population. The City of Manteca Zoning Map identifies Agricultural zoned districts within the city, zoned Agricultural (A). This designation provides for agricultural uses (such as vineyards, orchards, and row crops), single-family homes directly related to the agricultural use of the property, limited industrial uses directly related to agriculture, and similar and compatible uses. However, there are no existing Agricultural zone districts applied within the city.

The Planning Area includes lands zoned for agricultural use by San Joaquin County. Further, there are lands adjacent the Planning Area that are zoned for agricultural use. These include lands that are designated as General Agriculture by the San Joaquin General Plan and zoned for Agriculture with minimum parcel size of 40 acres (AG-40).

FOREST RESOURCES

Forest land is defined by Public Resources Code Section 12220(g), and includes *"land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."*

Timber land is defined by Public Resources Code Section 4526, and means *"land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis."*

There are no forest lands or timber lands located within the Manteca Planning Area.

3.2.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Natural Resources Conservation Service (NRCS), an agency within the U.S. Department of Agriculture, is responsible for implementation of the Farmland Protection Policy Act (FPPA). The purpose of the FPPA is to minimize Federal programs' contribution to the conversion of farmland to non-agricultural uses by ensuring that Federal programs are administered in a manner that is compatible with state, local, and private programs designed to protect farmland. The NRCS provides technical assistance to Federal agencies, state and local governments, tribes, and nonprofit organizations that desire to develop farmland protection programs and policies. The NRCS summarizes FPPA implementation in an annual report to Congress.

Farm and Ranch Lands Protection Program

The NRCS administers the Farm and Ranch Lands Protection Program (FRPP), a voluntary program aimed at keeping productive farmland in agricultural uses. Under the FRPP, the NRCS provides matching funds to state, local, or tribal government entities and nonprofit organizations with existing farmland protection programs to purchase conservation easements. According to the 1996 Farm Bill, the goal of the program is to protect between 170,000 and 340,000 acres of farmland per year. Participating landowners agree not to convert the land to non-agricultural use and retain all rights to use the property for agriculture. A conservation plan must be developed for all lands enrolled based upon the standards contained in the NRCS Field Office Technical Guide. A minimum of 30 years is required for conservation easements and priority is given to applications with perpetual easements. The NRCS provides up to 50 percent of the fair market value of the easement being conserved (NRCS, 2004). To qualify for a conservation easement, farm or ranch land must meet several criteria. The land must be:

- Prime, Unique, or other productive soil, as defined by NRCS based on factors such as water moisture regimes, available water capacity, developed irrigation water supply, soil temperature range, acid-alkali balance, water table, soil sodium content, potential for flooding, erodibility, permeability rate, rock fragment content, and soil rooting depth;
- Included in a pending offer to be managed by a nonprofit organization, state, tribal, or local farmland protection program;
- Privately owned;
- Placed under a conservation plan;

- Large enough to sustain agricultural production;
- Accessible to markets for the crop that the land produces; and
- Surrounded by parcels of land that can support long-term agricultural production.

STATE

California Department of Conservation

The DOC administers and supports a number of programs, including the Williamson Act, the California Farmland Conservancy Program (CFCP), the Williamson Act Easement Exchange Program (WAEEP), and the FMMP. These programs are designed to preserve agricultural land and provide data on conversion of agricultural land to urban use. The DOC has authority for the approval of agreements entered into under the WAEEP. Key DOC tools available for land conservation planning are conservation grants, tax incentives to keep land in agriculture or open space, and farmland mapping and monitoring.

Williamson Act

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. In order to preserve these uses, the Act established an agricultural preserve contract procedure by which any county or city taxes landowners at a lower rate, using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties remain under agricultural production for a 10-year period. The contract is self-renewing; however, the landowner may notify the county or city at any time of the intent to withdraw the land from its preserve status. There are two means by which the landowner may withdraw the land from its contract preserve status. First, the landowner may seek to cancel the contract. This takes the land out of the contract quickly with a minimal waiting period but the landowner pays a statutory penalty to the State. Second, the landowner may notice a non-renewal or seek a partial non-renewal of the contract. Land withdrawal through the non-renewal process involves a 9- or 10-year period (depending on the timing of the notice) of tax adjustment to full market value before protected open space can be converted to urban uses.

Williamson Act subvention payments to local governments have been suspended since the fiscal year 2009-10 due to the State's fiscal constraints. The Williamson Act contracts between landowners and local governments remain in force, regardless of the availability of subvention payments.

Farmland Security Zones

A Farmland Security Zone is an area created within an agricultural preserve by a board of supervisors (board) or city council (council) upon request by a landowner or group of landowners. An agricultural preserve defines the boundary of an area within which a city or county will enter into contracts with landowners. The boundary is designated by resolution of the board or council having jurisdiction. Agricultural preserves must generally be at least 100 acres in size. Farmland

Security Zone contracts offer landowners greater property tax reduction. Land restricted by a Farmland Security Zone contract is valued for property assessment purposes at 65% of its Williamson Act valuation or 65% of its Proposition 13 valuation, whichever is lower.

Forest Practices Rules

The California Department of Forestry and Fire Protection (CalFire) implements the laws that regulate timber harvesting on privately-owned lands. These laws are contained in the Z'berg-Nejedly Forest Practice Act of 1973 which established a set of rules known as the Forest Practice Rules (FPRs) to be applied to forest management related activities (i.e., timber harvests, timberland conversions, fire hazard removal, etc.). They are intended to ensure that timber harvesting is conducted in a manner that will preserve and protect fish, wildlife, forests, and streams. Under the Forest Practice Act, a Timber Harvesting Plan (THP) is submitted to CalFire by the landowner outlining what timber is proposed to be harvested, harvesting method, and the steps that will be taken to prevent damage to the environment. If the landowner intends to convert timberland to non-timberland uses, such as a winery or vineyard, a Timberland Conversion Permit (TCP) is required in addition to the THP. It is CalFire's intent that a THP will not be approved which fails to adopt feasible mitigation measures or alternatives from the range of measures set out or provided for in the Forest Practice Rules, which would substantially lessen or avoid significant adverse environmental impacts resulting from timber harvest activities. THPs are required to be prepared by Registered Professional Foresters (RPFs) who are licensed to prepare these plans (CalFire, 2007). For projects involving TCPs, CalFire acts as lead agency under CEQA, and the county or city acts as a responsible agency.

LOCAL

City of Manteca Agricultural Mitigation Fee Program

Chapter 13.42 of the Municipal Code establishes the City's Agricultural Mitigation Fee Program, which authorizes the collection of development impact fees to offset costs associated with the loss of productive agricultural lands converted for urban uses within the City. Agricultural mitigation fees are required to be paid prior to issuance of any building permit. Fees are used to protect agricultural lands planned for agricultural use. Fees collected under Chapter 13.42 may be used as fair compensation for farmland conservation easements or farmland deed restrictions that conserve existing agricultural land.

City of Manteca Right to Farm Ordinance

Chapter 8.24 of the Municipal Code establishes the City's "Right to Farm" ordinance, which is intended to protect agricultural uses in the City. The ordinance establishes the City's policy to preserve, protect and encourage the use of viable agricultural land for the production of food and other agricultural products. Chapter 8.24 identifies that when nonagricultural land uses extend into or approach agricultural areas, conflicts may arise between such land uses and agricultural operations that often result in the involuntary curtailment or cessation of agricultural operations, and discourage investment in such operations.

Chapter 8.24 of the City's Municipal Code is intended to reduce the occurrence of such conflicts between nonagricultural and agricultural land uses within the City through requiring the transferor of any property in the City to provide a disclosure statement describing that the City permits agricultural operations, including those that utilize chemical fertilizers and pesticides. The disclosure statement notifies the purchaser that the property being purchased may be located close to agricultural lands and operations and that the purchaser may be subject to inconvenience or discomfort arising from the lawful and proper use of agricultural chemical and pesticides and from other agricultural activities, including without limitation, cultivation, plowing, spraying, irrigation, pruning, harvesting, burning of agricultural waste products, protection of crops and animals from depredation, and other activities which occasionally generate dust, smoke, noise and odor. In addition, prior to issuance of a city building permit for construction of a residential building, the owner of the property upon which the building is to be constructed is required to file a disclosure statement acknowledging the proximity of agricultural operations and the potential for inconvenience or nuisance associated with those uses.

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

The SJMSCP provides comprehensive measures for compensation and avoidance of impacts on various biological resources, which includes ancillary benefits to agricultural resources. For instance, many of the habitat easements that are purchased or facilitated by the SJMSCP program are targeted for the protection of Swainson's hawk or other sensitive species habitat that are dependent on agricultural lands. The biological mitigation for these species through the SJMSCP includes the purchase of certain conservation easements for habitat purposes; however, the conservation easements are placed over agricultural land, such as alfalfa and row crops (not vines or orchards). As such, SJMSCP fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

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 agricultural and forest resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland zoned Timberland Production (as defined in Public Resources Code section 51104 (g));
- Result in the loss of forest land or conversion of forest land to non-forest use; or

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

There are no forest lands or timber lands located within the Manteca Planning Area. There are also no parcels that are currently zoned as forest land, timber, or timber production. Therefore, implementation of the proposed General Plan would have no impact on forest land, timber, or timber production and this impact will not be discussed further.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: General Plan implementation would result in the conversion of farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural use (Significant and Unavoidable)

As shown in Table 3.2-4, there are approximately 4,943 acres of Important Farmlands located within the city, including approximately 1,095 acres of Prime Farmland, 3,291 acres of Statewide Important Farmland and 570 acres of locally important farmland. As shown on Figure 3.2-1, the Planning Area is designated as has Urban and Built-Up (approximately 8,948 acres), Prime Farmland (4,829 acres), Farmland of Statewide Importance (10,669 acres), Farmland of Local Importance (900 acres), Semi-Agricultural and Rural Commercial Land and Vacant or Disturbed Land and Rural Residential (454 acres).While the proposed General Plan Land Use Map specifically identifies lands in Urban Reserve, Farmland, and Open Space that would not be converted to urban uses, it also designates a range of residential, commercial, industrial, public/quasi-public, and other uses that would convert farmland to urban and built up land. Therefore, the proposed Manteca General Plan has the potential to convert farmland to non-agricultural uses. However, the proposed General Plan emphasizes and prioritizes infill development, logical growth extending outward from existing development, and establishes Urban Reserve areas as part of its strategy to preserve and protect the greatest amount of agricultural land feasible. A large portion of the Planning Area is currently zoned for urban land uses (i.e., residential single family, multi-family, public and institutional, mixed use and commercial) and proposes zoning changes similar to the existing land uses. Land uses surrounding the Planning Area consist of light industrial, commercial general, commercial, open space, single family residential, rural residential, single family residential agricultural, limited agriculture, exclusive agriculture, and other similar land uses.

The Planning Area does contain prime soils as defined by the California Department of Conservation, Agricultural Conservation and Mitigation Program. According to the Agricultural Conservation and Mitigation Program Farmland shall be considered prime farmland if it meets the definition of "prime agricultural land" in Government Code Section 51201. Government Code Section 51201 states that prime agricultural land means any of the following:

(1) All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.

(2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.

(3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.

(4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars ($200) per acre.

(5) Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars ($200) per acre for three of the previous five years.

As described in Table 3.2-3, a majority of the soils within the Planning Area have a capability classification higher than class 3 or 4 which does not qualify as prime agricultural land under the Agricultural Conservation and Mitigation Program. However, the majority of soils have a storie index of 2, which correlates to a rating of 60-80, meaning soils within the Planning Area are suitable for most crops, but have minor limitations that narrow the choice of crops, have a few special management needs and could potentially qualify as prime agricultural land as defined by the Agricultural Conservation and Mitigation Program. In addition, a small portion of the planning area have a storie index of 1, which correlates to a rating of 80-100, which qualities as prime agricultural land as defined by the Agricultural Conservation and Mitigation Program.

Conversion of farmland as a result of Plan implementation is considered a ***potentially significant*** impact.

The proposed General Plan includes policies and action, identified below, that are intended to reduce the conversion of farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural uses. These include policies that encourage the development of vacant lands within City boundaries prior to conversion of agricultural lands and ensure that urban development near existing agricultural lands will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations. Overall, the policies and actions included in the proposed General Plan are intended to support and preserve the agricultural heritage of Manteca as development continues to occur within the Planning Area.

In addition to the proposed General Plan's policies and actions, the City implements other programs and regulations aimed at protecting agricultural lands throughout the Planning Area. For example, Manteca Municipal Code Chapter 13.42 includes the City's agricultural land mitigation requirements. In order to mitigate and offset the loss of valuable farmland resources, the City requires an agricultural mitigation fee for any discretionary land use entitlement which will permanently change agricultural land over one acre in size within the City's jurisdiction to any non-agricultural use. The in lieu fee, paid to the City, is placed in a trust account and used solely for farmland mitigation purposes. The interest from funds in this account is also used for farmland protection purposes. These funds may be used for costs associated with establishing, monitoring, and managing farmland conservation easements.

The City also implements a Right-to-Farm ordinance, as described in greater detail in the Regulatory Setting section of this chapter. One purpose of this ordinance is to prevent the loss of agricultural resources and damage to the local agricultural industry by creating a presumption that proper agricultural operations may not be deemed a public nuisance. An additional purpose of this ordinance is to promote a good neighbor policy by requiring notification to purchasers and users of property near agricultural operations of the inherent inconveniences associated with such operations.

The proposed General Plan would accommodate development that would result in the conversion of farmlands within the Planning Area to non-agricultural uses. The conversion of these farmlands requires mitigation through the City of Manteca Farmland Preservation Program, as described previously. While the above-identified impact would be reduced through preservation of agricultural land at a 1:1 ratio, the impact would not be reduced to a less-than-significant level due to the fact that active agricultural land would still be permanently converted to urban uses. Feasible mitigation measures do not exist to reduce the above impact to a less-than-significant level. Therefore, the impact would remain ***significant and unavoidable***.

GENERAL PLAN ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-4b: As part of the City's development review process, ensure that commercial projects are designed to minimize conflicts with residential uses. Review of commercial projects should ensure that the following design concepts are avoided in projects that abut residential areas:

RCP-8.1: Support the continuation of agricultural uses on lands designated for urban use, until urban development is imminent.

RC-8.2: Provide an orderly and phased development pattern, encouraging the development of vacant lands within City boundaries prior to conversion of agricultural lands, so that farmland is not subjected to premature development pressure.

RC-8.3: Encourage permanent agricultural lands surrounding the Planning Area to serve as community separators and continue the agricultural heritage of Manteca.

RC-8.4: Support and encourage the preservation of designated Agriculture lands, without placing an undue burden on agricultural landowners.

RC-8.5: Minimize conflicts between agricultural and urban land uses.

RC-8.6: Ensure that urban development near existing agricultural lands will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.

RC-8.7: Prohibit the fragmentation of agricultural parcels into small rural residential parcels except in areas designated for urban development in the Land Use Diagram.

RC-8.8: Encourage agricultural landowners in Manteca's Planning Area to participate in Williamson Act contracts and other programs that provide long-term protection of agricultural lands.

Discourage the cancellation of Williamson Act contracts outside the Primary Urban Service Boundary line.

RC-8.9: Work with the Local Agency Formation Commission (LAFCO) on issues of mutual concern including the conservation of agricultural land through consistent use of LAFCO policies, particularly those related to conversion of agricultural lands and establishment of adequate buffers between agricultural and non-agricultural uses, and the designation of a reasonable and logical Sphere of Influence boundary for the City.

RC-8.10: Prohibit re-designation of Agricultural lands to other land use designations unless all of the following findings can be made:

a. *There is a public need or net community benefit derived from the conversion of the land that outweighs the need to protect the land for long-term agricultural use.*

b. *There are no feasible alternative locations for the proposed project that are either designated for non-agricultural land uses or are less productive agricultural lands.*

c. *The use would not have a significant adverse effect on existing or potential agricultural activities on surrounding lands designated Agriculture.*

RC- P-8.11: Require the development projects to reduce impacts on agricultural lands through the use of buffers, such as greenbelts, drainage features, parks, or other improved and maintained features, in order to separate residential and other sensitive land uses, such as schools and hospitals, from agricultural operations and from lands designated Agriculture.

RC-8.12: Work with agricultural landowners to improve practices that have resulted in adverse impacts to adjacent properties. Such practices include site drainage and flood control measures.

RC-8.13: Encourage agricultural landowners in Manteca's Planning Area to participate in Williamson Act contracts and other programs that provide long-term protection of agricultural lands. Discourage the cancellation of Williamson Act contracts outside the 20-Year Planning Horizon in the City's most recent Municipal Services Review.

RC-8.14: Support the procurement of expanded and additional water rights which provide for contractual supply reliability for agricultural use.

RC-8.15: Do not extend water and sewer lines to noncontiguous urban development that would adversely affect agricultural operations.

RC-8.16: Encourage small-scale food production, such as community gardens and cooperative neighborhood growing efforts, on parcels within the City limits, provided that the operations do not conflict with existing adjacent urban uses.

RC-8.17: Encourage Manteca Unified School District and the Delta Community College District to maintain school farm facilities and associated education programs.

RC-8.18: Encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste, biofuels, and solar or wind farms.

ACTIONS

RC-8a: Continue to implement Chapter 8.24 (Right to Farm) of the Municipal Code in order to protect farming uses from encroaching urban uses and to notify potential homebuyers of nearby agricultural operations.

RC-8b: Consider impacts to agricultural lands and agricultural productivity when reviewing new development projects, amendments to the General Plan, and rezoning applications.

RC-8c: Amend Title 17 (Zoning) of the Municipal Code to include specific agricultural buffer requirements for residential and sensitive land uses (i.e., schools, day care facilities, and medical facilities) that are proposed near existing agricultural lands in order to protect the associated agricultural operations from encroachment by incompatible uses. Buffers shall generally be defined as a physical separation, depending on the land use, and may consist of topographic features, roadways, bike/pedestrian paths, greenbelts, water courses, or similar features. The buffer shall occur on the parcel for which a permit is sought and shall favor protection of the maximum amount of agricultural land.

RC-8d: Collaborate with water suppliers and wastewater treatment plant operators to increase the availability of treated or recycled water for agricultural purposes.

RC-8e: Apply the following conditions of approval where urban development occurs next to farmland.

- *Require notifications in urban property deeds that agricultural operations are in the vicinity, in keeping with the City's right-to- farm ordinance.*
- *Require adequate and secure fencing at the interface of urban and agricultural use.*
- *Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.*
- *Require a buffer, which may include a roadway and landscaped buffer, open space transition area, or low intensity uses, between urban uses and lands designated Agriculture on the Land Use Map.*

RC-8f: Work with San Joaquin County on the following issues:

- *The establishment and implementation of consistent policies for agricultural lands in the Planning Area that prioritize the preservation of agricultural lands and support ongoing agricultural activities.*
- *Pesticide application and types of agricultural operations adjacent to urban uses.*
- *Support the continuation of County agricultural zoning in areas designated for agricultural land use in the Area Plan.*

RC-8g: Develop a program to support for agricultural tourism, u-pick orchards and farms, and other agricultural activities that serve as a regional draw to Manteca and enhance its agricultural heritage.

Impact 3.2-2: General Plan Implementation would conflict with existing zoning for agricultural use, or a Williamson Act Contract (Significant and Unavoidable)

While lands within the City are not zoned for agricultural use, the Planning Area includes lands zoned for agricultural use by San Joaquin County. These include lands that are designated as General Agriculture by the San Joaquin General Plan and zoned for Agriculture with minimum parcel size of 40 acres (AG-40). Further, there are lands adjacent the Planning Area that are zoned for agricultural use. Therefore, implementation of the General Plan may have the potential to conflict with lands zoned for agricultural uses. The Planning Area also includes lands that are under a Williamson Act Contract. Currently, the majority of the Williamson Act Contract land within the Planning Area are designated for agricultural land uses and will continue to be used for agricultural purposes under the proposed General Plan. Under the proposed General Plan Land Use Map, the approximately 1,375 acres of Williamson Act Contract land are proposed for agriculture, very low density residential, business park industrial and industrial land uses. Therefore, the implementation of the proposed General Plan could conflict with existing Williamson Act Contracts because non-agricultural uses, such as proposed business park industrial and industrial land uses to the north, are allowed on the existing Contract land. As a result, the proposed project could result in a significant impact on existing Williamson Act Contract land.

The proposed General Plan includes policies and actions, listed below, that are intended to reduce conflict between existing agricultural zones, or a Williamson Act Contract with new development as a result of the proposed general plan. These include policies which help explicitly minimize conflicts between agricultural and urban land uses. For example, the proposed general plan includes policies which encourage coordination LAFCO on issues of the conservation of agricultural land; promotes the enrollment in Williamson Act contracts; promotes the establishment of adequate buffers between agricultural and urban land uses; prohibits the redesignation of Agricultural lands to other land use designations unless specific findings are mad; and requires future development projects to reduce impacts on agricultural lands through the use of buffers, such as greenbelts, drainage features, parks, or other improved and maintained features.

The City's Right to Farm Ordinance is intended to reduce the occurrence of such conflicts between nonagricultural and agricultural land uses within the City through requiring the transferor of any property in the City to provide a disclosure statement describing that the City permits agricultural operations, including those that utilize chemical fertilizers and pesticides. Compliance with the City's Right to Farm Ordinance would ensure that projects include adequate measures to buffer project uses from adjacent agricultural uses and would reduce adverse effects on neighboring agricultural uses.

While the potential for conflicts between agricultural uses and non-agricultural uses would be minimized through the policies, actions, and requirements described above, the General Plan would allow the conversion of lands zoned for agricultural uses as well as approximately 407 acres of properties with Williamson Act Contracts to be developed with non-agricultural uses. This is considered a ***significant and unavoidable*** impact.

Impact 3.2-3: Project implementation would not result in the loss of forest land or conversion of forest land to non-forest use (No Impact)

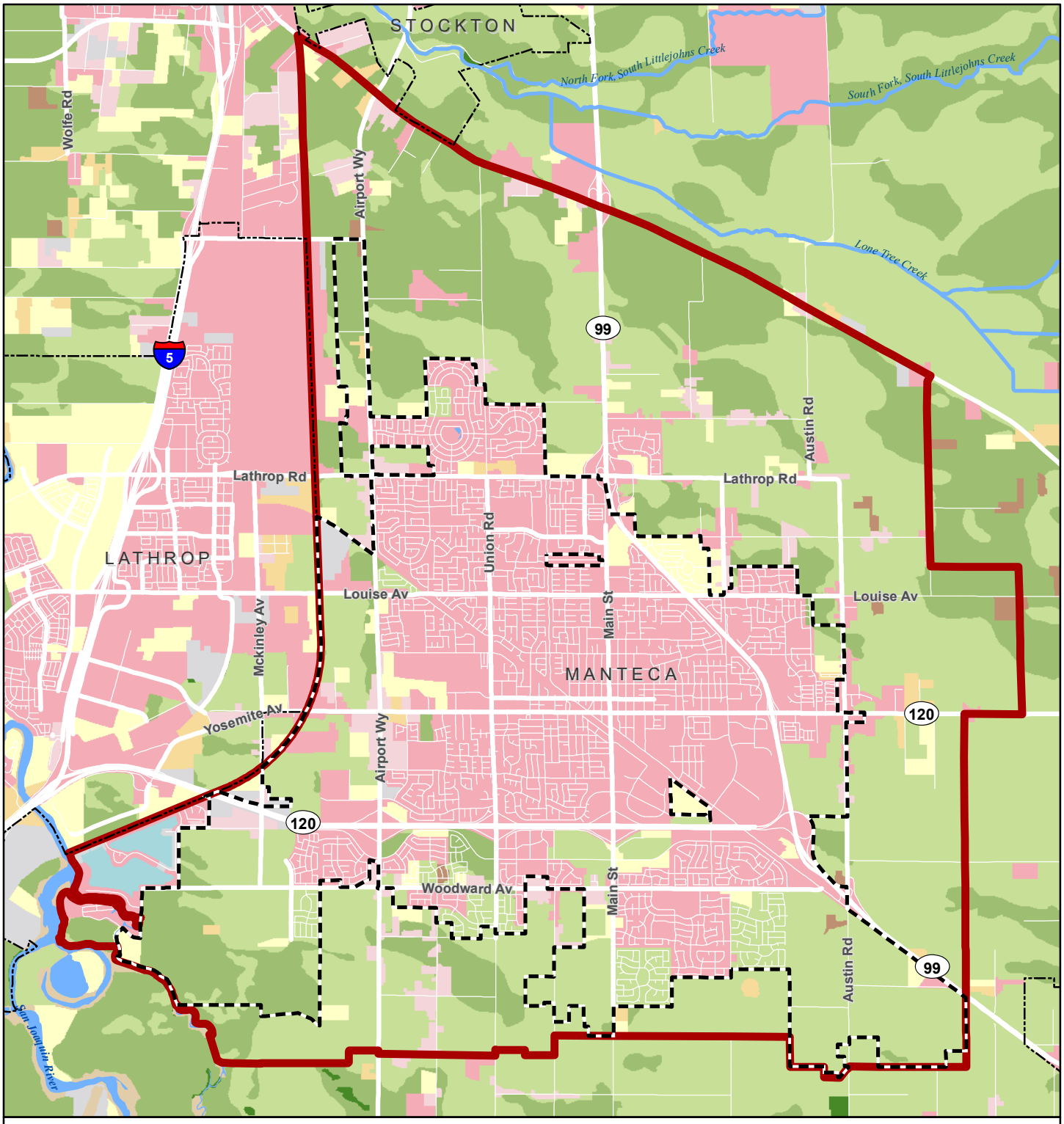
The Planning Area does not contain parcels designated as forest land and the proposed General Plan does not propose uses that would convert existing forest land to non-forest use. Therefore, the project would result in ***no impact*** regarding the loss of forest land or conversion of forest land to non-forest use.

Impact 3.2-4: General Plan implementation would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use (Less than Significant)

As discussed in Impact 3.2-1, future development in accordance with the proposed General Plan would result in the conversion of farmland to a non-agricultural use. The proposed General Plan would allow new urban uses that have the potential to conflict with existing agricultural operations, regardless of whether the operations are conducted on Williamson Act lands and lands zoned for agricultural use as discussed under impact 3.2-2 above. Future development in areas within the Planning Area may involve other changes in the existing environment that could result in the conversion of farmland. However, as mentioned before the proposed General Plan includes policies which would reduce the impact of development resulting in the conversion of existing farmland. This includes policies which encourage coordination LAFCO on issues of the conservation of agricultural land; promotes the enrollment in Williamson Act contracts; promotes the establishment of adequate buffers between agricultural and urban land uses; prohibits the redesignation of Agricultural lands to other land use designations unless specific findings are mad; and requires future development projects to reduce impacts on agricultural lands through the use of buffers, such as greenbelts, drainage features, parks, or other improved and maintained features. In addition, the City's Right to Farm Ordinance is intended to reduce the occurrence of such conflicts between nonagricultural and agricultural land uses within the City through requiring the transferor of any property in the City to provide a disclosure statement describing that the City permits agricultural operations, including those that utilize chemical fertilizers and pesticides. Compliance with the City's Right to Farm Ordinance would ensure that projects include adequate measures to buffer project uses from adjacent agricultural uses and would reduce adverse effects on neighboring agricultural uses.

Therefore, the proposed General Plan would result in a ***less than significant*** impact involving other changes in the existing environment that could result in the conversion of farmland.

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Legend

Planning Areas

Manteca City Limits | Surrounding Cities | Manteca Planning Area

Farmland Category

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation
- Vacant or Disturbed Land
- Rural Residential Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land
- Water Area

CITY OF MANTECA GENERAL PLAN

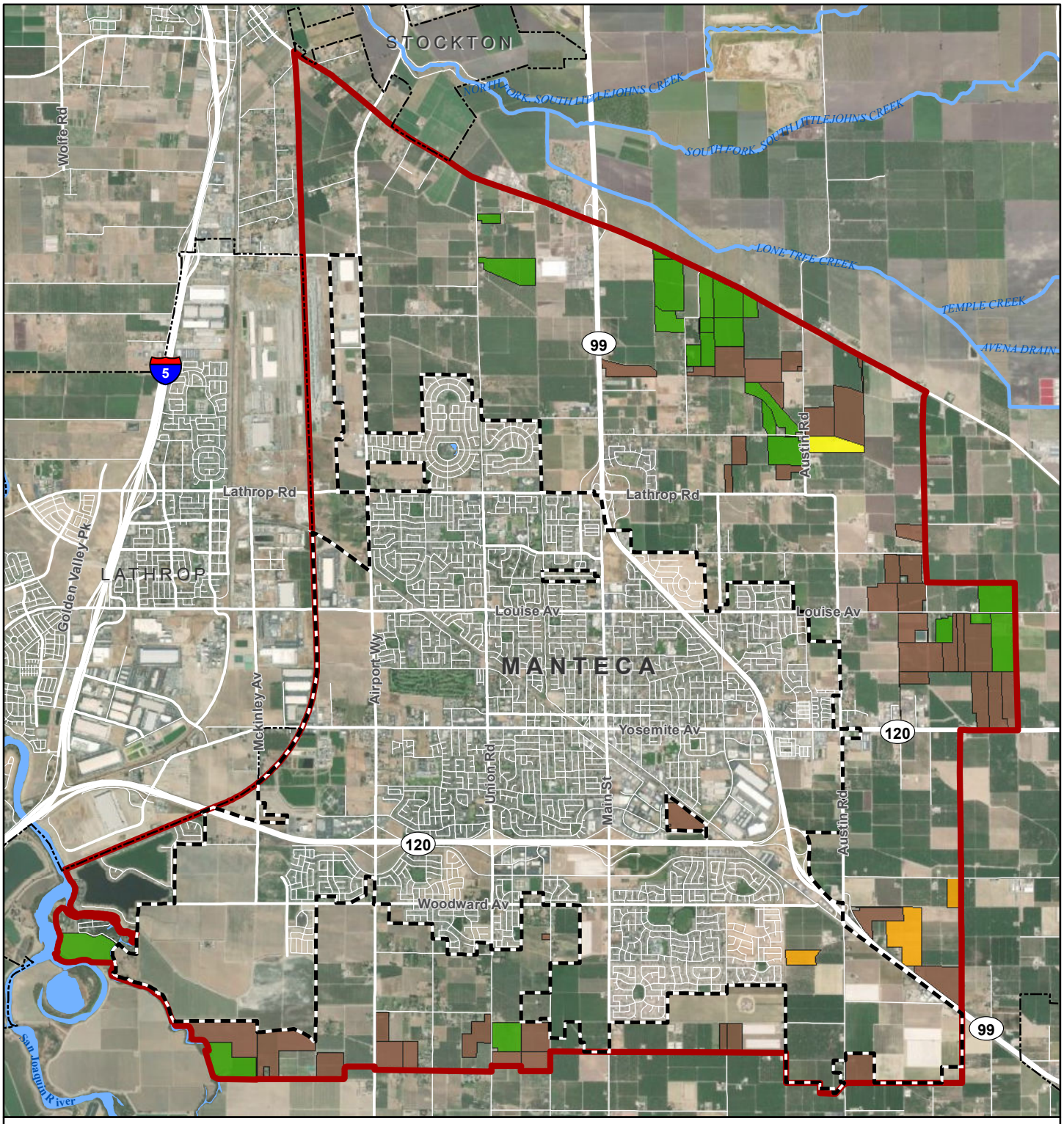
Figure 3.2-1. Important Farmlands

0 ½ 1 Miles

Sources: Farmland Mapping and Monitoring Program, San Joaquin County, 2016; City of Manteca; San Joaquin County. Map date:December 15, 2016. Revised: December 14, 2020.

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Legend

Planning Areas

- Manteca City Limits
- Surrounding Cities
- Manteca Planning Area

Williamson Act Lands

- Prime Agricultural Land
- Non-Prime Agricultural Land
- Farmland Security Zone
- Non-Renewal

Sources: California Department of Conservation, San Joaquin County Williamson Act FY 2015/2016; City of Manteca; San Joaquin County GIS. Map date: December 15, 2016. Revised December 14, 2020.

CITY OF MANTECA GENERAL PLAN

Figure 3.2-2. Williamson Act Lands

0 ½ 1
Miles

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This section describes the regional air quality, current attainment status of the applicable air basin, local sensitive receptors, emission sources, and impacts that are likely to result from proposed project implementation.

No comments were received during the NOP comment period regarding this environmental topic.

3.3.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Manteca (City) is in the southern portion of the San Joaquin Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (San Joaquin Valley Air Pollution Control District (SJVAPCD), 2015).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas.[1] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period.

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides

[1] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed March 3, 2020.

tend to peak, partly due to low levels of ozone at this time and also due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. This ammonium nitrate is part of the valley's $PM_{2.5}$ and PM_{10} problem. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10} (SJVAPCD, 2015).

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. 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). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.3-1) are set to public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the project are discussed 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 O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (ROG) and oxides of nitrogen (NO_x) 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 ROGs and NO_x are emitted by transportation and industrial sources. ROGs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. Relatedly, reactive organic compounds (ROG) are defined as the subset of ROGs that are reactive enough to contribute substantially to atmospheric photochemistry.

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.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA, 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. EPA, 2019b). The average background level of ozone in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (CARB, 2019a).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen oxides (NO_x) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, 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. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with ROGs, in the atmospheric reactions that produce O_3. NO_x 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) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities.

SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

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.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

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 ROGs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine 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. Small particulate pollution causes health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

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 activities (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.

$PM_{2.5}$ consists of fine particles, which are less than 2.5 microns in size. Similar to PM_{10}, 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 U.S. 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 impacts soils and damages materials and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lunch function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. EPA, 2019c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. 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.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in

decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments to not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board (CARB).

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the 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 State ambient air quality standards are summarized in Table 3.3-1 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 standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	--	20 ug/m^3
	24-Hour	150 ug/m^3	50 ug/m^3
$PM_{2.5}$	Annual	12 ug/m^3	12 ug/m^3
	24-Hour	35 ug/m^3	--
Lead	30-Day Avg.	--	1.5 ug/m^3
	3-Month Avg.	0.15 ug/m^3	--

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019A.

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 existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

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 air basin 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, carbon monoxide, and nitrogen dioxide as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide, 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 Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10} and $PM_{2.5}$. San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.3-2 presents the state and nation attainment status for San Joaquin County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS IN SAN JOAQUIN COUNTY

CRITERIA POLLUTANTS	STATE DESIGNATIONS	NATIONAL DESIGNATIONS
Ozone (O_3)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2020.

San Joaquin County Air Quality Monitoring

The San Joaquin Valley Air Pollution District (SJVAPCD) and the CARB maintain air quality monitoring sites throughout San Joaquin County that collect data for ozone and $PM_{2.5}$. In addition, air quality monitoring sites for PM_{10} are located throughout the San Joaquin Valley (though not in San Joaquin County). It is important to note that while the State retains the one-hour standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Best available data obtained from the monitoring sites between 2017 and 2019 (latest year of data available) is shown in Table 3.3-3, Table 3.3-4, and Table 3.3-5.

TABLE 3.3-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN COUNTY) - 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	8-HR	MAX.	D.V.[1]	D.V.[2]	MAX.	D.V.[1]	MAX.	D.V.[2]	MIN	MAX
2019	2	4	0	4	0.098	0.09	0.092	0.08	0.0823	0.079	0.073	91	99
2018	1	8	0	8	0.099	0.10	0.099	0.082	0.0872	0.081	0.076	96	99
2017	0	8	0	6	0.093	0.10	0.105	0.082	0.0898	0.082	0.077	84	95

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.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR iADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN VALLEY) – PM_{10}

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2019	16.2	129.7	55.6	55.6	652.2	664.2	0 – 100
2018	9.6	164.4	54.5	53.0	250.2	250.4	0 – 100
2017	7.7	145.5	55.3	48.4	298.4	210.0	0 – 100

NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} 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. ND=THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

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

TABLE 3.3-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN COUNTY) - $PM_{2.5}$

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
2019	6.4	9.6	6.2	13.0	17	32.9	56	50.1	50.1	77	95
2018	25.0	17.6	17.4	13.8	17	96.9	56	188.0	257.5	96	100
2017	16.9	12.1	11.0	12.2	13	44.2	39	53.7	53.7	94	99

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

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

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

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. 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. The closest sensitive receptors to the Planning Area include existing residences located within the Planning Area itself.

3.3.2 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 U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. 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 (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure

assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The CASAC's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.
- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.
- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

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 U.S. 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. The CARB is the state agency that is responsible for preparing the California SIP.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the U.S. EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by U.S. EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

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 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 require 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. The CARB is the

agency responsible for administering the CCAA. The 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.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, 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 and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act (TACs)

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 CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB 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 Best Available Control Technologies (BACT) to minimize emissions.

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. CARB 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, CARB 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.

Omnibus Low-NOx Rule

The CARB approved the Omnibus Low-NOx Rule on August 28, 2020, which will require engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NOX Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that mandates manufacturers convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- A comprehensive set of goals, policies, and objectives to improve air quality; and

- Feasible implementation measures designed to achieve these goals.

LOCAL

City of Manteca Municipal Code

Chapter 17.58 of the Manteca Municipal Code describes the odor, particulate matter, and air containment standards (consistent with the rules and regulations of the SJVAPCD and the California Health and Safety Code. Chapter 15.62 of the Municipal Code provides expedited permitting procedures for electric vehicle charging stations. Furthermore, Chapter 15.60 describes the solar energy system requirements associated with small residential rooftop solar energy systems within the City.

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the State Implementation Plans (SIP). California's adopted 2007 State Strategy was submitted to the U.S. EPA as a revision to its SIP in November 2007.[2] More recently, in October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance)[3] The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-HOUR OZONE PLAN

Although U.S. EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and SJVAPCD must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the

[2] Note that the plan was adopted by CARB on September 27, 2007; California Air Resources Board. 2007. California Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan.
[3] SJVAPCD, 2012. 2012 $PM_{2.5}$ Plan, December 20.

Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the U.S. EPA published in the Federal Register a final action determining that SJVAB has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three-year period allowing nonattainment penalties to be lifted under federal Clean Air Act section 179b (SJVAPCD, 2015).

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[4,5]

PM_{10} PLAN

Based on PM_{10} measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will continue to meet the PM_{10} standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[6] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All of the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

SJVAPCD RULES AND REGULATIONS

SJVAPCD Indirect Source Review

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and PM_{10} emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction

[4] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed March 3, 2020.

[5] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed March 3, 2020.

[6] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout would include any one of the following:

- 50 residential units.
- 2,000 square feet of commercial space.
- 25,000 square feet of light industrial space.
- 100,000 square feet of heavy industrial space.
- 20,000 square feet of medical office space.
- 39,000 square feet of general office space.
- 9,000 square feet of educational space.
- 10,000 square feet of government space.
- 20,000 square feet of recreational space.
- 9,000 square feet of space not identified above.
- Transportation/transit projects with construction exhaust emissions of two or more tons of NOx or two or more tons of PM_{10}.
- Residential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, regardless of the number of tract maps, and has the capability of accommodating more than 50 residential units.
- Nonresidential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, and has the capability of accommodating development projects that emit two or more tons per year of NOx or PM_{10} during project operations.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fee) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources).28 Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on their air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total PM_{10} exhaust emissions

Mitigation measures may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

Operational Emissions

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- PM_{10} Emissions. Applicants shall reduce of 50 percent of the project's operational baseline PM_{10} emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emission reduction measures. In the event that a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

Fugitive PM_{10} Prohibitions

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measure to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

National Emission Standards for Hazardous Air Pollutants

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.

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.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan 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;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

METHODOLOGY

Nearly all development projects within the San Joaquin Valley Air Basin, from general plans to individual development projects have the potential to generate air pollutants, making it more difficult to attain State and Federal ambient air quality standards. Therefore, it is necessary to evaluate air quality impacts to comply with CEQA. As identified in the SJVAPCD's *Guidance for Assessing and Mitigation Air Quality Impacts* (GAMAQI), land use decisions are critical to improving air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence transportation needs and motor vehicle emissions are the largest source of air pollution. Land use decisions and project design elements such as preventing urban sprawl, encouraging mix-use development, and project designs that reduce vehicle miles traveled (VMT) have proven benefit for air quality.

The analysis presented below was completed to include both a qualitative and a quantitative approach. The qualitative analysis discusses the proposed General Plan's consistency with the SJVAPCD's GAMAQI and other applicable rules and regulations. The quantitative analysis presents the proposed General Plan's VMT projections associated with buildout of the General Plan, which were developed using the VTA Travel Demand Model, in comparison to the population and job projections associated with buildout of the General Plan. The VMT analysis is described in greater detail in Chapter 3.14, Transportation and Circulation.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants (Less than Significant)

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. The SJVAPCD's most current air quality plans for PM, ozone, and carbon monoxide are (respectively) the *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards*, the *2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone*

Standard, and the *2004 Revisions to the Carbon Monoxide Maintenance Plan*. These plans are also known is "Air Quality Attainment Plans". The SJVAPCD's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs.

The proposed General Plan includes an extensive list of policies and actions that are specifically aimed at improving air quality. These policies and actions, which are provided below, limit impacts to air quality including by reducing the number and length of vehicle trips, supporting green and sustainable building development, promoting the use of renewable energy, and encouraging the conservation of resources.

The policies and actions included throughout the proposed General Plan cover the full breadth of air quality issues as recommended in the applicable air quality plans. If approval of the proposed General Plan would cause the disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it may be inconsistent with the applicable air quality plans. The proposed General Plan does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the applicable air quality plans. All future development and infrastructure projects within the Planning Area would be subject to the above-referenced General Plan goals, policies, and actions, which were adopted to reduce emissions and air quality impacts.

The Planning Area is surrounded by a variety of existing urbanized and is bisected by two of the most heavily-travelled highway corridors in the San Joaquin Valley (SR 99 and SR 120). The proposed General Plan emphasizes a compact, mixed use, transit-oriented development pattern that emphasizes alternative transportation access and multi-modal connectivity throughout the Planning Area and into the surrounding areas.

Implementation of the proposed General Plan, which is consistent with all federal and state guidelines, would have a **less than significant** impact relative to this topic and would be consistent with the applicable air quality plans.

The following quantitative analysis describes VMT and population increases associated with implementation of the General Plan. The proposed General Plan is intended to support and enhance jobs-generating uses within Manteca, and to assist the City in maintaining a balanced ratio of jobs to housing units within the city.

As part of the transportation analysis, Fehr & Peers (the traffic consultant) modeled VMT for the Planning Area for air quality analysis purposes. The existing VMT for the Planning Area is approximately 1,784,908 and VMT for the Planning Area at buildout is expected to be 4,384,963.

As shown in Table 2.0-2 of this Draft EIR (see Chapter 2.0: Project Description), Manteca has an existing population of approximately 89,835. Full buildout of the General Plan could generate up to 116,546 new residents, for a total population of 206,381 at buildout. Manteca has an existing jobs base of approximately 16,381 jobs. Full buildout of the Planning Area could generate up to 37,969 new jobs in Manteca, resulting in 54,530 total jobs at buildout. Table 3.3-6 shows the combined population and jobs growth generated by the proposed project, compared to existing

levels within the city. Table 3.3-7 shows the existing baseline VMT and projected VMT following buildout of the proposed project.

TABLE 3.3-6: COMBINED JOBS AND HOUSING GROWTH

EXISTING JOBS + POPULATION IN MANTECA	106,216
NEW JOBS + POPULATION GENERATED BY PROJECT	260,911
PERCENT INCREASE IN JOBS + POPULATION	146%

SOURCE: FEHR & PEERS, 2020

TABLE 3.3-7: EXISTING AND PLUS-PROJECT VMT – PLANNING AREA

EXISTING VMT	1,784,908
EXISTING PLUS PROJECT VMT	4,384,963
PERCENT INCREASE IN VMT	146%

SOURCE: FEHR & PEERS, 2020

As shown in the two tables above, implementation of the proposed project would result in an approximately 146% increase in citywide VMT, similar to the projected 146% increase in combined population and jobs. Therefore, the growth rate associated with the proposed General Plan is comparable to the VMT increase associated with it. Therefore, the proposed project is not anticipated to result in VMT increases on a per service population basis.

The proposed General Plan would further the fundamental goals of the SJVAPCD in reducing emissions of criteria pollutants associated with vehicle miles traveled, would assist the city in achieving a more balanced jobs to housing ratio, and would increase opportunities for transit ridership in Manteca and the surrounding areas. The list below provides those General Plan policies and actions that would work to further criteria pollutant emissions, including reviewing projects for conformance with applicable air quality plans and regulations, reducing energy demands, and implementing methods to reduce vehicle miles traveled. Therefore, this impact is considered **less than significant**.

GENERAL PLAN POLICIES AND IMPLEMENTATION ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-3.9: Locate residences away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, such as less intensive renewable energy production, light industrial, office, or commercial uses, separate the proposed residential uses from more intensive uses, including industrial, agricultural, or agricultural industrial uses and designated truck routes, to ensure the health and well-being of existing and future residents.

LU-6.8: Encourage the mixing of retail, service, residential, office, and institutional uses on the properties surrounding The Promenade to create a significant retail, employment, and cultural center south of Highway 120.

LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities and, where feasible, site consolidation.

LU-6.10: Encourage the reuse of existing buildings within Downtown and in other developed locations designated for mixed-use development by utilizing the California Existing Building Code which provides flexibility in the retrofitting of buildings.

LU-6.11: Promote the revitalization of underutilized, deteriorated areas and buildings within Downtown and in other developed locations designated for mixed-use development through development incentives, public/private partnerships, and public investments.

LU-8.4: Policy Area 3 is the Austin Road Business Park and Residential Community Master Plan area, with boundaries as shown in Figure LU-6. The primary land uses within Policy Area 3 are envisioned to be a master planned residential community with high-quality parks, community-serving commercial uses, and residential development ranging from very low to high density residential in order to accommodate a broad range of housing types, including executive housing and workforce housing. Residential uses located near SR 99 and adjacent the railroad tracks should include appropriate transitions and buffers to address air quality and noise.

LU-9.1: Require future planning decisions, development, and infrastructure and public projects to consider the effects of planning decisions on the overall health and well-being of the community and its residents, with specific consideration provided regarding addressing impacts to disadvantaged populations and communities and ensuring disadvantaged communities have equitable access to services and amenities.

LU-9.2: As part of land use decisions, ensure that environmental justice issues related to potential adverse health impacts associated with land use decisions, including methods to reduce exposure to hazardous materials, industrial activity, vehicle exhaust, other sources of pollution, and excessive noise on residents regardless of age, culture, gender, race, socioeconomic status, or geographic location, are considered and addressed.

C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-2.8: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied appropriately at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).

C-4.1: Through regular updates to the City's Active Transportation Plan, establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.4: Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C.4-6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C.4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle lanes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C.4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C.4.9: Provide sidewalks along both sides of all new streets in the City.

C-5.1: Encourage and plan for the expansion of regional bus service in the Manteca area.

C-5.2: Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-5.3: Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

C-5.5: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-5.6: Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.

C-5.7: Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-5.8: Design future roadways to accommodate transit facilities, as appropriate. These design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.

C-5.9: Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.

C-5.10: Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.

C-5.11: As new areas and neighborhoods of the City are developed, fund transit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development.

C-7.1: Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-7.2: Require development projects that accommodate or employee 50 or more full-time equivalent employees to establish a transportation demand management (TDM) program.

C-7.3: Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.

C-7.4: Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.

C-7.5: Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

C-7.6: Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.

ED-1.3: Prioritize the development of employment-generating uses on sites with vacant buildings or on underutilized commercial, office, and industrial-designated parcels.

ED-1.9: Encourage mixed-use development on vacant and underutilized parcels along the North Main Street and Yosemite Avenue corridors, allowing flexible reaction to changing market conditions.

CF-11.2: Implement and enforce the provisions of the City's Source Reduction and Recycling Program and update the program as necessary to meet or exceed the State waste diversion requirements.

CF-11.3: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

CF-11.4: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.

CF-11.5: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

RC-4.1: Prepare for and respond to the expected impacts of climate change.

RC-4.2: Assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions and be resilient to negative changes and impacts associated with climate change.

RC-5.1: Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.

RC-5.2: Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.

RC-5.3: Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current "green" development standards in the California Green Building Standards Code.

RC-5.4: Support innovative and green building best practices including, but not limited to, LEED certification for all new development, and encourage public and private projects to exceed the most current "green" development standards in the California Green Building Standards Code.

RC-5.5: Encourage the conservation of public utilities.

RC-5.6: Encourage the conservation of petroleum products.

RC-6.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use,

transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- *Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.*
- *Identifying baseline air pollutant and greenhouse gas emissions.*
- *Encouraging economy clean fuel for city vehicle fleets, when feasible.*
- *Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.*

RC-6.2: Minimize exposure of the public to toxic or harmful air emissions and odors through requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors, including but not limited to industrial, manufacturing, and processing facilities, highways, and rail lines.

RC-6.3: Ensure that new construction is managed to minimize fugitive dust and construction vehicle emissions.

RC-6.4: Require appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

RC-6.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

IMPLEMENTATION ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:

- *Ensure consistency with the General Plan in terms of zoning districts and development standards;*
- *Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;*
- *Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and*
- *Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.*
- *Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.*

LU-6a: Consider implementing incentives to support developers who construct vertical mixed-use projects and/or who build housing above non-residential ground-floor uses within Downtown.

LU-6d: Promote the intensified use and reuse of existing suites above ground floors.

LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

LU-9c: Encourage and support local transit service providers to increase and expand services for people who are transit-dependent, including seniors, persons with mobility disabilities, and persons without regular access to automobiles by improving connections to regional medical facilities, senior centers, and other support systems that serve residents and businesses.

C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2f: Ensure that bicycle and pedestrian access is provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-4a: Periodically update the Active Transportation Plan to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

C.4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C.4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These

narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

C-5a: Periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-5b: Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

C-5c: Update the City's standard plans to include the option for bus turnouts at intersections of major streets.

C-5d: Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.

C-5e: Work with the school districts to identify and implement opportunities for joint-use public transit that would provide both student transportation and local transit service.

C-5f: Through the development review process, ensure that projects provide increased land use densities and mixed uses, consistent with the Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.

C-5g: Along fixed route corridors, require that new development to be compatible with and further the achievement of the Circulation Element. Requirements for compatibility may include but are not limited to:

- *Orienting pedestrian access to transit centers and existing and planned transit routes.*
- *Orienting buildings, walkways, and other features to provide pedestrian access from the street and locating parking to the side or behind the development, rather than separating the development from the street and pedestrian with parking.*
- *Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.*

C-5h: Review and update the City's funding programs to provide for adequate transit services, including funding for capital, operations, and maintenance, commensurate with growth of the City.

C-7a: Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, and on the City website.

C-7b: Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1c. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9410 could be used to implement this measure.

C-7c: Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes,

channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.

*C-7d: Proposed development projects shall consider the list of potential measures below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:**

- *Increase density of development (up to 10.75 percent)*
- *Increase diversity of land uses (up to 12 percent)*
- *Encourage telecommuting and alternative work schedules (up to 4.5 percent)*
- *Implement car-sharing programs (up to 5 percent)*
- *Implement parking management and pricing (up to 6 percent)*
- *Implement subsidized or discounted transit program (up to 0.7 percent)*
- *Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*

**Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010) and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

C-7e: Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.

C-7f: Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and polices (C-4).

C-7g: Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

RC-4a: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050 by reporting on the City's progress annually, updating the Climate Action Plan and GHG inventory regularly to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020, and updating the GHG Strategy in the General Plan, as appropriate.

RC-4b: When updating master plans for infrastructure, including water supply, flood control, and drainage, and critical facilities, review relevant climate change scenarios and ensure that the plans consider the potential effects of climate change and include measures to provide resilience.

RC-4c: Incorporate the likelihood of climate change impacts into City emergency response planning and training.

RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

- *Require new development to be energy-efficient through passive design concepts (e.g.,*

techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;

- *Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;*
- *Require all projects to meet minimum State and local energy conservation standards;*
- *Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;*
- *Encourage and accommodate projects that incorporate alternative energy;*
- *Encourage projects to incorporate enhanced energy conservation measures and other voluntary methods of reducing energy usage and greenhouse gas emissions; and*
- *Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.*

RC-5b: Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

RC-5c: Develop a public education program to increase public participation in energy conservation.

RC-5d: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

RC-5e: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

RC-5f: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

RC-5g: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

RC-5h: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

RC-6a: Work with the Air District to implement the Air Quality Management Plan (AQMP).

- *Cooperate with the Air District to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.*
- *Cooperate with the Air District and the State Air Board in their efforts to develop a local airshed model.*
- *Cooperate with the Air District in its efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.*

RC-6b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous

emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-6c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

- *The use of best available and economically feasible control technology for stationary industrial sources;*
- *All applicable particulate matter control requirements of Air District Regulation VIII;*
- *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
- *Use of alternative energy sources.*

RC-6d: Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

RC-6e: Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

RC-6f: Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.

- *Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.*

Impact 3.3-2: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations (Less than Significant)

The SJVAPCD has identified local community risks from air pollutants to include exposure to TACs and $PM_{2.5}$ concentrations. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health and $PM_{2.5}$ can cause a wide range of health effects (e.g., aggravating asthma and bronchitis, causing visits to the hospital for respiratory and cardiovascular systems, and contributing to heart attacks and deaths). Common stationary source types of TAC and $PM_{2.5}$ emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to SJVAPCD permit requirements. The other, often more significant, common source type is on-road motor vehicles on freeways and roads such as trucks and cars, and off-road sources such as construction equipment, ships, and trains. Implementation of the proposed General Plan would have the potential of introducing new sources of TAC and $PM_{2.5}$ emissions within the city as well as siting new sensitive receptors, such as new homes in close proximity to existing sources of TAC and $PM_{2.5}$ emissions.

Health risks associated with TACs are most pronounced in the areas adjacent to freeway segments. Regardless of the existing health risks associated with TACs, the SJVAPCD CEQA Guidelines provide recommendations for all communities to ensure reduced health risks associated with TACs. The proposed General Plan includes policies that are intended to minimize exposure of TACs to sensitive receptors (see below).

The *Air Quality and Land Use Handbook: A Community Health Perspective*, adopted by CARB, May 2005 was prepared to address the siting of sensitive land uses in close proximity to sources of TAC emissions that include the following sources within the City:

- Within 500 feet of Highway 99 and Highway 120;
- Within 300 feet of dry cleaning operations that use perchloroethylene; and
- Within 50 feet of a typical gas station.

The proposed General Plan includes policies and programs that would limit exposure to TAC and PM concentrations within the city. These policies and actions are included within various elements of the General Plan. For example, Policy LU-3.9 requires that land uses are located away from excessive smoke, dust, and odors, including buffers for transitional uses, to ensure health and well-

being of residents. In addition, Policy LU-9.2 requires that, as part of land use decisions, environmental justice issues related to potential health impacts associated with land use decisions are considered and addressed. Policy RC-6.2 would ensure that exposure of the public to toxic or harmful air emissions would be minimized by requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors. Furthermore, Implementing Measure RC-6e requires that, prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, developers must provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

Individual projects will be required to provide their own environmental assessments to determine health impacts from the construction and operation of their projects. In the event that future individual projects may result in exposure to TACs by sensitive receptors, these future projects would be required to implement mitigation measures to reduce the impact to a less than significant level, consistent with SJVAPCD requirements.

In addition, it should also be noted that the Omnibus Low-NOx Rule was approved by CARB August 28, 2020, which will require heavy-duty truck engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements.

Compliance with the applicable policies and programs in the proposed General Plan as well the applicable CARB and SJVAPCD rules and regulations, would minimize the potential exposure of sensitive receptors to substantial concentrations of TACs and $PM_{2.5}$ within the City, and impacts would be **less than significant**.

It should be noted that the Circulation Element plans for a full multi-modal system, including proposed truck routes. Therefore, the portions of the existing and proposed truck route that were identified as having the most potential for impacting sensitive receptors have been analyzed for their potential localized TAC impacts. Disclosure of the results of this analysis is provided below (see Table 3.3-8). For full detail on the results of this analysis, see the Health Risk Assessment provided in Appendix B.

RISK ASSESSMENT RESULTS ASSOCIATED WITH THE PROPOSED TRUCK ROUTES

The results of the risk analysis indicate that cancer and non-cancer risks vary depending on the exposure scenario and location. As would be expected, sensitive receptors nearest the truck routes have the greatest exposure and the associated risks are considerably lower as distance from the truck route increases.

Table 3.3-8 summarizes daily truck trips under the existing condition and the projected daily truck trips associated with implementation of the proposed General Plan for roadway segments projected to have an increase of 1,000 or more daily truck trips or projected to have a total of 2,000 or more daily truck trips. In order to analyze the worst-case scenario, segments with the highest number of total daily truck trips under General Plan buildout conditions or the highest increases in daily truck trips were selected to model potential health risks associated exposure to TACs associated with the truck routes. Based on these criteria, the following truck routes, were selected for further analysis:

- Lovelace Road (west of SR 99 and east of Union Road);[7]
- SR 99 total north of Yosemite Avenue;
- SR 120 total between McKinley Avenue and Airport Way; and
- Roth Road west of Airport Way.

The analysis also addressed interacting truck route segments that intersect with the primary segments identified above to ensure that the cumulative, or combined effect, is addressed.

TABLE 3.3-8: SUMMARY OF MAXIMUM HEALTH RISKS ASSOCIATED WITH THE PROPOSED TRUCK ROUTE

SEGMENT	2019 EXISTING CONDITION		PROPOSED GENERAL PLAN		INCREASE IN DAILY TRUCK TRIPS
	AVERAGE DAILY TRIPS	DAILY TRUCK TRIPS	AVERAGE DAILY TRIPS	DAILY TRUCK TRIPS	
Main Street north of SR 120 WB ramps	27,580	2,250	39,090	2,250	0
Airport Way north of Crom Street	14,290	620	43,190	1,790	1,170
Airport Way south of Northgate Drive	10,800	970	38,090	3,900	2,930
Airport Way north of Daisywood Drive	10,130	2,090	45,440	4,240	2,150
Yosemite Avenue west of El Rancho Drive	27,090	2,050	81,490	4,230	2,180
Louise Ave west of Airport Way	12,730	590	47,870	2,690	2,100
Lathrop Ave west of Madison Grove Drive	18,020	1,860	54,300	2,100	240
Lathrop Ave west of Sherwood Avenue	21,100	1,810	57,290	2,270	460
Lovelace Rd east of Airport Way	4,080	50	22,690	2,470	2,420
Lovelace Rd west of SR 99	**-**	**-**	**37,670**	**4,200**	**4,200**
French Camp Rd west of SR 99	10,780	1,660	21,740	4,280	2,620
French Camp Rd east of SR 99	6,810	740	10,290	1,610	870
Roth Rd west of Airport Way	**8,620**	**1,720**	**32,700**	**4,910**	**3,190**
Roth Rd east of Airport Way	-	-	19,230	2,310	2,310
Lovelace Rd east of Union Rd	**-**	**-**	**36,410**	**3,970**	**3,970**
Union Rd north of Lovelace Rd	5,090	0	15,770	1,450	1,450

[7] Note: The segments 'Lovelace Road west of SR 99' and 'Lovelace east of Union Road' were combined for the purposes of the health risk analysis. The most conservative truck trip generation values provided by Fehr & Peers for these segments were used for the purposes of the analysis, to provide for a conservative analysis.

SEGMENT	2019 EXISTING CONDITION		PROPOSED GENERAL PLAN		INCREASE IN DAILY TRUCK TRIPS
	AVERAGE DAILY TRIPS	DAILY TRUCK TRIPS	AVERAGE DAILY TRIPS	DAILY TRUCK TRIPS	
SR 99 SB north of Lovelace Rd	40,090	4,300	66,150	4,300	0
SR 99 NB north of Lovelace Rd	39,870	4,220	65,970	4,220	0
SR 99 SB north of Yosemite Ave	40,390	4,180	73,250	4,960	780
SR 99 NB north of Yosemite Ave	38,350	3,980	70,210	4,670	690
SR 120 WB between McKinley Ave and Airport Way	43,330	3,600	116,470	6,010	2,410
SR 120 EB between McKinley Ave and Airport Way	38,870	3,480	116,230	5,520	2,040
SR 99 total north of Lovelace Rd	79,960	8,520	132,120	8,520	0
SR 99 total north of Yosemite Ave	78,740	8,160	**143,460**	**9,630**	**1,470**
SR 120 total between McKinley Ave and Airport Way	82,200	7,080	**232,700**	**11,530**	**4,450**

BOLD = SELECTED FOR FURTHER ANALYSIS
SOURCE: FEHR & PEERS, 2019

SCOPE OF RISK ASSESSMENT

Preparation of risk assessments is a three-step process. The first step is to identify potential contaminants that may lead to public health risks. The second step is to assess the magnitude of contaminants that may reach the public (exposure assessment). The last step is to calculate the magnitude of the health risk as a result of exposure to harmful contaminants on the basis of the toxicology of the contaminants.

The Office of Environmental Health Hazard Assessment (OEHHA), and the SJVAPCD provide guidance on the procedures that should be used, including, toxicological data for individual contaminants. While this risk assessment uses certain procedures and data from these Guidelines, this assessment is not intended to satisfy the reporting requirements under AB-2588 "Air Toxics" Hot Spots program.

The health risks that are evaluated in this study include:

- Residential Cancer Risk (70-year exposure; start at third trimester); and
- Acute and Chronic Hazard Indices.

The 70-year risk applies to residential areas where exposure may potentially occur 24 hours/day, 365 days/year. Non-cancer risks can be described as acute (short-term, exposure) or chronic health impacts.

SIGNIFICANCE CRITERIA

The following significance criteria shown in Table 3.3-9, based on guidance from the SJVAPCD, are used in this report to assess the significance of public health risks.

TABLE 3.3-9: THRESHOLDS OF SIGNIFICANCE FOR PUBLIC HEALTH RISKS

RISK METRIC	*SIGNIFICANCE THRESHOLD*
Residential Cancer Risk	20 per million
Chronic and Acute non-cancer hazard Indices	Non-cancer health hazard exposure index of 1.0

SOURCE: SJVAPCD, 2015.

As shown in Table 3.3-9, a project that contributes a cancer risk in excess of 20 new cases in a population of one million persons at identified residential receptors, or a non-cancer hazard index of greater than or equal to 1.0 would be considered to have a significant project-level impact.

EMISSION SOURCES AND EXPOSURE

The source of TACs from the proposed project is diesel particulate matter (DPM) from mobile emissions (from the trucks generated) associated with the proposed truck routes, since the proposed project Circulation Element plans for a full multi-modal system, including proposed truck routes.

Based on numerous studies by the CARB, DPM represents the largest single contributor to public health risks. Additionally, in its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

CONCLUSION

Table 3.3-10 displays the residential cancer risk and acute and chronic incidence rate results at nearest receptors at each of the four Truck Route segments analyzed (including the cumulative impacts associated with the combined impact of proposed segments and interacting segments together).

As shown in the Table 3.3-10, maximum health risks associated with the worst-case truck route segments that could occur with implementation of the proposed General Plan would not exceed the applicable significance thresholds. As shown in Table 3.3-10, the highest maximum risk projected for the worst-case truck route segments is well below the threshold of significance. Therefore, the proposed General Plan would generate a **less than significant** impact relative to this topic.

TABLE 3.3-10: SUMMARY OF MAXIMUM HEALTH RISKS ASSOCIATED WITH THE NEW TRUCK ROUTE

RISK METRIC	*MAXIMUM RISK (PER MILLION PERSONS)*	*SIGNIFICANCE THRESHOLD*	*IS THRESHOLD EXCEEDED?*
Truck Route Segment 1: Lovelace Road (west of SR 99 and east of Union Road)			
Residential Cancer Risk (70-year exposure)	4.20	20 per million	No
Chronic (non-cancer)	<0.01	Hazard Index ≥1	No
Acute (non-cancer	<0.01	Hazard Index ≥1	No
Truck Route Segment 2: SR 99 total north of Yosemite Avenue			
Residential Cancer Risk (70-year exposure)	5.25	20 per million	No
Chronic (non-cancer)	<0.01	Hazard Index ≥1	No
Acute (non-cancer	<0.01	Hazard Index ≥1	No
Truck Route Segment 3: SR 120 total between McKinley Avenue and Airport Way			
Residential Cancer Risk (70-year exposure)	8.21	20 per million	No
Chronic (non-cancer)	<0.01	Hazard Index ≥1	No
Acute (non-cancer	<0.01	Hazard Index ≥1	No
Truck Route Segment 4: Roth Road west of Airport Way			
Residential Cancer Risk (70-year exposure)	0.44	20 per million	No
Chronic (non-cancer)	<0.01	Hazard Index ≥1	No
Acute (non-cancer	<0.01	Hazard Index ≥1	No

SOURCES: AERMOD (LAKES ENVIRONMENTAL SOFTWARE, 2021); AND HARP-2 AIR DISPERSION AND RISK TOOL.

GENERAL PLAN POLICIES AND IMPLEMENTATION ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-3.9: Locate residences away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, such as less intensive renewable energy production, light industrial, office, or commercial uses, separate the proposed residential uses from more intensive uses, including industrial, agricultural, or agricultural industrial uses and designated truck routes, to ensure the health and well-being of existing and future residents.

LU-9.2: As part of land use decisions, ensure that environmental justice issues related to potential adverse health impacts associated with land use decisions, including methods to reduce exposure to hazardous materials, industrial activity, vehicle exhaust, other sources of pollution, and excessive noise on residents regardless of age, culture, gender, race, socioeconomic status, or geographic location, are considered and addressed.

RC-6.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and

other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- *Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.*
- *Identifying baseline air pollutant and greenhouse gas emissions.*
- *Encouraging economy clean fuel for city vehicle fleets, when feasible.*
- *Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.*

RC-6.2: Minimize exposure of the public to toxic or harmful air emissions and odors through requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors, including but not limited to industrial, manufacturing, and processing facilities, highways, and rail lines.

RC-6.3: Ensure that new construction is managed to minimize fugitive dust and construction vehicle emissions.

RC-6.4: Require appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

RC-6.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

IMPLEMENTATION ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:

- *Ensure consistency with the General Plan in terms of zoning districts and development standards;*
- *Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;*
- *Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and*
- *Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.*
- *Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.*

LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants,

including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

RC-6a: Work with the Air District to implement the Air Quality Management Plan (AQMP).

- *Cooperate with the Air District to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.*
- *Cooperate with the Air District and the State Air Board in their efforts to develop a local airshed model.*
- *Cooperate with the Air District in its efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.*

RC-6b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-6c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

- *The use of best available and economically feasible control technology for stationary industrial sources;*
- *All applicable particulate matter control requirements of Air District Regulation VIII;*
- *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
- *Use of alternative energy sources.*

RC-6e: Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

RC-6f: Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.

- *Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.*

Impact 3.3-3: General Plan implementation would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people) (Less than Significant)

Objectionable odors can be generated from certain types of commercial and/or industrial land uses. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. In general, residential land uses are not associated with odor generation, but they do serve as sensitive receptors. Odors rarely have direct health impacts, but they can be very unpleasant and can lead to anger and concern over possible health effects among the public.

With respect to other emissions, future development under the proposed General Plan would be required to comply with all applicable SJVAPCD rules and regulations, and the proposed General Plan policies and actions. The proposed projects that could generate odor impacts on sensitive receptors are required to undergo an analysis consistent with the SJVAPCD's GAMAQI.

The proposed General Plan does not propose any specific development projects, but does identify areas for public and quasi-public facilities that could include expanded wastewater treatment facilities, composting facilities, and other potential odor sources. Similarly, lands designated for Industrial, Agricultural, and Agricultural Industrial uses could include new or expanded uses that could result in odors, including wastewater reclamation and treatment facilities, chemical

manufacturing, materials manufacturing, food and beverage processing, and other uses that may involve odors. Similarly, agricultural uses may also include on-site processing or confined animal facilities that may result in odors. Individual projects that have the potential to generate significant objectionable odors would be required to undergo individual CEQA review.

In addition, the General Plan policies and actions listed below would further minimize the potential for other emissions (such as odors) to adversely affect a substantial number of people. For example, Policy LU-3.9 requires that land uses are located away from excessive smoke, dust, and odors, including buffers for transitional uses, to ensure health and well-being of residents. Policy RC-6.2 would ensure that exposure of the public to toxic or harmful air emissions would be minimized by requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors. Additionally, Implementing Measure RC-6e requires that, prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, developers must provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

Therefore, implementation of the proposed General Plan would have a **less than significant** impact relative to this topic.

GENERAL PLAN POLICIES AND IMPLEMENTATION ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-3.9: Locate residences away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, such as less intensive renewable energy production, light industrial, office, or commercial uses, separate the proposed residential uses from more intensive uses, including industrial, agricultural, or agricultural industrial uses and designated truck routes, to ensure the health and well-being of existing and future residents.

LU-9.2: As part of land use decisions, ensure that environmental justice issues related to potential adverse health impacts associated with land use decisions, including methods to reduce exposure to hazardous materials, industrial activity, vehicle exhaust, other sources of pollution, and excessive noise on residents regardless of age, culture, gender, race, socioeconomic status, or geographic location, are considered and addressed.

RC-6.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- *Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.*
- *Identifying baseline air pollutant and greenhouse gas emissions.*

- *Encouraging economy clean fuel for city vehicle fleets, when feasible.*
- *Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.*

RC-6.2: Minimize exposure of the public to toxic or harmful air emissions and odors through requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors, including but not limited to industrial, manufacturing, and processing facilities, highways, and rail lines.

RC-6.3: Ensure that new construction is managed to minimize fugitive dust and construction vehicle emissions.

RC-6.4: Require appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

RC-6.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

IMPLEMENTATION ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:

- *Ensure consistency with the General Plan in terms of zoning districts and development standards;*
- *Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;*
- *Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and*
- *Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.*
- *Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.*

LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

RC-6a: Work with the Air District to implement the Air Quality Management Plan (AQMP).

- *Cooperate with the Air District to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.*

- *Cooperate with the Air District and the State Air Board in their efforts to develop a local airshed model.*
- *Cooperate with the Air District in its efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.*

RC-6b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-6c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

- *The use of best available and economically feasible control technology for stationary industrial sources;*
- *All applicable particulate matter control requirements of Air District Regulation VIII;*
- *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel*

compatible, if technically and economically feasible;

- *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
- *Use of alternative energy sources.*

RC-6e: Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

RC-6f: Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.

- *Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.*

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This section describes biological resources in the Planning Area. This section provides a background discussion of the bioregions, regionally important habitat and wildlife, and special status species found in the vicinity of Manteca. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments on this environmental topic were received during the NOP comment period.

KEY TERMS

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

Hydric Soils. One of the three wetland identification parameters, according to the Federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

Hydrophytic Vegetation. Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails, bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. The California Environmental Quality Act (CEQA) identifies the elimination or substantial degradation of such communities as a significant impact. The California Department of Fish and Wildlife (CDFW) tracks sensitive natural communities in the California Natural Diversity Database (CNDDB).

Special Status Species. Special status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by Federal, State, or other agencies. Some of these species receive specific protection that is defined by Federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term “special status” includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);

- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

Waters of the U.S. The Federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (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)].

Wetlands. Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The Federal government defines wetlands 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)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

3.4.1 ENVIRONMENTAL SETTING

Manteca is located in the southern portion of San Joaquin County, approximately 10 miles south of Stockton and approximately 14 miles northwest of the Modesto. Manteca is bordered by the City of Lathrop to the west and unincorporated San Joaquin County to the north, south, and east. Much of the Manteca is relatively flat with elevations ranging from approximately 31 feet above mean sea level (amsl) to approximately 36 feet amsl.

The Planning Area outside Manteca’s urbanized center and surrounding residential areas is predominantly farmland, including alfalfa, orchards, row crops, and pasture. Agricultural lands have become important foraging resources for a number of wildlife species, including Swainson’s hawk.

No major watercourse lies within the Planning Area; however, the San Joaquin River flows along the west and southwest side of the Planning Area boundary. Walthall Slough is a tributary to the San Joaquin River and runs contiguous with the southwestern boundary of the Planning Area.

Additionally, Oakwood Lake and Weatherbee Lake are found in the southwest corner of the Planning Area north of and adjacent to the Walthall Slough.

GEOMORPHIC PROVINCES/BIOREGIONS

The Planning Area 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 is located just south and west of the City. 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 Planning Area 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.

VEGETATION

Vegetation occurring within the Planning Area primarily consists of agricultural, ruderal, and landscaping vegetation. Because of urban nature of the developed areas within the city and the active agricultural uses in surrounding lands, there is limited natural vegetation. Common plant species observed in the planning area include: wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), softchess (*Bromus hordeaceus*) alfalfa (*Medicago sativa*), Russian thistle (Salsola tragus), Italian thistle (*Carduus pycnocephalus*), rough pigweed (*Amaranthus retroflexus*), sunflower (*Helianthus annuus*), tarragon (*Artemisia dracunculus*), coyote brush (*Baccharis pilularis*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum* sp.), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*).

WILDLIFE

Agricultural and ruderal vegetation found in the Planning Area provides habitat for both common and special status wildlife populations. For example, some commonly observed wildlife species in the region include: California ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus),* American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), American killdeer (*Charadrius vociferus*), gopher snake (*Pituophis melanoleucus*), garter snake (*Thamnophis species*), and western fence lizard (*Sceloporus occidentalis*), as well as many native insect species. There are also several bat species in the region. Bats often feed on insects as they fly over agricultural and natural areas.

Locally common and abundant wildlife species are important components of the ecosystem. Due to habitat loss, many of these species must continually adapt to using agricultural, ruderal, and ornamental vegetation for cover, foraging, dispersal, and nesting.

PLANT COMMUNITIES

Agricultural and natural plant communities provide habitat for a variety of biological resources in the region. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under a Habitat Conservation Plan, Natural Community Conservation Plan, the California Environmental Quality Act (CEQA), the Fish and Game Code, or the Clean Water Act (CWA). Additionally, sensitive habitats are usually protected under specific policies from local agencies. Figure 3.4-1 illustrates the plant communities (land cover types) in the vicinity of the Planning Area.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

The California Wildlife Habitat Relationship (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

According to the California Wildlife Habitat Relationship System there are eighteen cover types (wildlife habitat classifications) in the Planning Area out of 59 found in the State. These include: Annual Grassland, Barren, Cropland, Deciduous Orchard, Dryland Grain Crops, Eucalyptus, Evergreen Orchard, Fresh Emergent Wetland, Irrigated Grain Crops, Irrigated Hayfield, Irrigated Row and Field Crops, Lacustrine, Pasture, Rice, Riverine, Urban, Valley Foothill Riparian, and Vineyard. Table 3.4-1 identifies the total area by acreage for each cover type (classification) found in Manteca. Figure 3.4-1 illustrates the location of each cover type (classification) within Manteca. A brief description of each cover type follows.

TABLE 3.4-1: COVER TYPES - CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

COVER TYPE	*CITY (ACRES)*	*SOI (ACRES)*	*PLANNING AREA (TOTAL ACRES)*
Annual Grassland	118.49	39.34	157.93
Barren	3.04	200.51	203.56
Cropland	366.64	378.55	745.19
Deciduous Orchard	2,694.55	8,420.03	11,114.59
Dryland Grain Crops	1,001.01	941.2	1,942.21
Eucalyptus	1.75	0.00	1.75
Evergreen Orchard	36.34	19.04	55.38
Fresh Emergent Wetland	14.3	46.16	60.46
Irrigated Grain Crops	180.68	84.71	265.39
Irrigated Hayfield	689.59	1,115.44	1,805.03
Irrigated Row and Field Crops	754.58	282.67	1,037.25
Lacustrine	18.23	0.44	18.68
Pasture	520.04	529.14	1,049.18
Rice	0.32	1.72	2.04
Riverine	0.27	101.21	101.49
Urban	7,268.68	1,089.09	8,357.77
Valley Foothill Riparian	31.83	80.13	111.96
Vineyard	41.89	439.17	481.05
Total	**13,742.23**	**13,768.66**	**27,510.89**

SOURCE: SOURCE: CASIL GIS DATA, 2020, CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM, 2020.

Developed Cover Types

Cropland includes a variety of sizes, shapes, and growing patterns. Field corn can reach ten feet while strawberries are only a few inches high. Although most crops are planted in rows, alfalfa hay and small grains (barley and wheat) form dense stands with up to 100 percent canopy closure. Most croplands support annual crops, planted in spring and harvested during summer or fall. In many areas, second crops are commonly planted after harvesting the first. Wheat is planted in fall and harvested in late spring or early summer. Overwintering of sugar beets occurs in the Sacramento Valley, with harvesting in spring after the soil dries. Croplands are located on flat to gently rolling terrain. When flat terrain is put into crop production, it usually is leveled to facilitate irrigation. Rolling terrain is either dry farmed or irrigated by sprinklers. Soils often dictate the crops grown. Climate influences the type of crops grown. Within the Planning Area, there are 745.19 acres of cropland habitat.

Deciduous orchards are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns usually touch and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants,

but may be managed to prevent understory growth totally or partially, such as along tree rows. Deciduous orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. Though some deciduous orchards are nonirrigated, most are irrigated. Some flat soils are flood irrigated, but many deciduous orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most deciduous orchards are in valley or foothill areas, with a few, such as, apples and pears, up to 3,000 feet elevation. Within the Planning Area, there are 11,114.59 acres of deciduous orchard habitat.

Evergreen orchards are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns often do not touch and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Evergreen orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Some flat soils are flood irrigated, but most evergreen orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most evergreen orchards are in valley or foothill areas. Except for olive, most evergreen orchard trees are not very frost tolerant. Within the Planning Area, there are 55.38 acres of evergreen orchard habitat.

Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Most vineyards are sprinkler irrigated. Large numbers of vineyards are irrigated by drip or trickle irrigation systems. Most vineyards are in valley or foothill areas. Within the Planning Area, there are 481.05 acres of vineyard habitat.

Dryland Grain Crops are composed of vegetation in the dryland (nonirrigated) grain and seed crops habitat includes seed producing grasses, primarily barley, cereal rye, oats, and wheat. These seed and grain crops are annuals. They are usually planted by drilling in rows which produce solid stands, forming 100 percent canopy at maturity in good stands. They are normally planted in fall and harvested in spring. However, they may be planted in rotation with other irrigated crops and winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in late spring. Within the Planning Area, there are 1,942.21 acres of Dryland Grain Crop habitat.

Irrigated Grain Crops include a variety of sizes, shapes and growing patterns. Field corn can reach ten feet tall while dry beans are only several inches tall. Most irrigated grain and seed crops are grown in rows. Some may form 100 percent canopy while others may have significant bare areas between rows. All seed and grain crops are annuals. They are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops

and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months) or they may be irrigated, and then harvested in the late spring. Within the Planning Area, there are 265.39 acres of Irrigated Grain Crop habitat.

Irrigated Hayfield normally has a 2 to 6 months initial growing period, depending on climate, and soil, this habitat is dense, with nearly 100 percent cover. Average height is about 0.46 m. (1.5 feet) tall. Planted fields generally are monocultures (the same species or mixtures or a few species with similar structural properties). Structure changes to a lower stature following each harvest, grows up again and reverts to bare ground following plowing or discing. Plowing may occur annually, but is usually less often. Layering generally does not occur in this habitat. Unplanted "native" hay fields may contain short and tall patches. If not harvested for a year, they may develop a dense thatch of dead leaves between the canopy and the ground. Within the Planning Area, there are 1,805.03 acres of Irrigated Hayfield habitat.

Irrigated Row and Field Crops include a variety of sizes, shapes and growing patterns. Cotton and asparagus can be three or four feet tall while others may be a foot or less high. Most irrigated row and field crops are grown in rows. Some may form 100 percent canopy while others may have significant bare areas between rows. Most are annuals, while others, such as asparagus and strawberries are perennial. The annuals are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in the late spring. In some areas of southern California three crops may be grown in a year. Within the Planning Area, there are 1,037.25 acres of Irrigated Row and Field Crop habitat.

Rice and wild rice are flood irrigated crops that are seed producing annual grasses. Commercial rice generally is only a couple of feet tall, whereas, commercially grown wild rice may be six feet tall or taller. They are usually grown in leveed fields that are flooded much of the growing period and dried out to mature and to facilitate harvesting. They usually produce 100 percent canopy closure as they mature. They are usually planted in spring and harvested in fall. Within the Planning Area, there are 2.04 acres of Rice habitat.

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the Planning Area, there are 8,357.77 acres of urban habitat.

Herbaceous Cover Types

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost-free season averages 250 to 300 days. Annual precipitation is highest in northern California. Within the Planning Area, there are 157.93acres of annual grassland habitat.

Fresh emergent wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing. Within the Planning Area, there are 60.46 acres of fresh emergent wetland habitat.

Pastures are planted on flat and gently rolling terrain. Flat terrain is irrigated by the border and check method of irrigation, except on sandy soils or where water supplies are limited. Pastures established on sandy soils or hills are sprinklered. Hilly lands also use wild flooding; that is, ditches that follow the grade along ridges and hillsides, where water is released at selected points along the ditch. Climate influences the length of the growing season. For example, pastures at higher elevations or in the north have a shorter growing season. Within the Planning Area, there are 1,049.18 acres of pasture habitat.

Tree Dominated Cover Types

Valley-foothill riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high water table. The substrate is coarse, gravelly, or rocky soils more or less permanently moist, but probably well aerated. Frost and short periods of freezing occur in winter (200 to 350 frost-free days). This habitat is characterized by hot, dry summers and mild and wet winters. Temperatures range from 75 to 102 F in the summer to 29 to 44 F in the winter. Average precipitation ranges from 6-30 inches, with little or no snow. The growing season is 7 to 11 months. Within the Planning Area, there are 111.96 acres of valley-foothill riparian habitat.

Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy. Stand structure for this habitat may vary considerably because most eucalyptus have been planted into either rows for wind protection or dense groves for hardwood production and harvesting (Cornell 1909, U.S. Forest Service 1933). Eucalyptus is often found in monotypic stands. The genus is composed of over 150 species with high morphological diversity (Cornell 1909). Thus, habitat structure may be affected if more than two or three species coexist. Tree size may vary considerably depending on spacing and species. Typically, trees may range in height from 87 to 133 feet and have diameters (dbh) of 8.6 to 15.1 inches (Walters 1980), with most growth occurring in the first 15 years. Trees in excess of 152 to 264 feet are not uncommon. Within the Planning Area, there are 1.75 acres of Eucalyptus habitat.

Aquatic Habitats

Riverine habitats can occur in association with many terrestrial habitats. Riverine habitats are found adjacent to many rivers and streams. Riverine habitats are also found contiguous to lacustrine and fresh emergent wetland habitats. This habitat requires intermittent or continually running water generally originating at some elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Over this transition from a rapid, surging stream to a slow, sluggish river, water temperature and turbidity will tend to increase, dissolved oxygen will decrease, and the bottom will change from rocky to muddy. Within the Planning Area, there are 101.49 acres of riverine habitat.

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. These habitats may occur in association with any terrestrial habitats, Riverine, or Fresh Emergent Wetlands. They may vary from small ponds less than one acre to large areas covering several square miles. Depth can vary from a few inches to hundreds of feet. Typical lacustrine habitats include permanently flooded lakes and reservoirs, and intermittent lakes and ponds (including vernal pools) so shallow that rooted plants can grow over the bottom. Most permanent lacustrine systems support fish life; intermittent types usually do not. Within the Planning Area, there are 18.68 acres of lacustrine habitat.

Other Habitats

Barren habitat is defined by the absence of vegetation. Any habitat with less than 2 percent total vegetation cover by herbaceous, desert, or non-wildland species and less than10 percent cover by tree or shrub species is defined this way. The physical settings for permanently barren habitat represent extreme environments for vegetation. An extremely hot or cold climate, a near-vertical slope, an impermeable substrate, constant disturbance by either human or natural forces, or a soil either lacking in organic matter or excessively saline can each contribute to a habitat being inhospitable to plants. Within the Planning Area, there are 203.56 acres of barren habitat.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the USFWS endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within one and approximately 15 miles (12 quads) of Manteca. Figure 3.4-2 illustrates the special status species located within one mile of the Planning Area. As shown in Figure 3.4-3, the 12 quads consist of Holt, Stockton West, Stockton East, Peters, Union Island, Lathrop, Manteca, Avena, Tracy, Vernalis, Ripon, and Salida.

Special Status Plants

The search revealed documented occurrences of two special status plant species within one mile of the Manteca Planning Area. The search revealed documented occurrences of 25 special status

plant species (including three non-vascular plants) within approximately 15 miles (12 quads) of the Manteca Planning Area.

Tables 3.4-2 and 3.4-3 provide a list of special-status plant species that are documented within one and 15 miles of the Planning Area, along with their current protective status, geographic distribution, habitat, and blooming period. Figure 3.4-2 illustrates the special status species located within one mile of the Planning Area. Figure 3.4-3 illustrates the special status species located within approximately 15 miles (12 quads) of the Planning Area.

Special Status Animals

The search revealed documented occurrences of 46 special status animal species within approximately 15 miles (12 quads) of the Planning Area. Of these species, 10 are documented within approximately one mile of the city's SOI. Tables 3.4-4 and 3.4-5 provide a list of the special-status animal species that are documented within approximately one mile and 15 miles (12 quads) of the Planning Area, along with their current protective status, geographic distribution, and habitat. Figure 3.4-2 illustrates the location of documented occurrences within one mile of the Planning Area, and Figure 3.4-3 shown documented occurrences within approximately 15 miles (12 quads) of the Planning Area.

Sensitive Natural Communities

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDB search revealed four sensitive natural communities within 15 miles of the Manteca Planning Area. This includes Elderberry Savanna, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, Great Valley Valley Oak Riparian Forest, and Coastal and Valley Freshwater Marsh.

All four of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them "highest inventory priorities" for future conservation. Of these sensitive natural communities documented within 15 miles of Manteca, none are located within one mile of the Manteca Planning Area.

Wildlife Movement Corridors

Wildlife corridors refer to contiguous tracts of habitat that connect larger areas of habitat and facilitate genetic exchange within a population or between subpopulations by allowing for movement within or between habitat patches. Habitat reduction and fragmentation are among the primary causes of species decline; consequently, the identification and preservation of key corridors is important to retaining native populations in San Joaquin County.

The Planning Area does not currently provide an important connection between any areas of natural habitat that would otherwise be isolated. The Planning Area is not located within any of the ecological or wildlife movement corridors identified by the CDFW or identified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) as important to

maintaining connectivity between communities, habitat patches, and species populations or identified in the SJMSCP 2019 Annual Report as preserve areas. The nearest wildlife movement corridor identified by the CDFW is approximately 670 acres in the City of Lathrop, approximately 1.9 miles west of the Planning Area.

While no wildlife movement corridors have been identified within the Planning Area, a portion of the Planning Area is adjacent to the San Joaquin River, which the SJMSCP identifies as a wildlife corridor due to its riparian habitat. To preserve the San Joaquin River Wildlife Corridor, the SJMSCP requires developments to be situated so as to maintain a 1,200-foot corridor encompassing 600 feet from the mean high water mark of the San Joaquin River, on both sides of the river, from Stewart Tract to the Stanislaus/San Joaquin County line. Additionally, for the area on the east side of the river bordering lands in the Lathrop and Manteca planned land use areas as indicated on the SJMSCP Planned Land Use Map, the SJMSCP indicates that final setbacks shall be established after the completion of surveys for the riparian brush rabbit.

Native Nursery Sites

Native Nursery Sites refer to areas in which members of the same species collectively breed and rear offspring in substantial numbers. There are multiple native nursery sites in the vicinity of the Planning Area due to the riparian woodland communities that have developed along the four main rivers in San Joaquin County, including the Mokelumne, San Joaquin, Calaveras, and Stanislaus rivers.

The closest native nursery site to the Planning Area is a known riparian brush rabbit population near Stewart Tract and Lathrop[1]. To protect this federally endangered riparian brush rabbit population, the San Joaquin River Oxbow Preserve was established in 2004 by Union Pacific Homes as mitigation for their development in Lathrop (USFWS, November 2012). This 30-acre riparian forest preserve is located adjacent to the San Joaquin River within Lathrop in San Joaquin County. As shown in Figure 3.4-1 and noted in Table 3.4-1, approximately 80-acres of Valley Foothill Riparian habitat exists in the southwest corner of the Planning Area outside of the City limits adjacent to the San Joaquin River. Given the habitats close proximity to the known native nursery site across the river, there is potential for riparian brush rabbit to utilize this riparian habitat within the Planning Area as a nursery site.

In addition, fish use the rivers in San Joaquin County for spawning, rearing, and migration. As previously stated, the San Joaquin River runs adjacent to the southwest corner of the Planning Area. Salmon and steelhead trout are anadromous fish species that are present in the Bay Delta and San Joaquin and Sacramento River Basins. Anadromous fish are born in freshwater rivers and streams, and then migrate to the Pacific Ocean to grow and mature before returning to their place of origin to spawn. The San Joaquin and Sacramento River system produces most of the Chinook salmon (*Oncorhynchus tshawytscha*) and a large percentage of the steelhead trout (*Oncorhynchus mykiss*) in California.

[1] USFWS. November 2012. *Proposed Expansion San Joaquin River National Wildlife Refuge [pg. 53]*

TABLE 3.4-2: SPECIAL-STATUS PLANT SPECIES PRESENT OR POTENTIALLY PRESENT (APPROXIMATELY ONE MILE)

SPECIES	*STATUS (FED./CA/ CNPS/SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT AND BLOOMING PERIOD*
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
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

SOURCE: CDFW CNDDB 2020

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.2 = FAIRLY ENDANGERED IN CALIFORNIA (20-80% OCCURRENCES THREATENED).
.3= NOT VERY ENDANGERED IN CALIFORNIA (<20% OF OCCURRENCES THREATENED)

TABLE 3.4-3: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT (APPROXIMATELY 15 MILES)

SPECIES	*STATUS (FED./CA/ CNPS/SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT AND BLOOMING PERIOD*
Large-flowered fiddleneck *Amsinckia grandiflora*	E/E/1B.1/Yes	Native to California found in Contra Costa, Alameda, and San Joaquin Counties	Found in grasslands; it grows on sedimentary loam in mesic areas of its range. April - May
Alkali milk-vetch *Astragalus tener var. tener*	--/--/1B.2/Yes	Eastern San Francisco Bay region, the Delta, and western San Joaquin Valley south to the lower Salinas and San Benito valleys	Grassy alkaline flats and vernally moist meadows at elevations below 500 ft. March-June
Heartscale *Atriplex cordulata var. cordulata*	--/--/1B.2/Yes	Central Valley and interior valleys of the Coast Range from Butte to Kern counties	Saline or alkaline sandy soils in grassland or saltbush scrub. March-October
Lesser saltscale *Atriplex minuscula*	--/--/1B.2/No	Scattered locations in the Central Valley in Alameda, Butte, Fresno, Kings, Kern, Madera, Merced, Stanislaus, Tulare counties	Alkaline, sandy soils. Chenopod scrub, playas, valley and foothill grassland. May-October
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-October
Watershield *Brasenia schreberi*	--/--/2B.3/No	Central Valley of California and western North America	Freshwater Marshes and swamps. June-September
Bristly sedge *Carex Comosa*	--/--/2B.1/Yes	Scattered occurrences throughout California, including the inner North Coast Ranges, Klamath Ranges, High Cascade Range, San Francisco Bay area, Sacramento valley, San Joaquin valley, Central coast, San Bernardino Mountains, Warner Mountains, and Modoc Plateau. Outside of California: British Columbia and eastern North America.	Plants are indigenous to swamps, seeps, freshwater tidal marshes, bogs, pond and lake margins, wet meadows and ditches. July - August
Palmate-bracted salty bird's beak *Chloropyron palamtum*	E/E/1B.1/No	Scattered locations in Fresno and Madera counties in the San Joaquin Valley, San Joaquin, Yolo, and Colusa counties in the Sacramento Valley, and the Livermore Valley area of Alameda County.	Saline-alkaline soils in seasonally flooded lowland plains and basins at elevations of less than 500 feet. May-October
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
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

SPECIES	*STATUS (FED./CA/ CNPS/SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT AND BLOOMING PERIOD*
Diamond-petaled California poppy *Eschscholzia rhombipetala*	--/--/1B.1/	Found in Alameda, Contra Costa*, Colusa*, San Joaquin, San Luis Obispo (SLO), Stanislaus* Counties *presumed extirpated	Valley and foothill grassland. Alkaline, clay slopes and flats. 30-625 m. Mar-Apr.
San Joaquin spearscale *Extriplex joaquinana*	--/--/1B.2/No	Delta region, central valley and central coast	Alkaline. Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland. April-October
Woolly rose-mallow *Hibiscus lasiocarpos var. occidentalis*	--/--/1B.2/Yes	Central Valley of California, as well as populations in eastern North America	All along the waterways of the Delta. June-September
Delta tule pea *Lathyrus jepsonii var. jepsonii*	--/--/1B.2/Yes	Primarily from the water's edge in the brackish and fresh-water portions of the Delta region, there are also records of this species from Fresno, Marin, San Benito, and Santa Clara counties. Within San Joaquin County	Closely associated with the waterways of the Delta. May-July
Mason's lilaeopsis *Lilaeopsis masonii*	--/CR/1B.1/	Sacramento-San Joaquin River Delta and nearby shores of San Francisco Bay.	Marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. In brackish or freshwater. 0-10 m. Apr-Nov.
Delta mudwort *Limosella australis*	--/--/2B.1/	Found in Contra Costa County, Sacramento County, San Joaquin County, and Solano County.	Riparian scrub, marshes and swamps. Usually on mud banks of the Delta in marshy or scrubby riparian associations; often with Lilaeopsis masonii. 0-5 m. May-Aug.
Showy golden madia *Madia radiata*	--/--/1B.1/	It is endemic to California, where it is known mostly from the Central Coast Ranges and adjacent edges of the San Francisco Bay Area and Central Valley.	Valley and foothill grassland, cismontane woodland. Mostly on adobe clay in grassland or among shrubs. 75-1220 m. Mar-May.
California alkali grass *Puccinellia simplex*	--/--/1B.2/No	Scattered locations in the Central Valley to Utah	Saline flats, mineral springs. March-May
Sanford's arrowhead *Sagittaria sanfordii*	--/--/1B.2/Yes	Its historic range in California is the Central Valley from Butte County to Fresno County and along the coast from Del Norte County to Ventura County. It is mostly extirpated from the Central Valley due to channel and flow alteration of the major waterways	Shallow, slow moving waters. Although its natural habitat is along streams and rivers, it also is sometimes found along man-made channels. May-October
Suisun Marsh aster *Symphyotrichum lentum*	--/--/1B.2/Yes	Delta region. Primarily the Bouldin Island, Isleton, Holt, Terminous, and Woodward Island quad	Water's edge, in places where water is brackish and there is some tidal influence. May-November
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
Saline clover *Trifolium hydrophilum*	--/--/1B.2/No	Eastern and Northern San Francisco Bay region, the Delta, western San Joaquin Valley, southern San Jose	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), and Vernal pools. April-June

SPECIES	*STATUS (FED./CA/ CNPS/SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT AND BLOOMING PERIOD*
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
Greene's tuctoria *Tuctoria greenei*	E/R/1B.1/Yes	Historic range is the Central Valley from Shasta to Tulare county, although it is extirpated from several of the southern counties	Large, relatively deep vernal pools, which often are located on low-lying lands suitable for agriculture. May-July

SOURCE: CDFW CNDDB 2020

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TABLE 3.4-4: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT (APPROXIMATELY ONE MILE)

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
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			
Tricolored blackbird *Agelaius tricolor*	BCC/C (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
Burrowing owl *Athene cunicularia*	BCC/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
Swainson's hawk *Buteo swainsoni*	BCC/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
Loggerhead shrike *Lanius lodovicianus*	BCC/SSC/Yes	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches
Yellow-headed blackbird *Xanthocephalus xanthocephalus*	--/SSC/Yes	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds	Nests only where large insects such as odonatan are abundant, nesting timed with maximum emergence of aquatic insects
FISH			
Steelhead – Central Valley DPS *Oncorhynchus mykiss irideus*	T/--/No	Sacramento River and tributary Central Valley rivers	Have the same general habitat requirements as winter and spring-run Chinook salmon

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
MAMMALS			
Riparian brush rabbit *Sylvilagus bachamani 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
INVERTEBRATES			
Western bumble bee *Bombus occidentalis*	--/--/No	Western North America, ranging from the tundra region in Alaska and Yukon south along the west coast to southern British Columbia to central California, Arizona and New Mexico and east into southern Saskatchewan and northwestern Great Plains	Open coniferous, deciduous and mixed-wood forests, wet and dry meadows, montane meadows and prairie grasslands, meadows bordering riparian zones, and along roadsides in taiga adjacent to wooded areas, urban parks, gardens and agricultural areas, subalpine habitats and more isolated natural areas
Moestan blister beetle *Lytta moesta*	--/--/Yes	Distribution of this species is poorly known	Annual grasslands, foothill woodlands or saltbush scrub

SOURCE: CDFW CNDDB 2020

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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.
BCC = BIRD OF CONSERVATION CONCERN

STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE STATE ENDANGERED SPECIES ACT.
FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.
SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.

TABLE 3.4-5: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT (APPROXIMATELY 15 MILES)

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
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.
Foothill yellow-legged frog *Rana Boylii*	--/C (SSC)/	Coast Ranges from northern Oregon, through California, and into Baja California, Mexico as well as in the foothills of the Sierra Nevada and southern Cascade Range in California.	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.
California red-legged frog *Rana draytonii*	FT/SSC/	The California red-legged frog is found in California and extreme northern Baja California, northwestern Mexico. This species now occurs most commonly along the northern and southern Coast Ranges, and in isolated areas in the foothills of the Sierra Nevada mountains.	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.
Western spadefoot *Spea Hammondii*	--/SSC/	Occur throughout the Central Valley of California into northwestern Baja California. In Baja, they are found at least as far south as Mesa de San Carlos.	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.
BIRDS			
Tricolored blackbird *Agelaius tricolor*	BCC/C (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
Burrowing owl *Athene cunicularia*	BCC/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
Cackling (=Aleutian Canada) goose *Branta hutchinsii*	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

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
Swainson's hawk *Buteo swainsoni*	BCC/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
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	T (BCC)/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
White-tailed kite *Elanus leucurus*	--/--/Yes	Gulf Coast in Texas and Mexico and in the valley and coastal regions of central and southern California.	Grasslands, marshes, row crops and alfalfa, where they hover while foraging for rodents and insects
California horned lark *Eremophila alpestris actia*	--/--/Yes	Central Valley and coastal valleys and foothills.	Forage in large groups in open grasslands, nesting in hollows on the ground, and are also regularly found breeding on the Valley floor in suitable habitat.
Merlin *Falco columbarius*	--/--/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
Loggerhead shrike *Lanius lodovicianus*	BCC/SSC/Yes	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches
California black rail *Laterallus jamaicensis coturniculus*	--/T (FP)/	The majority of California Black Rails (>90 percent) are found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations occur in San Francisco Bay, the Outer Coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River Area	Tidal marshes and freshwater marshes in the western United States and Mexico. California black rails inhabit the drier portions of wetlands. The rails select areas with high stem densities and canopy coverage in shallow water; close to upland vegetation California black rails are also associated with plants of the upland/wetland interface, such as seep willow, arrowweed, saltgrass, and cottonwood.
Song sparrow ("Modesto" population) *Melospiza melodia*	BCC/SSC/Yes	Restricted to California, where it is locally numerous in the Sacramento Valley, Sacramento–San Joaquin River Delta, and northern San Joaquin Valley. Exact boundaries of range uncertain.	Found in emergent freshwater marshes dominated by tules (Scirpus spp.) and cattails (Typha spp.) as well as riparian willow (Salix spp.) thickets. They also nest in riparian forests of Valley Oak (Quercus lobata) with a sufficient understory of blackberry (Rubus spp.), along vegetated irrigation canals and levees, and in recently planted Valley Oak restoration sites.

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
Least Bell's vireo *Vireo bellii pusillus*	E/E/No	Central Valley of California and other low-elevation river valleys.	Dense brush, mesquite, willow-cottonwood forest, streamside thickets, and scrub oak
Yellow-headed blackbird *Xanthocephalus*	--/SSC/Yes	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds	Nests only where large insects such as odonatan are abundant, nesting timed with maximum emergence of aquatic insects.
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.
Hardhead *Mylopharodon conocephalus*	--/SSC/No	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem	Resides in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. They also occur in reservoirs.
Steelhead – Central Valley DPS *Oncorhynchus mykiss irideus*	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.
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.
MAMMALS			
Pallid bat *Antrizous pallidus*	--/SSC (FP)/No	Pallid bats range from southern British Columbia through Montana to central Mexico. They occur from the Okanagan valley in British Columbia, south through eastern Washington, Oregon, and California to Baja California Sur, Sonora, Sinaloa, Nayarit, Jalisco, Queretaro, and Nuevo Leon in Mexico. They are found as far east as western Texas, Oklahoma, southern Kansas, southern Wyoming, and southern Idaho.	Mountainous areas, intermontane basins, lowland desert scrub, arid deserts and grasslands. Roosts in rock outcrops, hollow trees, abandoned mines, barns, and attics.

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC/	Throughout California in a wide variety of habitats	Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.
Western mastiff bat *Eumops perotis californicus*	--/SSC/	Ranges from central Mexico across the southwestern United States (parts of California, southern Nevada, southwestern Arizona, southern New Mexico and western Texas). Significant populations of E. perotis occur in many of the Sierra Nevada river drainages, particularly in the central and southern Sierra, i.e., the Stanislaus, Tuolumne, Merced (North and South Forks), San Joaquin, Kaweah, Tule, and Kern rivers.	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.
Riparian (=San Joaquin Valley) woodrat *Neotoma fuscipes riparius*	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
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 brush rabbit *Sylvilagus bachamani 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

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
REPTILES			
Northern California legless lizard *Anniella pulchra*	--/SSC/	This lizard is common in suitable habitats in the Coast Ranges from Contra Costa County south to the Mexican border, but only has a spotty occurrence throughout the rest of its range, which includes the San Joaquin Valley to the west slope of the southern Sierra, the Tehachapi Mountains west of the desert and in the mountains of southern California.	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.
California glossy snake *Arizona elegans occidentalis*	--/SSC/	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils
Western pond turtle *Emys marmorata*	--/SSC	Southern Central Valley (San Joaquin clade), a limited region in Santa Barbara and Ventura counties (Santa Barbara clade), and a region south of the Tehachapi Mountains and west of the Tranverse ranges south to Baja California (Southern clade)	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying
San Joaquin coachwhip *Masticophis flagellum ruddocki*	--/SSC	The San Joaquin coachwhip is endemic to California, ranging from Arbuckle in the Sacramento Valley in Colusa County southward to the Grapevine in the Kern County portion of the San Joaquin Valley and westward into the inner South Coast Ranges.	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.
Coast horned lizard *Phrynosoma blainvillii*	--/SSC	Historically found in California along the Pacific coast from the Baja California border west of the deserts and the Sierra Nevada, north to the Bay Area, and inland as far north as Shasta Reservoir, and south into Baja California.	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.
Giant gartersnake *Thamnophis gigas*	T/T/Yes	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno	Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; they are also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
INVERTEBRATES			
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.
Obscure bumble bee *Bombus caliginosus*	--/--/No	Coast ranges from southern British Columbia and northern Washington to southern California, with scattered records from the east side of California's Central Valley	Open grassy coastal prairies and coast range meadows
Crotch bumble bee *Bombus crotchii*	--/--/No	Central California south to Baja California del Norte, Mexico, and includes coastal areas east to the edges of the deserts and the Central Valley	Open grassland and scrub
Western bumble bee *Bombus occidentalis*	--/--/No	Western North America, ranging from the tundra region in Alaska and Yukon south along the west coast to southern British Columbia to central California, Arizona and New Mexico and east into southern Saskatchewan and northwestern Great Plains	Open coniferous, deciduous and mixed-wood forests, wet and dry meadows, montane meadows and prairie grasslands, meadows bordering riparian zones, and along roadsides in taiga adjacent to wooded areas, urban parks, gardens and agricultural areas, subalpine habitats and more isolated natural areas
Conservancy fairy shrimp *Branchinecta conservatio*	E/--/Yes	Sacramento Valley and the northern San Joaquin Valley, and the eastern flank of the central coastal range	Large to very large vernal pools and vernal lakes although they also have been found in alkaline pools
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/--/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; they are also found in sandstone rock outcrop pools
Midvalley fairy shrimp *Branchinecta mesovallensis*	--/--/	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Vernal pools or other seasonal wetlands
Valley elderberry Longhorn beetle *Desmocerus californicus dimorphus*	T/--/Yes	Stream side habitats below 3,000 feet throughout the Central Valley	Stream side habitats below 3,000 feet throughout the Central Valley

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
Vernal pool tadpole shrimp Lepidurus packardi	E/--/Yes	Shasta County south to Merced County	Vernal pools and ephemeral stock ponds
California linderiella *Linderiella occidentalis*	--/--/No	Ranges from near Redding in the north to as far south as Fresno County, mainly to the east of the Sacramento and San Joaquin Rivers	Natural, and artificial, seasonally ponded habitat types including: vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities
Moestan blister beetle *Lytta moesta*	--/--/Yes	Distribution of this species is poorly known	Annual grasslands, foothill woodlands or saltbush scrub

SOURCE: CDFW CNDDB 2020

SJMSCP = SAN JOAQUIN MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

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.
BCC = BIRD OF CONSERVATION CONCERN

STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE STATE ENDANGERED SPECIES ACT.
FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.
SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.

3.4.2 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, the USFWS, the USACE, and the National Marine Fisheries Service (NMFS). 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 implementing the General Plan.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act, 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 United States Fish and Wildlife Service. 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.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews Federal agency actions that may affect these species.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (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. §323.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows [33 C.F.R. §328.3(a)]. 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 Regional Water Quality Control Board. To obtain the water quality certification, the Regional Water Quality Control Board must indicate that the proposed fill would be consistent with the standards set forth by the State.

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites as follows:

> *It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.*

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

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. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. 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 numbers, 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. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

Public Resources Code § 21083.4 - Oak Woodlands Conservation

In 2004, the California legislature enacted SB 1334, which added oak woodland conservation regulations to the Public Resources Code. This new law requires a county to determine whether a project, within its jurisdiction, may result in a conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a significant effect to oak woodlands, the county must require oak woodland mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include: conservation through the use of conservation easements; planting and maintaining an appropriate number of replacement trees; contribution of funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and/or other mitigation measures developed by the county.

California Oak Woodland Conservation Act

The California Legislature passed Assembly Bill 242, known as the California Oak Woodland Conservation Act, in 2001 as a result of widespread changes in land use patterns across the landscape that were fragmenting oak woodland character over extensive areas. The Act created the California Oak Woodland Conservation Program within the Wildlife Conservation Board. The legislation provides funding and incentives to ensure the future viability of California's oak woodland resources by maintaining large scale land holdings or smaller multiple holdings that are not divided into fragmented, nonfunctioning biological units. The Act acknowledged that the

conservation of oak woodlands enhances the natural scenic beauty for residents and visitors, increases real property values, promotes ecological balance, provides habitat for over 300 wildlife species, moderates temperature extremes, reduces soil erosion, sustains water quality, and aids with nutrient cycling, all of which affect and improve the health, safety, and general welfare of the residents of the State.

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 CVRWQCB in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River 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 San Joaquin River include groundwater recharge and fresh water replenishment.

LOCAL

Manteca Municipal Code

Section 17.48.060 of the Manteca Municipal Code, Landscape Care, Maintenance, and Replacement, provides regulations for the maintenance, pruning, and removal of existing trees. Existing trees over six inches in trunk diameter, measured 4.5 feet above ground level, are required to be protected from construction equipment, grade changes, excavation for utilities, paving, and footers for proposed structures. Section 17.48.060 indicates that the removal of a tree shall be the final recourse in Manteca upon determining that it is infeasible to save the tree by any other method (e.g., pruning, treatment of diseases, fertilizing) and, prior to the removal of any tree, Community Development Director approval is required.

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 FESA. An approved HCP within a defined plan area 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 plan area 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 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 percent 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, Manteca, 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 CDFW, and the USFWS. 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.

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.

3.4.3 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 Game 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 Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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; or
- 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 3.4-1: General Plan implementation could 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 (Less than Significant)

Approval of the General Plan would not directly approve or entitle any development or infrastructure projects. However, implementation of the General Plan and Land Use Map would allow and facilitate future development in Manteca, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors.

SPECIAL STATUS PLANT SPECIES

The search revealed documented occurrences of two special status plant species within one mile of the Planning Area. The search revealed documented occurrences of 20 special status plant species (including three non-vascular plants) within approximately 15 miles (12 quads) of the Planning Area. Tables 3.4-2 and 3.4-3 provide a list of special-status plant species that are documented within one and 15 miles of the Planning Area, along with their current protective status, geographic distribution, habitat, and blooming period. Figure 3.4-2 illustrates the special status species located within one mile of the Planning Area. Figure 3.4-3 illustrates the special status species located within approximately 15 miles (12 quads) of the Planning Area.

Subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with these special status plant species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special status plant species could occur with implementation of the General Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality.

Special status plant species receive protection from various Federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of the plant species without a special permit. Additionally, the proposed General Plan includes numerous policies and actions intended to reduce or avoid impacts to special status plant species. These policies and actions are listed below.

SPECIAL STATUS ANIMAL SPECIES

The search revealed documented occurrences of 46 special status animal species within approximately 15 miles of the Planning Area (12 Quad). This includes: four amphibian, 13 birds, four fish, eight mammals, six reptile, and 11 invertebrates, including insect species. Of these species, 10 are documented within approximately one mile of the city's SOI. Tables 3.4-4 and 3.4-5 provide a list of the special-status animal species that are documented within approximately one mile and 15 miles (12 quads) of the Planning Area, along with their current protective status, geographic distribution, and habitat. Figure 3.4-2 illustrates the special status species located within the one-mile search area and Figure 3.4-3 illustrates the special status species located within approximately 15 miles (12 Quad) of the Planning Area.

While most new development in Manteca that would occur under the proposed General Plan would occur in areas that have been previously developed, subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with these special status animal species, since suitable habitat for these species does occur in the region and may occur on future development project sites within Manteca. Additionally, indirect impacts to special status animal species could occur with implementation of the General Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality, increased human presence, and the loss of foraging habitat.

Special status animal species receive protection from various Federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of a species or direct impact to foraging and breeding habitat without a special permit. Additionally, the proposed General Plan includes numerous policies and actions intended to reduce or avoid impacts to special status animal species. These policies and actions are listed below.

CONCLUSION

Construction and maintenance activities associated with future development projects under the proposed General Plan could result in the direct and indirect loss or indirect disturbance of special status plant or animal species or their habitats that are known to occur, or have potential to occur, in the region. Impacts to special status species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special status species associated with individual subsequent projects could include:

- increased mortality caused by higher numbers of automobiles in new areas of development;
- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through construction areas;
- direct mortality resulting from removal of trees with active nests;
- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- direct mortality resulting from fill of wetlands features;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- abandoned eggs or young and subsequent nest failure for special status nesting birds, including raptors, and other non-special status migratory birds resulting from construction-related noises;
- loss or disturbance of rookeries and other colonial nests;
- loss of suitable foraging habitat for special status raptor species;
- loss of migration corridors resulting from the construction of permanent structures or features; and
- impacts to fisheries/species associated with waterways.

However, implementation of the General Plan policies and actions listed below would assist in minimizing the impact to a less than significant level. Subsequent development projects will be

required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of special status plants and animals, including habitat.

The City of Manteca has prepared the General Plan to include numerous policies and actions intended to protect special status plants and animals, including habitat, from adverse effects associated with future development and improvement projects. Specifically, General Plan policies require City staff to continue to require projects to comply with the requirements of the SJMSCP when reviewing proposed public and private land use changes. The SJMSCP requires applicants to pay mitigation fees on a per-acre basis to mitigate impacts to the various habitat and biological resources within the Planning Area. For project proponents who opt not to participate in the SJMSCP, General Plan actions require project proponents to instead provide site-specific research and ground surveys for proposed development projects that include a detailed inventory of all biological resources onsite and appropriate mitigation measures for avoiding or reducing impact to these biological resources. Additionally, the General Plan requires project proponents to satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.

While future development has the potential to result in significant impacts to protected special status plants and animals, including habitat, the implementation of the policies and actions described above and listed below, as well as Federal and State regulations, would reduce impacts to these resources to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

RESOURCE CONSERVATION ELEMENT POLICIES

RC-1.1: Where feasible, protect and enhance surface water resources in creeks, streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.

RC-1.6: Encourage the conservation of riparian habitat along local creeks and waterways in order to maintain water quality and provide suitable habitat for native fish and plant species.

RC-1.8: Minimize pollution of water resources, including the San Joaquin River, other waterways, and the groundwater basin, from urban runoff, soil erosion, and sedimentation.

RC-7.2: Conserve open space for conservation, recreation, and agricultural uses. Conversion of open space, as described under Policy RC-7.1, to developed residential, commercial, industrial, or other similar types of uses, shall be strongly discouraged. Undeveloped land that is designated for urban uses may be developed if needed to support economic development, improve the City's housing stock and range of housing types, and if the proposed development is consistent with the General Plan Land Use Map.

RCP-8.1: Support the continuation of agricultural uses on lands designated for urban use, until urban development is imminent.

RC-8.2: Provide an orderly and phased development pattern, encouraging the development of vacant lands within City boundaries prior to conversion of agricultural lands, so that farmland is not subjected to premature development pressure.

RC-8.3: Encourage permanent agricultural lands surrounding the Planning Area to serve as community separators and continue the agricultural heritage of Manteca.

RC-11.1: Support the long-term viability and success of the natural Delta ecosystems and the continuation of Delta heritage.

RC-11.2: Support efforts to ensure the protection, viability, and restoration of the Delta ecosystem in perpetuity, including implementing local conservation efforts that improve adequate water supply and quality.

RC-11.4: Promote protection of areas for habitat restoration, including remnants of riparian and aquatic habitat, particularly in the Delta.

RC-11.5: Encourage compatibility between agricultural practices and wildlife habitat.

RC-11.6: Preserve and protect the water availability and quality of the Delta for designated beneficial uses and habitat protection.

RC-11.7: Encourage and promote the expansion of floodplains and riparian habitats in levee projects.

RC-9.1: Protect sensitive habitats that include creek corridors, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the United States, sensitive natural communities, and other habitats designated by State and Federal agencies.

RC-9.2: Preserve and enhance those biological communities that contribute to Manteca and the region's biodiversity, including but not limited to, wetlands, riparian areas, aquatic habitat, and agricultural lands

RC-9.3: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

RC-9.4: Conserve existing native vegetation, where possible, and integrate regionally native plant species into development and infrastructure projects where appropriate.

RC-9.5: Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.

RC-9.7: Protect special status species and other species that are sensitive to human activities.

RC-9.9: Encourage the planting of native vegetation on new drainage channels.

RC-9.8: Encourage contiguous habitat areas.

RC-9.10: Continue to support and implement the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (County Habitat Plan).

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-1f: Coordinate with the California Department of Fish and Wildlife, San Joaquin County, and local watershed protection groups to identify potentially impacted aquatic habitat within Manteca's Planning Area and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams, and other waterways.

RC-1g: Explore revising Title 17 (Zoning) of the Municipal Code to include standards for the protection of riparian habitat. The standards should include minimum setback requirements, site design standards, and requirements for the ongoing maintenance of creek and riparian habitat on public and private lands.

RC-1h: Conserve, and where feasible, create or restore areas that provide important water quality benefits such as riparian corridors, buffer zones, wetlands, undeveloped open space areas, levees, and drainage canals. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.

RC-1k: Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.

RC-9a: Continue to require projects to comply with the requirements of the County Habitat Plan when reviewing proposed public and private land use changes.

RC-9b: Require project proponents who opt not to participate in the SJMSCP to:

- *Satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.*

- *Provide site-specific research and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.*

RC-9f: Implement the multiple use of resource areas, where feasible, that includes passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas.

RC-9h: Utilize existing regulations and procedures, including but not limited to, the Zoning Ordinance and the environmental review process, in order to address impacts to special-status species and conserve sensitive habitats, including wetlands and riparian habitat.

RC-11a: Review all projects affecting areas within the Delta Secondary Zone to ensure they are consistent with the criteria and policies set forth by the Delta Stewardship Council's "Delta Plan".

RC-11b: As applicable, provide opportunities for review of and comment by the Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, and SWRCB during project review.

RC-11c: Review all projects located within or adjacent to priority habitat restoration areas, and consult the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on the opportunity to restore habitat as described in the Delta Plan.

Impact 3.4-2: General Plan implementation could 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 (Less than Significant)

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDB search revealed four sensitive natural communities within 15 miles of Manteca. The sensitive natural communities within 15 miles of Manteca include Elderberry Savanna, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Valley Oak Riparian Forest. All four of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them "highest inventory priorities" for future conservation. Of these sensitive natural communities documented within 15 miles of Manteca, none are located within one mile of the City limits.

While not always documented as a sensitive natural community in the CNDDB, streams, rivers, wet meadows, and vernal pools are of high concern because they provide unique aquatic habitat for many endemic species, including special status plants, birds, invertebrates, and amphibians. Manteca is located in a bioregion that 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 five percent. Due to Manteca's agricultural history, agricultural irrigation ditches and canals are located in the Planning Area where active agricultural operations are found. A major area of riparian habitat is located on the west and southwest side of the Planning Area along the San Joaquin River. The riparian vegetation along Walthall Slough is contiguous with the southwestern Planning Area boundary. Additionally, seasonal wetland areas, including impounded irrigation runoff, along State Route 120 in the western portion of the Planning Area also support riparian vegetation and associated wildlife. These wetland areas are located within the SJMSCP Natural Lands Habitat Open Space category.

As noted in Table 3.4-1, approximately 112 acres of Valley Foothill Riparian habitat is located within the Planning Area. Over 225 species of birds, mammals, reptiles, and amphibians depend on California's riparian habitats, including the endangered riparian brush rabbit and the endangered

riparian woodrat[2]. Development accommodated by the General Plan in or near riparian and habitat areas could result in removal of vegetation or further habitat degradation from pollutants transported by urban runoff, changes in vegetation as a result of changes in land use and management practices, as well as altered site hydrology from the construction of adjacent urban development and roadways. Alterations to the flow, bed, channel, or bank of creeks and streams within the Planning Area would affect the ability of riparian corridors to provide habitat for wildlife species that utilize them for feeding, cover, and nesting, and thus could result in a loss of riparian habitat function; therefore, this is considered a potentially significant impact

The City of Manteca has prepared the General Plan to include numerous policies and actions intended to protect sensitive natural communities, including riparian habitat, from adverse effects associated with future development and improvement projects. As previously stated, the General Plan requires City staff to continue to require projects to comply with the requirements of the SJMSCP, which requires the applicants to pay mitigation fees on a per-acre basis to mitigate impacts to the various habitat and biological resources within the Planning Area. Additionally, the SJMSCP requires developments along both sides of the San Joaquin River to be situated so as to maintain a 1,200-foot corridor encompassing 600 feet from the mean high water mark of the river. Further, for the area on the east side of the river bordering lands in the Lathrop and Manteca planned land use areas as indicated on the SJMSCP Planned Land Use Map, the final setbacks shall be established after the completion of surveys for the riparian brush rabbit. The General Plan also includes a number of policies and actions related to habitat restoration and protection, including riparian and aquatic habitat, particularly in the Delta. For example, RC-9.5 requires new developments in the vicinity of the San Joaquin River and Walthall Slough to be conditioned to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats. Additionally, General Plan Action RC-11c requires City staff to consult the California Department of Fish and Wildlife for projects located within or adjacent to priority habitat restoration areas to ensure that any impacts do not have a significant effect on the opportunity to restore habitat as described in the Delta Plan.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat. While future development has the potential to result in significant impacts to protected habitats, the implementation of the policies and action discussed above and listed below, as well as Federal and State regulations, would reduce impacts to these resources to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

RESOURCE CONSERVATION ELEMENT POLICIES

RC-9.1: Protect sensitive habitats that include creek corridors, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the United States, sensitive natural communities, and other habitats designated by State and Federal agencies.

[2] USFWS. November 2012. *Proposed Expansion San Joaquin River National Wildlife Refuge {pg. 1]*

RC-9.2: Preserve and enhance those biological communities that contribute to Manteca and the region's biodiversity, including but not limited to, wetlands, riparian areas, aquatic habitat, and agricultural lands

RC-9.3: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

RC-9.5: Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.

RC-9.8: Encourage contiguous habitat areas.

RC-9.10: Continue to support and implement the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (County Habitat Plan).

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-9a: Continue to require projects to comply with the requirements of the County Habitat Plan when reviewing proposed public and private land use changes.

RC-9b: Require project proponents who opt not to participate in the SJMSCP to:

- *Satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.*

- *Provide site-specific research and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.*

RC-9e: Limit the access of pedestrians and bicyclists to wetland areas so that access is compatible with long-term protection of these natural resources.

RC-9g: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist.

Impact 3.4-3: General Plan implementation could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant)

Streams, rivers, wet meadows, and vernal pools (wetlands and jurisdictional waters) are of high concern because they provide unique aquatic habitat (perennial and ephemeral) for many endemic species, including special status plants, birds, invertebrates, and amphibians. These

aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the CWA.

There are no free-running streams or natural bodies of water within the Planning Area; however, the San Joaquin River flows along the west and southwest side of the Planning Area boundary. Walthall Slough is a tributary to the San Joaquin River and runs contiguous with the southwestern boundary of the Planning Area. Additionally, Oakwood Lake and Weatherbee Lake are found in the southwest corner of the Planning Area north of and adjacent to the Walthall Slough. The majority of the Study Area has been historically leveled and any naturally occurring drainages have been channelized or otherwise disturbed. Some of the numerous Planning Area irrigation and drainage ditches/canals support riparian vegetation. The irrigation runoff impoundments along State Route 120 on the west side of the Study Area function as seasonal wetlands. If the Corps determines that the irrigation and drainage ditches/canals, or the irrigation water impoundments on the western edge of the Planning Area represent waters "adjacent" to the San Joaquin River, these features would be regulated pursuant to Section 404. No vernal pools are recorded by the SJMSCP within the Study Area.

Section 404 of the CWA requires any project that involves disturbance to a wetland or water of the U.S. to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is determined to be present, then a permit must be obtained from the USACE to authorize a disturbance to the wetland. Although subsequent projects may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through Section 404 of the CWA ensures that there is "no net loss" of wetlands or jurisdictional waters. If, through the design process, it is determined that a future development project cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

The proposed project is a planning document that does not itself approve any specific physical changes to the to the environment, adoption of the proposed project would not directly impact the environment. However, the project could have an indirect change on the physical environment through subsequently approved projects that are consistent with the buildout that is contemplated in the General Plan. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Construction and development activities associated with individual future projects could result in the disturbance or loss of waters of the United States. This includes perennial and intermittent drainages; unnamed drainages; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, encroachment, habitat conversion, routine maintenance, and other development-related activities. Impacts on wetlands and other waters could occur through habitat conversion,

encroachment, routine maintenance, or other activities in the immediate vicinity of waterways and in habitat supporting wetlands. Indirect impacts could result from adjacent development that leads to habitat modifications such as changes in hydrology and reduction in water quality caused by urban runoff, erosion, and siltation.

This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below. Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The City of Manteca has prepared the General Plan to include numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected water features, the implementation of the policies and actions listed below, as well as Federal and State regulations, would reduce impacts to these resources to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

RESOURCE CONSERVATION ELEMENT POLICIES

RC-1.1: Where feasible, protect and enhance surface water resources in creeks, streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.

RC-1.4: Encourage the rehabilitation of culverted or open existing channelized waterways to a more natural condition, as feasible, to remove concrete linings and allow for a connection between the stream channel and the natural water table. Avoid creating additional culverted or open channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.

RC-1.5: Where feasible, require development projects adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration, public access trails, and walkways.

RC-1.6: Encourage the conservation of riparian habitat along local creeks and waterways in order to maintain water quality and provide suitable habitat for native fish and plant species.

RC-1.8: Minimize pollution of water resources, including the San Joaquin River, other waterways, and the groundwater basin, from urban runoff, soil erosion, and sedimentation.

RC-7.1: Consider General Plan land use designations that include agriculture, permanent open space, parks and similar uses, as well as waterways (i.e., San Joaquin River, Lower Lone Tree Creek, Middle Lone Tree Creek, Oakwood Lake, Walker Slough, and Walthall Slough), as contributing to the City's open space.

RC-9.1: Protect sensitive habitats that include creek corridors, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the United States, sensitive natural communities, and other habitats designated by State and Federal agencies.

RC-9.2: Preserve and enhance those biological communities that contribute to Manteca and the region's biodiversity, including but not limited to, wetlands, riparian areas, aquatic habitat, and agricultural lands

RC-9.5: Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.

RC-12.1: Ensure the long-term viability, success of the natural Delta ecosystems, and continuation of Delta heritage.

RC-12.2: Support efforts for the protection and restoration of the Delta ecosystem in perpetuity, including implementing local conservation efforts that improve adequate water supply and quality.

RC-12.4: Support regional efforts to address issues related to urban development, habitat conservation and agricultural protection through participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).

RC-12.5: Promote protection of remnants of riparian and aquatic habitat.

RC-12.7: Preserve and protect the water availability and quality of the Delta for both designated beneficial uses, and habitat protections.

RC-12.8: Protect opportunities for habitat restoration.

RC-12.9: Encourage and promote the expansion of floodplains and riparian habitats in levee projects.

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-1f: Coordinate with the California Department of Fish and Wildlife, San Joaquin County, and local watershed protection groups to identify potentially impacted aquatic habitat within Manteca's Planning Area and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams, and other waterways.

RC-1h: Conserve, and where feasible, create or restore areas that provide important water quality benefits such as riparian corridors, buffer zones, wetlands, undeveloped open space areas, levees, and drainage canals. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.

RC-1k: Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.

RC-9c: Until such time that a Clean Water Act regional general permit or its equivalent is issued for coverage under the SJMSCP, acquisition of a Section 404 permit by project proponents will continue to occur as required by existing regulations. Project proponents shall comply with all requirements for protecting federally protected wetlands.

RC-9e: Limit the access of pedestrians and bicyclists to wetland areas so that access is compatible with long-term protection of these natural resources.

RC-9i: Consult with State and Federal agencies during the development review process to help identify wetland and riparian habitat that has candidacy for restoration, conservation, and/or mitigation. Focus restoration and/or conservation efforts on areas that would maximize multiple beneficial uses for such habitat.

RC-12a: Review all projects affecting areas within the Deltas' Secondary Zone to ensure they are consistent with the criteria and policies set forth by the Delta Stewardship Council's "Delta Plan".

RC-12c: Review all projects located within or adjacent to priority habitat restoration areas, and consult the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on the opportunity to restore habitat as described in the Delta Plan.

Impact 3.4-4: General Plan implementation would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant)

Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat fragments). Wildlife habitat corridors maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation or removal. The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet any of the habitat requirements necessary for a passage species everyday survival. "Corridor dwellers" are those species that have limited dispersal capabilities – a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds – and use corridors for a greater length of time.

As noted in Impact 3.4-2, no major watercourse lies within the Planning Area; however, the San Joaquin River flows along the west and southwest side of the Planning Area boundary. Walthall Slough – a tributary to the San Joaquin River – runs contiguous with the southwestern boundary of the Planning Area. Additionally, Oakwood Lake and Weatherbee Lake are found in the southwest corner of the Planning Area north of and adjacent to the Walthall Slough. As shown in the proposed General Plan Land Use Map, Open Space land uses are found adjacent to the Walthall

Slough and San Joaquin River in the southwest corner of the Planning Area. The areas designated for urban uses by the proposed Land Use Map near both creeks are generally developed with urban uses currently.

The Planning Area does not currently provide an important connection between any areas of natural habitat that would otherwise be isolated. The Planning Area is not located within any of the ecological or wildlife movement corridors identified by the CDFW or identified in the SJMSCP as important to maintaining connectivity between communities, habitat patches, and species populations or identified in the SJMSCP 2019 Annual Report as preserve areas. However, as previously discussed, a number of wildlife nursery sites exist in the vicinity of the Planning Area, including the San Joaquin River Oxbow Preserve. The San Joaquin River Oxbow Preserve is located adjacent to the San Joaquin River within Lathrop in San Joaquin County, which is a 30-acre riparian forest preserve to established as mitigation to protect the existing riparian brush rabbit population. As discussed in Impact 3.4-2, Valley Foothill Riparian habitat exists in the southwestern corner of the Planning Area in close proximity to the San Joaquin River Oxbow Preserve. Given the close proximity to the known native nursery site across the river, there is potential for riparian brush rabbit to utilize the Planning Area's riparian habitat as a nursery site.

Because the proposed project is a planning document and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment. However, development of the Planning Area could impede the movement of wildlife by disturbing and/or blocking local movement corridors or by disturbing nursery sites. Many of the species that would normally use annual grasslands and vernal pool complexes as foraging areas would not as easily move across the future urbanized landscapes planned for development. The General Plan includes areas designated for Agricultural and Open Space uses, including farmlands, creeks, riparian areas, and grasslands, which would become the primary wildlife corridors as the landscape urbanizes. However, there is still a reasonable chance that movement corridors could be impacted throughout the buildout of subsequent individual projects. Thus, this is considered a potentially significant impact.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. The City of Manteca has prepared the General Plan to include policies and actions intended to protect movement corridors from adverse effects associated with future development and improvement projects. For example, the General Plan requires projects located on or immediately adjacent to areas where sensitive biological habitats have been identified to incorporate appropriate mitigation measures identified by a qualified biologist through the preparation of a site-specific technical report. The detailed and site-specific review of the site should include a determination of whether wildlife movement corridors are present or absent on a given project site. If movement corridors are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

While future development has the potential to result in significant impacts to protected movement corridors, the implementation of the policies and action listed below, as well as Federal and State regulations, would reduce impacts to these resources to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTION THAT MITIGATE POTENTIAL IMPACTS

RESOURCE CONSERVATION ELEMENT POLICIES

RC-1.1: Where feasible, protect and enhance surface water resources in creeks, streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.

RC-1.5: *Where feasible, require development projects adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration, public access trails, and walkways.*

RC-1.6: Encourage the conservation of riparian habitat along local creeks and waterways in order to maintain water quality and provide suitable habitat for native fish and plant species.

RC-7.1: Consider General Plan land use designations that include agriculture, permanent open space, parks and similar uses, as well as waterways (i.e., San Joaquin River, Lower Lone Tree Creek, Middle Lone Tree Creek, Oakwood Lake, Walker Slough, and Walthall Slough), as contributing to the City's open space.

RC-9.1: Protect sensitive habitats that include creek corridors, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the United States, sensitive natural communities, and other habitats designated by State and Federal agencies.

RC-9.2: Preserve and enhance those biological communities that contribute to Manteca and the region's biodiversity, including but not limited to, wetlands, riparian areas, aquatic habitat, and agricultural lands

RC-9.3: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

RC-9.5: Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.

RC-9.8: Encourage contiguous habitat areas.

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-1h: Conserve, and where feasible, create or restore areas that provide important water quality benefits such as riparian corridors, buffer zones, wetlands, undeveloped open space areas, levees, and drainage canals. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.

RC-1k: Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.

RC-7e: Review all development proposals within or adjacent to the Sphere of Influence, to ensure adequate preservation of community separators and open space resources.

RC-9a: Continue to require projects to comply with the requirements of the County Habitat Plan when reviewing proposed public and private land use changes.

RC-9b: Require project proponents who opt not to participate in the SJMSCP to:

- *Satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.*

- *Provide site-specific research and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.*

RC-9e: Limit the access of pedestrians and bicyclists to wetland areas so that access is compatible with long-term protection of these natural resources.

RC-9f: Implement the multiple use of resource areas, where feasible, that includes passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas.

RC-9g: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist.

RC-9h: Utilize existing regulations and procedures, including but not limited to, the Zoning Ordinance and the environmental review process, in order to address impacts to special-status species and conserve sensitive habitats, including wetlands and riparian habitat.

Impact 3.4-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

The proposed project is a policy document, in which local policies are established. This EIR presents the numerous policies of the General Plan. The General Plan itself does not conflict with its policies. Subsequent development projects will be required to comply with the General Plan policies, as well as the Municipal Code. The General Plan does not contain any provisions that would conflict with local requirements, including Zoning Code Section 17.48.060 which addresses the maintenance and removal of existing trees, that provide for the protection of biological resources. The General Plan provides for the continued implementation of local requirements,

including policies and ordinances, related to protection of biological resources. This is a **less than significant** impact and no mitigation is required.

Impact 3.4-6: General Plan implementation would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan (Less than Significant)

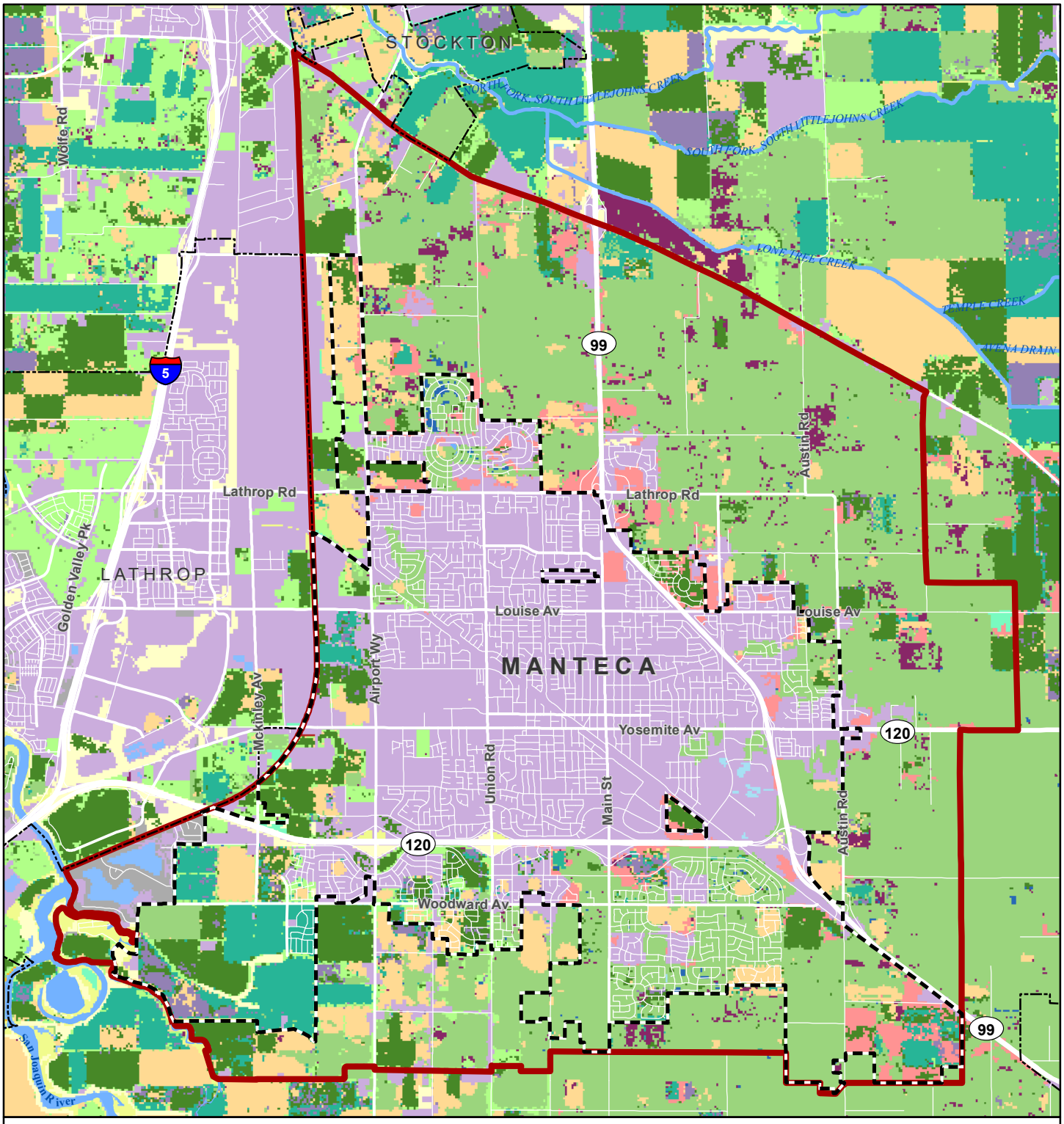
As noted previously, the City of Manteca is a participant in SJMSCP. The SJMSCP was approved in 2000 and the City of Manteca is a signatory to the SJMSCP.

The proposed General Plan Land Use Map does not re-designate any land currently designated for open space or habitat protection. As such, the proposed General Plan and the Land Use Map are consistent with the adopted SHMSCP in terms of land uses and habitat protection. Implementation of the General Plan would not conflict with the provisions of an adopted HCP/NCCP, or other approved local, regional, or State habitat conservation plan.

Future projects that do not comply with the SJMSCP could result in potentially significant impacts, which would be mitigated to a less than significant level through the implementation of Action RC-9a. Action RC-9a from the Resource Conservation Element of the General Plan requires City staff to continue to require projects to comply with the requirements of the SJMSCP when reviewing proposed public and private land use changes. Through implementation of this Action, the General Plan would have a **less than significant** impact relative to this topic.

GENERAL PLAN ACTION THAT MITIGATES POTENTIAL IMPACTS

RC-9a: Continue to require projects to comply with the requirements of the County Habitat Plan when reviewing proposed public and private land use changes.



Planning Areas

Manteca City Limits | Surrounding Cities | Manteca Planning Area

Land Cover Types

- Annual Grassland
- Barren
- Coastal Scrub
- Cropland
- Deciduous Orchard
- Dryland Grain Crops
- Eucalyptus
- Evergreen Orchard
- Fresh Emergent Wetland
- Irrigated Grain Crops
- Irrigated Hayfield
- Irrigated Row and Field Crops
- Lacustrine
- Pasture
- Rice
- Riverine
- Urban
- Valley Foothill Riparian
- Vineyard

0 ½ 1 Miles

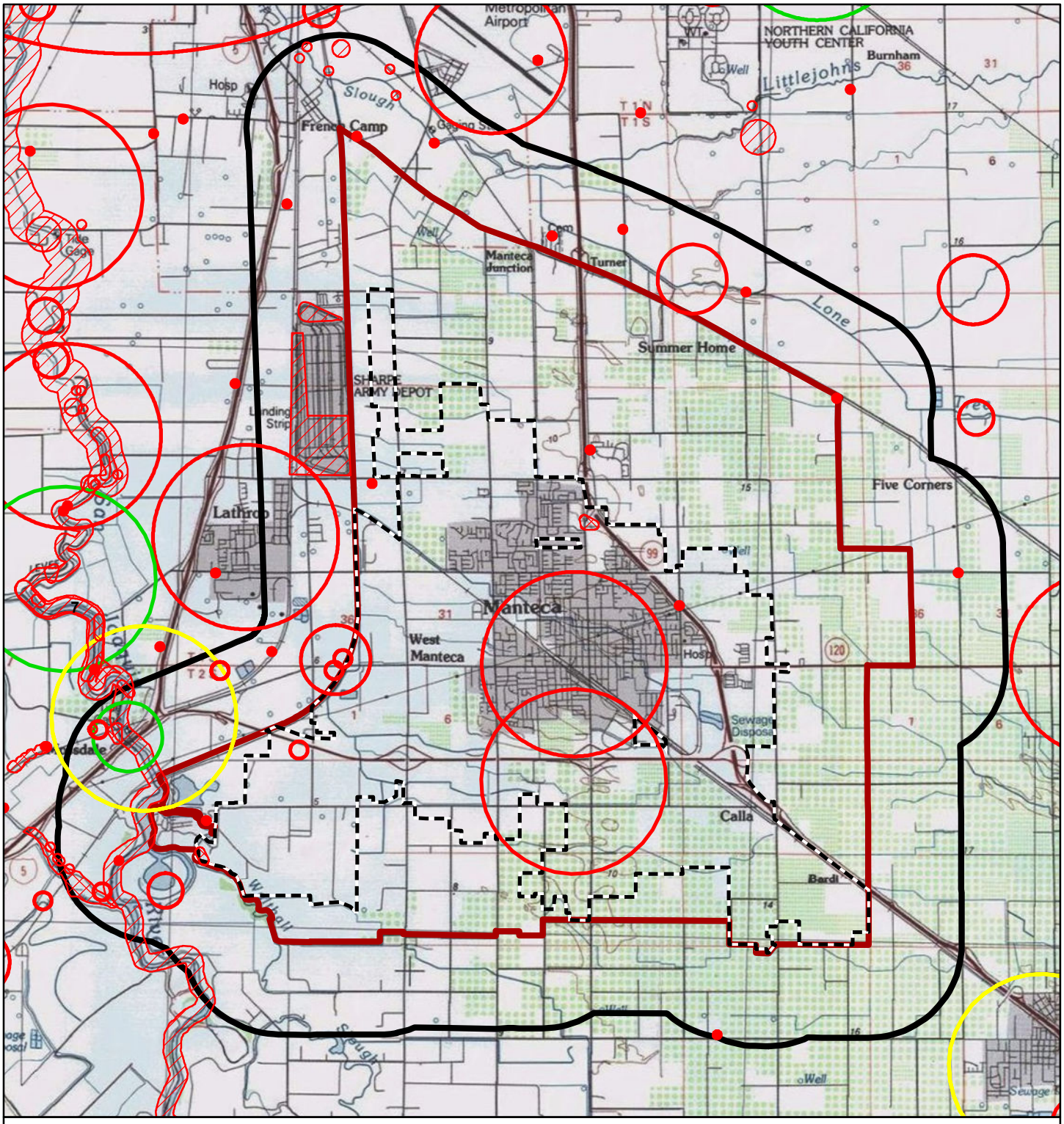
Sources:FRAP Vegetation (FVEG15_1); City of Manteca; San Joaquin County GIS.
Map date: December 15, 2016. Revised December 14, 2020.

CITY OF MANTECA GENERAL PLAN

Figure 3.4-1. Land Cover Types

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Legend

- Manteca City Limits
- Manteca Planning Area
- 1-mile Radius of SOI

Species Occurrence

- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Multiple (circular)

CITY OF MANTECA GENERAL PLAN

Figure 3.4-2. California Natural Diversity Database

1-mile Radius Search

N

0 ½ 1

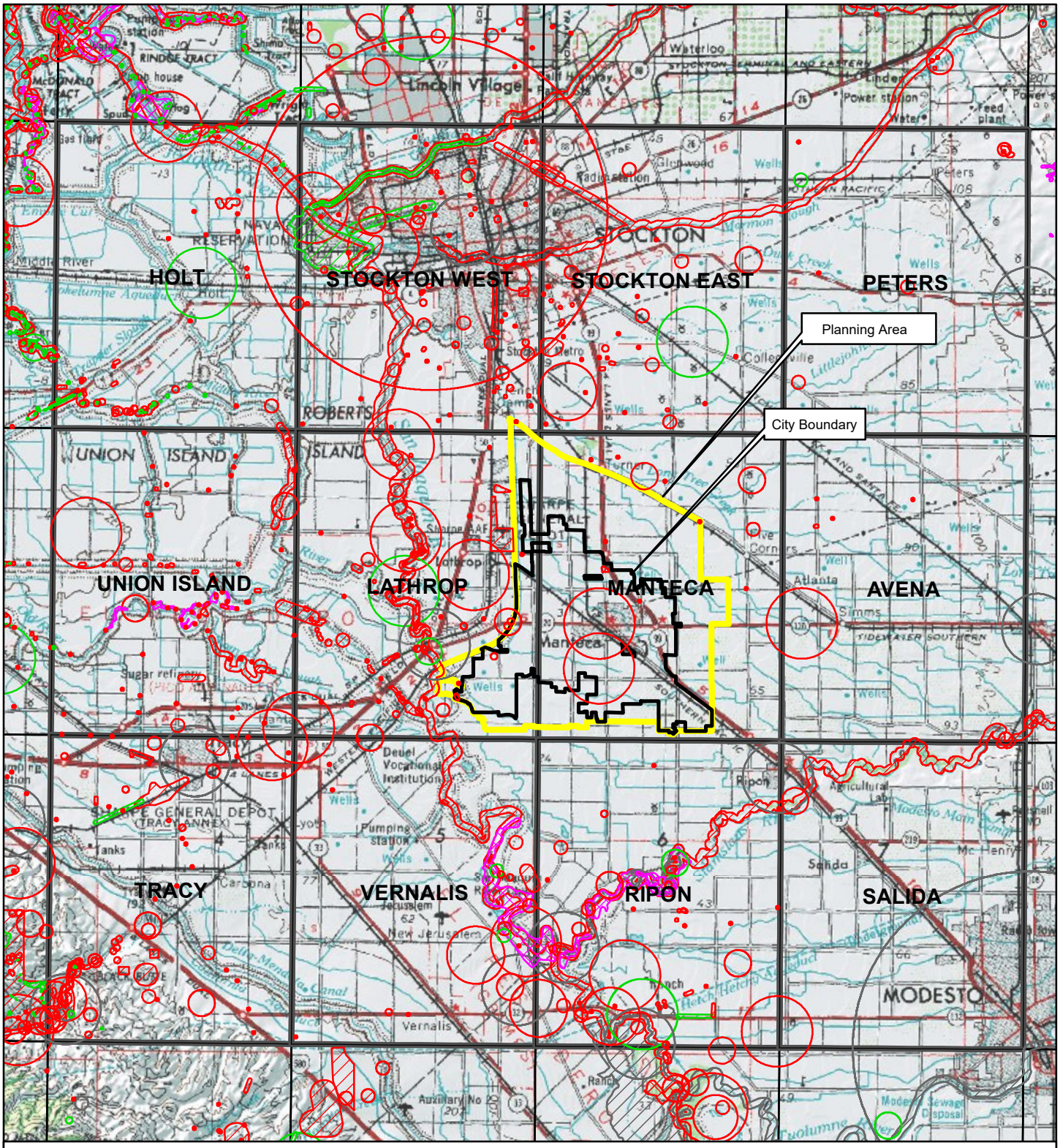
Miles

CNDDB version 01/2020. The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Basemap: ArcGIS Online Topographic Map Service. Map date: January 7, 2020. Revised: December 14, 2020.

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Special Status Species Occurrences

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (circular)
- Multiple (non-specific)
- Multiple (circular)

CITY OF MANTECA GENERAL PLAN

Figure 3.4-3. California Natural Diversity Database

9-Quad* Search

0 1 2 Miles

** Since the Manteca Sphere of Influence lies primarily within two USGS 7.5' quadrangles, the 9-quad search area has been expanded to 12 quads.*

CNDDB version 01/2020. The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Basemap: ArcGIS Online Topographic Map Service. Map date: January 7, 2020. Revised: December 14, 2020.

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Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Preservation of the city's cultural heritage should be considered when planning for the future.

This section provides a background discussion of the prehistory, ethnology, historical period background, and cultural resources found in Manteca. This section is organized with an existing setting, regulatory setting, and impact analysis. Paleontological resources are discussed in Section 3.6, Geology and Soils, of this Draft EIR.

The City received one comment letter related to this environmental topic during the Notice of Preparation (NOP) comment period. The Native American Heritage Commission (NAHC) submitted a letter, dated January 7, 2020. The comment letter provided an overview of tribal consultation requirements, and provided examples of recommended approaches to reducing potential impacts to cultural and tribal resources. The issues raised in this letter have been addressed in this chapter of the Draft EIR.

KEY TERMS

The following key terms are used throughout this section to describe cultural and tribal resources and the framework that regulates them:

Archaeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Complex. A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

Ethnography. The study of contemporary human cultures.

Midden. A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

3.5.1 ENVIRONMENTAL SETTING

PREHISTORY

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data.

In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation studies were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmiller site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late

Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

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 ocher 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 considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There are a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis* sp. rather than red *Haliotis* sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; 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.

Hotchkiss Culture (Late Horizon) -- The burial pattern retains the use of the flexed mode, and there is wide spread evidence of cremation, lesser use of red ocher, heavy sue 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-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of 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, but the traits attributed to them remain generally the same. While it is not altogether clear, Schulz seemingly uses the term “Complex” to refer to the particular archeological entities (above called “Horizons”) as defined in this region. Ragir's (1972) cultures are the same as Schulz's 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.

There have been other chronologies proposed, including Fredrickson (1973), and since it is correlated with Bennyhoff's (1977) work, it does merit discussion. The particular archeological cultural entities Fredrickson has defined, based upon 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 likely conforms to Fredrickson's pattern. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities. It corresponds with Willey and Phillips' (1958) earlier "tradition", although it is tied more specifically to the archeological record in California.

ETHNOLOGY

The Planning Area lies within the northern portion of 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; Latta 1949). 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, and 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.

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs that formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways, with their village sites normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925), with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. The housepit depressions for the structures ranged in diameter from 3 meters to 18 meters (Wallace 1978:470).

HISTORIC PERIOD BACKGROUND

The northern section of the City of Manteca lies on a portion of the Rancho Campo de los Franceses, the ranch named for the early camp first occupied by French-Canadian trappers employed by the Hudson's Bay Company in 1832. The site of the present-day location of French Camp was the terminus of the Oregon Trail used by the trappers between 1832 and 1845. In 1843, William Gulnac, likely one of the trappers who had become a Mexican citizen, with Charles Weber, later founder of Stockton, organized a company of 12 men for the purpose of forming a colony at French Camp. Gulnac filed for a land grant, and was awarded a large tract of land including French Camp and the later site of Stockton by the Mexican government.

The first extensive wheat-growing in the San Joaquin Valley took place on the sand plains in the region between Stockton and Manteca and on the west side of the valley between Tracy and Newman. The wheat growing was due to an initial experiment of John Wheeler Jones, who planted 160 acres to wheat in 1855 which included the central town site of what is now Manteca. He plowed his fields with a walking plow. The famous Stockton gang-plow was reported to be invented near the present site of Manteca (Smith 1960: 221, 243).

When the Visalia Branch of the Central Pacific Railroad (later the Fresno Branch of the Southern Pacific) was completed through the San Joaquin Valley, a shipping point was set up in the region and named Cowell or Cowell Station for Joshua Cowell, who had donated the right of way for the railroad. Maps of the area printed in the early San Joaquin County history shows scattered ranches in the area on large tracts of land (Thompson and West 1879). The town became a supply center for the region.

The station was re-named Manteca in 1904 or 1905 by the Southern Pacific for a local creamery that had taken its name from the Spanish word for "butter" or "lard" (Gudde 1969: 191). Another version of the naming of the town is that the Southern Pacific misprinted the name of the "Monteca" as "Manteca", and would not change the spelling (Hillman and Covello 1985).

After irrigation systems were developed, the large tracts of land formerly cultivated by dry land crops such as grain could be converted to use for orchards, alfalfa, diversified crops and large-scale dairying. Within a short time after the completion of the first irrigation system in the region by the Stanislaus and San Joaquin Water Company, the population of the town grew from 80 to about 500. Further growth occurred with the creation of the South San Joaquin Irrigation District in 1909 and the completion of Goodwin Dam on the Stanislaus River and associated canals in 1913 (Hillman and Covello 1985).

Industries in the area were agricultural in nature for many years, with stockyards, dairy farms, pumpkins and sugar beets being important economically. The Spreckels Sugar Company opened a mill in 1918 that remained an important industry in the region.

The population of Manteca began to grow at a rapid rate in the early 1950s, with the town serving as a bedroom community for industrial plants in San Joaquin County communities. Beginning in the 1970s, improvements to community infrastructure and the attractive pricing of homes brought even more growth (Hillman and Covelo 1985). The pattern of rapid growth continues to this day,

with industrial development in the area, as well as many residents commuting daily to the Bay Area.

CULTURAL RESOURCES IN THE MANTECA PLANNING AREA

California Historic Resources Inventory System

Ninety-five cultural resources have been identified within the Planning Area, according to files maintained by the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS). The ninety-five recorded cultural resources span both the prehistoric and historic periods and range from a Native American village site to historic period railroads, schools, buildings, and single-family homes (see Table 3.5-1).

TABLE 3.5-1: RESOURCES LISTED WITH THE CENTRAL CALIFORNIA INFORMATION CENTER FILE DIRECTORY

PROPERTY #	*ADDRESS*	*PERIOD/TYPE*	*NAME*
P-39-000002 (CA-SJO-250H)	Not Listed	Historic	Southern Pacific Railroad in San Joaquin County
P-39-000015 (CA-SJO-256H	Not Listed	Historic	Tidewater Southern Railway
P-39-000098 (CA-SJO-292H)	Not Listed	Historic	Western Pacific Railroad / Union Pacific Railroad
P-39-000099	Not Listed	Historic	Canal T and Drainage Canal, South San Joaquin Irrigation District
P-39-000102	Not Listed	Historic	Canal R, South San Joaquin Irrigation District
P-39-000103	Not Listed	Historic	Drainage Ditch, South San Joaquin Irrigation District
P-39-000111	Not Listed	Historic	East Union Cemetery
P-39-000133	Not Listed	Historic	Sharpe Facility Railroad System
P-39-000282 (CA-SJO-165/H)	Not Listed	Prehistoric Historic	Brown Site
P-39-000354 (CA-SJO-241H)	Not Listed	Historic	Permanente Metals Corporation Magnesium Plant
P-39-000394	Not Listed	Historic	Old French Camp Road
P-39-004187	2060 East Yosemite Avenue, Manteca	Historic/Single Family Residence	2060 East Yosemite Avenue
P-39-004188	2137 East Yosemite Avenue, Manteca	Historic/Single Family Residence	2137 East Yosemite Avenue
P-39-004189	2176 East Yosemite Avenue, Manteca	Historic/Single Family Residence	2176 East Yosemite Avenue
P-39-004190	2234 East Yosemite Avenue, Manteca	Historic/Single Family Residence	2234 East Yosemite Avenue
P-39-004191	10853 Austin Road, Manteca	Historic/Single Family Residence	10853 Austin Road
P-39-004192	Not Listed	Historic	Calaveras, Calla, Carnegie, and Castle Schools
P-39-004272	1810 East Yosemite Avenue, Manteca	Historic/Single Family Residence	1810 East Yosemite Avenue
P-39-004273	Not Listed	Historic/Bridge	Bridge 29-0125L and Bridge 29-0125R
P-39-004400	8800 Woodward Avenue, Manteca	Historic/Single Family Residence	8800 Woodward Avenue

PROPERTY #	*ADDRESS*	*PERIOD/TYPE*	*NAME*
P-39-004401	9308 Woodward Avenue, Manteca	Historic/Single Family Residence	9308 Woodward Avenue
P-39-004402	9336 Woodward Avenue, Manteca	Historic/Single Family Residence	9336 Woodward Avenue
P-39-004403	9362 Woodward Avenue, Manteca	Historic/Single Family Residence	9362 Manteca Avenue
P-39-004404	19362 South Austin Road, Manteca	Historic/Single Family Residence	19362 South Austin Road
P-39-004405	19408 South Austin Road, Manteca	Historic/Single Family Residence	19408 South Austin Road
P-39-004406	135 Cottage Avenue, Manteca	Historic/Single Family Residence	135 Cottage Avenue
P-39-004407	2057 East Yosemite Avenue, Manteca	Historic/Single Family Residence	2057 East Yosemite Avenue
P-39-004408	18102 South Austin Road, Manteca	Historic/Single Family Residence	18102 South Austin Road
P-39-004409	18294 South Austin Road, Manteca	Historic/Single Family Residence	18294 South Austin Road
P-39-004410	18352 South Austin Road, Manteca	Historic/Single Family Residence	18352 South Austin Road
P-39-004411	18498 South Austin Road, Manteca	Historic/Single Family Residence	18498 South Austin Road
P-39-004412	18536 South Austin Road, Manteca	Historic/Single Family Residence	18536 South Austin Road
P-39-004413	18566 South Austin Road, Manteca	Historic/Single Family Residence	18566 South Austin Road
P-39-004414	18660 South Austin Road, Manteca	Historic/Single Family Residence	18660 South Austin Road
P-39-004415	18742 South Austin Road, Manteca	Historic/Single Family Residence	18742 South Austin Road
P-39-004416	18816 South Austin Road, Manteca	Historic/Single Family Residence	18816 South Austin Road
P-39-004417	19090 South Austin Road	Historic Ancillary Building	Metal Barn, 19090 South Austin Road
P-39-004494	14580 Airport Way, Manteca	Historic/Single Family Residence	14580 Airport Way
P-39-004495	14745 South Union Road, Manteca	Historic/Farm Ranch	14745 South Union Road
P-39-004496	3833 Lathrop Road, Manteca	Historic/Single Family Residence	3833 Lathrop Road
P-39-004497	3807 Lathrop Road, Manteca	Historic/Single Family Residence	3807 Lathrop Road, Manteca
P-39-004498	14875 South Union Road, Manteca	Historic/Single Family Residence	16875 South Union Road
P-39-004499	4513 Lathrop Road, Manteca	Historic/Public Utility Building	4513 Lathrop Road
P-39-004500	14842 South Union Road, Manteca	Historic/Single Family Residence	14842 South Union Road
P-39-004501	14808 South Union Road, Manteca	Historic/Single Family Residence	14808 South Union Road
P-39-004502	14596 South Union Road, Manteca	Historic/Single Family Residence	14596 South Union Road
P-39-004503	14444 South Union Road, Manteca	Historic/Single Family Residence	14444 South Union Road
P-39-004646 (CA-SJO-316H)	Not Listed	Historic/Road	Historic French Camp Road

PROPERTY #	*ADDRESS*	*PERIOD/TYPE*	*NAME*
P-39-004864 (CA-SJO-319H)	Not Listed	Historic/Refuse Scatter	AR1H
P-39-004865	Not Listed	Historic/Water Conveyance System	AR2H
P-39-004866	Not Listed	Historic/Water Conveyance System	AR4H
P-39-004913	2064 North Union Road, Manteca	Historic/Single Family Residence	2064 North Union Road
P-39-005000	Not Listed	Historic/School	Lincoln School (Manteca)
P-39-005001	Not Listed	Historic/School	Lindberg, Linden Elementary, Linden High Schools
P-39-005002	Not Listed	Historic/School	Tyler (John), Union/East Unions, Valencia Schools
P-39-005004	Not Listed	Historic/School	Manteca Unified School District/Manteca/Yosemite School
P-39-005005	Not Listed	Historic/School	Mandeville/King Island Schools and Manteca High School
P-39-005046	Not Listed	Historic/School	Rustic School
P-39-005082	Not Listed	Historic/Engineering Structure	City of Manteca Municipal Water Tower and Tank
P-39-005086	Not Listed	Historic/Engineering Structure	RD 17 West Levee/Walthal Slough Dry Land Levee
P-39-005090	1110 Stonum Lane, Manteca	Historic/School	Elliot (Brock) School
P-39-005092	Not Listed	Historic/School	Golden West/Grant (Ulysses S.) Schools
P-39-005097	Not Listed	Historic/School	New Haven School
P-39-005098	710 Martha Street, Manteca	Historic/School	Sequoia Elementary School
P-39-005099	Not Listed	Historic/School	Shasta and Sierra Middle School
P-39-005156 (CA-SJO-341H)	19119 McKinley Avenue, Manteca	Historic/Foundation, Refuse Scatter	19119 McKinley Avenue
P-39-005157	18871 McKinley Avenue, Manteca	Historic/Single Family Residence	18871 McKinley Avenue
P-39-005158	Not Listed	Historic/Engineering Structure	Manteca-Vierra, Schulte SW Trans Line
P-39-005159	19020 McKinley Avenue, Manteca	Historic/Single Family Residence	19020 McKinley Avenue
P-39-005160	19160 McKinley Avenue, Manteca	Historic/Single Family Residence	19160 McKinley Avenue
P-39-005161	19365 McKinley Avenue, Manteca	Historic/Single Family Residence	19365 McKinley Avenue, Duvan Kennel
P-39-005162	19465 McKinley Avenue, Manteca	Historic/Single Family Residence	19465 McKinley Avenue
P-39-005163	19589 McKinley Avenue, Manteca	Historic/Single Family Residence	19589 McKinley Avenue
P-39-005164	2693 Bronzan Road, Manteca	Historic/Single Family Residence	2693 Bronzan Road
P-39-005165	2785 Bronzan Road, Manteca	Historic/Single Family Residence	2785 Bronzan Road
P-39-005203	11659 South Highway 99, Manteca	Historic/Single Family Residence	11659 South Highway 99
P-39-005204	11845 South Highway 99, Manteca	Historic/Single Family Residence	11845 South Highway 99
P-39-005205	11879 South Highway 99, Manteca	Historic/Single Family	11879 South Highway 99

PROPERTY #	ADDRESS	PERIOD/TYPE	NAME
		Residence	
P-39-005206	11923 South Highway 99, Manteca	Historic/Single Family Residence	11923 South Highway 99
P-39-005207	14900 Frontage Road, Manteca	Historic/Single Family Residence	14900 Frontage Road
P-39-005208	15051-15053 Frontage Road, Manteca	Historic/Single Family Residence	15051-15053 Frontage Road
P-39-005209	15141 Frontage Road, Manteca	Historic/Single Family Residence	15141 Frontage Road
P-39-005210	15100 Frontage Road, Manteca	Historic/Single Family Residence	15100 Frontage Road
P-39-005211	15230 Frontage Road, Manteca	Historic/Single Family Residence/Farm Ranch	15230 Frontage Road
P-39-005212	15255 Frontage Road, Manteca	Historic/Commercial Building	15255 Frontage Road
P-39-005213	Not Listed	Historic/ Multiple Family Property	Southland Mobile Home Park
P-39-005214	5936 East Lathrop Road, Manteca	Historic/Single Family Residence	5936 East Lathrop Road
P-39-005215	5958 East Lathrop Road, Manteca	Historic/Single Family Residence	5958 East Lathrop Road
P-39-005216	6000, 6000B, 6000C, 6032 East Lathrop Road, Manteca	Historic/Single Family Residence/Commercial Building	6000, 8000B, 6000C, 6032 East Lathrop Road
P-39-005217	6160 East Lathrop Road, Manteca	Historic/Single Family Residence/Farm Ranch	6160 East Lathrop Road
P-39-005218	6404 East Lathrop Road, Manteca	Historic/Single Family Residence/Farm Ranch	6404 East Lathrop Road
P-39-005219	6600 East Lathrop Road, Manteca	Historic/Multiple Family Property	6600 East Lathrop Road
P-39-005220	1848 North Main Street, Manteca	Historic/Single Family Residence	1848 North Main Street
P-39-005221	1850 North Main Street, Manteca	Historic/Single Family Residence/Commercial	Casey's Garage
P-39-005222	Not Listed	Historic/Single Family Residence	Magna Terrace Estates, Unit No. 1

SOURCE: CENTRAL CALIFORNIA INFORMATION CENTER (CCIC) OF THE CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM (CHRIS)

Six additional built resources within the Planning Area are identified in the San Joaquin County Historic Property Data File Directory (see Table 3.5-2).

TABLE 3.5-2: BUILDINGS LISTED ON THE SAN JOAQUIN COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

PROPERTY #	ADDRESS	YEAR BUILT	NAME
068123	Maple Street, Manteca	Not Listed	Jesse Building
180296	1155 Virginia Street, Manteca	Not Listed	Not Listed
172503	1053 West Lathrop Road, Manteca	Not Listed	Not Listed
069125	West Yosemite Avenue, Manteca	Not Listed	Home Run Hot Dogs
069126	118 West Yosemite Avenue, Manteca	Not Listed	Warren's Shoes
069124	123 West Yosemite Avenue, Manteca	Not Listed	Manteca Drugs

SOURCE: SAN JOAQUIN COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

There are no properties or districts currently listed on the National Register of Historic Places or California Register of Historic Places within the Planning Area (www.nationalregisterofhistoricplaces.com).

NATIVE AMERICAN CONSULTATION

On May 18, 2017, tribal consultation letters were sent to: The Native American Heritage Commission; Ms. Roselynn Lwenya, Buena Vista Rancheria; Mr. Randy Yonemura, Ione Band of Miwok Indians; Ms. Katherine Erolinda Perez, Northern Valley Yokut Tribe; Mr. Gene Whitehouse, Chairman, United Auburn Indian Community of the Auburn Rancheria; Mr. Michael Mirelez, Torres Martinez Desert Cahuilla Indians; Ms. Rhonda Morningstar Pope, Chairperson, Buena Vista Rancheria of Me-Wuk Indians; Ms. Crystal Martinez, Chairperson, Ione Band of Miwok Indians; Ms. Lois Martinez, Chairperson, Southern Sierra Miwuk Nation; Mr. Raymond Hitchcock, Chairperson, Wilton Rancheria; and, California Valley Miwok Tribe. The NAHC responded with a letter dated May 15, 2017. Mr. Robert Columbro, Tribal Historic Preservation Officer, Buena Vista Rancheria of Me-Wuk Indians responded with a letter dated May 22, 2017 stating that the Rancheria respectively declined to become involved in consultation. The Wilton Rancheria responded by letter dated June 16, 2017 requesting formal consultation with the City of Manteca.

3.5.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

Most regulations at the Federal level stem from the National Environmental Policy Act (NEPA) and historic preservation legislation such as the National Historic Preservation Act (NHPA) of 1966, as amended. NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for Federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any Federal agency and which have the potential to affect cultural resources. All projects that are subject to NEPA are also subject to compliance with Section 106 of the NHPA and NEPA requirements concerning cultural resources. Provisions of NHPA establish a National Register of Historic Places (The National Register) maintained by the National Park Service, the Advisory Councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

STATE

California Register of Historic Resources (CRHR)

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in documents prepared pursuant to the California Environmental Quality Act (CEQA). Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. The State Historic Preservation Office (SHPO) maintains the CRHR. Historic properties listed, or formally designated for eligibility to be listed, on The National Register are automatically listed on the CRHR. State Landmarks and Points of Interest are also automatically listed. The CRHR can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

California Environmental Quality Act (CEQA)

CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources which meet significance criteria qualifying them as “unique,” “important,” listed on the California Register of Historical Resources (CRHR), or eligible for listing on the CRHR. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

- identify cultural resources;

- evaluate the significance of the cultural resources found;
- evaluate the effects of the project on cultural resources; and
- develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

In 2015, CEQA was amended to require lead agencies to determine whether projects may have a significant effect on tribal cultural resources. (Public Resources Code [PRC] § 21084.2). To qualify as a tribal cultural resource, the resource must be a site, feature, place, cultural landscape, sacred place, or object, which is of cultural value to a California Native American Tribe and is listed, or eligible for listing, on the national, state, or local register of historic resources. Lead agencies may also use their discretion to treat any notable resource as a tribal cultural resource. To determine whether a project may have an impact on a resource, the lead agency is required to consult with any California Native American tribe that requests consultation and is affiliated with the geographic area of a proposed project (PRC § 21080.3.1). CEQA requires that a lead agency consider the value of the cultural resource to the tribe and consider measures to mitigate any adverse impact.

California Public Resources Code

Section 5097 of the Public Resources Code specifies the procedures to be followed in the event of the unexpected discovery of historic, archaeological, and paleontological resources, including human remains, historic or prehistoric resources, paleontological resources on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the California NAHC. Section 5097.5 of the Code states the following:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

California Health and Safety Code

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

Senate Bill 18 (Burton, Chapter 905, Statutes 2004)

SB 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native

American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code; also requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

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.

Assembly Bill 52

Assembly Bill (AB) 52, approved in September 2014, creates a formal role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

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

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2(g), or a "non-unique archaeological resource" as defined in PRC Section 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in

writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

3.5.3 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 or tribal resources if it will:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k);
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: General Plan implementation could cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to Section15064.5 (Less than Significant)

A substantial adverse change in the significance of an historic resource is defined in Section 15064.5 (b)(1) of the CEQA Guidelines as the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Known historic and prehistoric resource sites are located throughout the Planning Area, as shown in Tables 3.5-1 and 3.5-2, and it is expected that additional undiscovered sites may be located in various areas of the city as well.

The City of Manteca currently has 95 previously recorded archaeological sites (1 prehistoric archaeological sites and 94 historic archaeological sites) identified by the CCIC, and six built historic resources within the Planning Area identified by the San Joaquin County Historic Property Data File Directory. Additionally, as noted in General Plan Policy RC-11.1, the areas immediately surrounding the San Joaquin River and Walthall Slough, as well as on the east side of State Highway 99 and Louise Avenue crossing are known to have the potential for archaeological resources.

While the General Plan does not directly propose any adverse changes to any historic or archaeological resources, future development allowed under the General Plan could affect known historical and archaeological resources or unknown historical and archaeological resources which have not yet been identified. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's General Plan, Municipal Code, and other applicable State and local regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The General Plan includes policies and actions that would reduce impacts to cultural, historic, and archaeological resources, as well as policies and actions for the conservation of cultural, historic, and archaeological resources. Specifically, General Plan policies require the City to protect Manteca's Native American heritage by requiring projects to comply with the requirements of CEQA and the National Historic Preservation Act. Additionally, General Plan policies require development projects with a potential to impact archeological resources to consult with the CCIC of the California Historical Resources Information System to determine the potential for a discovery of cultural resources, conduct a site evaluation as may be indicated and, mitigate any adverse impacts according to the recommendation of a qualified archaeologist. Adoption and implementation of the policies and actions listed below, combined with adopted CEQA review requirements, would ensure that adverse effects on significant historic and archaeological resources are reduced to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

RESOURCE CONSERVATION ELEMENT POLICIES

RC-11.1 Protect important historic resources and use these resources to promote a sense of place and history in Manteca.

RC-11.2: Encourage historic resources to remain in their original use whenever possible. The adaptive use of historic resources is preferred, particularly as museums, educational facilities, or visitor serving uses, when the original use can no longer be sustained. Older residences may be converted to office/retail use in commercial areas and to tourist or business use, so long as their historical authenticity is maintained or enhanced.

RC-11.3: Do not approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts

according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by CEQA and the National Historic Preservation Act.

RC-11.4: Require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.

RC-11.5: Work with property owners seeking registration of historical structures as Historic Landmarks or listing on the Register of Historic Sites.

RC-11.6: Support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved intact, the City shall seek to preserve the building facades.

RC-11.7: Review new development projects and work in conjunction with the California Historical Resources Information System to determine whether project areas contain known archaeological resources, either prehistoric and/or historic-era, or have the potential for such resources.

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-11a: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

RC-11b: Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources and require a paleontological survey in an area that is sensitive for paleontological resources. If significant cultural, archaeological, or paleontological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

RC-11c: Require all City permits for reconstruction or modification of existing buildings to include the submittal of a photograph of the existing structure or site. The intent is to create a record of the buildings in the City over time. A photograph will also be required for vacant sites that will be modified with new construction of new buildings or other above ground improvements.

RC-11d: Incorporate significant archaeological sites, where feasible, into open space areas.

RC-11e: Continue to inventory historic sites throughout the City. The inventory should contain a narrative of the significant facts regarding the historic events or persons associated with the site, and pictures of the site.

RC-11h: Adopt and implement a historical preservation ordinance.

RC-11g: Adopt and implement a historic building code, as authorized by state law.

Impact 3.5-2: Implementation of the General Plan could lead to the disturbance of any human remains (Less than Significant)

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 allowed under the General Plan may yield human remains that may not be interred in marked, formal burials.

Although Native American human remains are normally associated with former residential village locations, isolated burials and cremations have been found in many other locations. Future projects may disturb or destroy buried Native American human remains, including those interred outside of formal cemeteries. Consistent with state laws protecting these remains (that is, Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98), sites containing Native American human remains must be treated in a sensitive manner. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's General Plan, Municipal Code, and other applicable State and local regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that Native American human remains are inadvertently discovered during development activities. The General Plan requires that human remains are treated in compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. Implementation of the policies and actions below ensures that potential adverse impacts to human remains would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

RESOURCE CONSERVATION ELEMENT POLICIES

RC-11.9: Review new development projects and work in conjunction with the California Historical Resources Information System to determine whether project areas contain known archaeological resources, either prehistoric and/or historic-era, or have the potential for such resources.

RC-11.10: Ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98

RC-11.11: Consistent with State, local, and tribal intergovernmental consultation requirements such as SB 18, consult as necessary with Native American tribes that may be interested in proposed new development and land use policy changes.

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-11a: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

RC-11j: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- *If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Director of Community Development shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Community Development Director; and*
- *If human remains are discovered during any ground disturbing activity, work shall stop until the Director of Community Development and the San Joaquin County Coroner have been contacted. If the human remains are determined to be of Native American origin, the Native American Heritage Commission and the most likely descendants shall be consulted; and work may only resume when appropriate measures have been taken and approved by the Director of Community Development.*

Impact 3.5-3: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency (Less than Significant)

A Sacred Lands File (SLF) search was requested from the NAHC. The NAHC replied on May 15, 2017, and indicated that a search of the SLF was completed with positive results and that the Ione Band of Miwok Indians should be contacted for more information about the sacred sites in the Planning Area.

The City of Manteca conducted Native American consultations under Senate Bill 18 (Chapter 905, Statutes of 2004), also known as SB18, which requires local governments to consult with Tribes prior to making certain planning decisions and requires consultation and notice for a general and specific plan adoption or amendments in order to preserve, or mitigate impacts to, cultural places that may be affected. In addition to SB18 consultation, the City conducted tribal consultations under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code

section 21080.3.1 subdivisions (b), (d) and (e)), also known as AB 52, which requires consulting for projects within the City of Manteca's jurisdiction and within the traditional territory of the Tribal Organizations who have previously requested AB52 consultations with the City. 11 Tribal Organizations were contacted under AB52 and SB18. Notification letters were sent to all 11 Tribal Organizations on May 18, 2017 via certified mail. To date, two responses have been received and are summarized below.

- On May 22, 2017, Mr. Robert Columbro, Tribal Historic Preservation Officer, of the Buena Vista Rancheria of Me-Wuk Indians responded with a stating that the Rancheria respectively declined to become involved in consultation.
- On June 16, 2017, the Wilton Rancheria responded by letter dated June 16, 2017 requesting formal consultation with the City of Manteca under SB18. The Wilton Rancheria did not identify any specific sacred sites or tribal cultural resources within the City and Planning Area. However, the Wilton Rancheria also requested to receive any cultural resource assessments or other assessments that have been completed on all or part of the Planning Area's area of potential affect, including, but not limited to any:
    - Record searches conducted at an Information Center of the CHRIS;
    - Archaeological inventory surveys;
    - Sacred Land Files checks;
    - Ethnographic studies; and
    - Geotechnical reports.

Specific locations for future development and improvements have not been identified. Future projects would be required to be evaluated for project-specific impacts under CEQA at the time of application. The General Plan and local CEQA guidelines require tribal consultation and the protections of any identified archeological and tribal resources. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

All future development projects would be required to follow development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protection of tribal resources. Subsequent projects would be required to prepare site-specific project-level analysis to fulfill CEQA requirements, which also would include additional AB 52 and/or SB 18 consultation that could lead to the identification of potential site specific tribal resources.

As discussed under Impacts 3.5-1 and 3.5-2, impacts from future development could impact unknown archaeological resources including Native American artifacts and human remains. Impacts would be reduced to a less-than-significant level with implementation of General Plan policies and actions and local review guidelines. Compliance with the General Plan policies and actions, as well as State and local guidelines would provide an opportunity to identify, disclose, and avoid or minimize the disturbance of and impacts to a tribal resource through tribal consultation and CEQA review procedures. Therefore, impacts related to tribal resources as a result of General Plan implementation would be considered **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

RESOURCE CONSERVATION ELEMENT POLICIES

RC-11.1: Protect important historic resources and use these resources to promote a sense of place and history in Manteca.

RC-11.2: Encourage historic resources to remain in their original use whenever possible. The adaptive use of historic resources is preferred, particularly as museums, educational facilities, or visitor serving uses, when the original use can no longer be sustained. Older residences may be converted to office/retail use in commercial areas and to tourist or business use, so long as their historical authenticity is maintained or enhanced.

RC-11.3: Do not approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by CEQA and the National Historic Preservation Act.

RC-11.4: Require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.

RC-11.6: Support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved intact, the City shall seek to preserve the building facades.

RC-11.11: Consistent with State, local, and tribal intergovernmental consultation requirements such as SB 18, consult as necessary with Native American tribes that may be interested in proposed new development and land use policy changes.

RESOURCE CONSERVATION ELEMENT ACTIONS

RC-11a: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

RC-11b: Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources and require a paleontological survey in an area that is sensitive for paleontological resources. If significant cultural, archaeological, or paleontological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

RC-11d: Incorporate significant archaeological sites, where feasible, into open space areas.

RC-11j: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- *If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Director of Community Development shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Community Development Director; and*
- *If human remains are discovered during any ground disturbing activity, work shall stop until the Director of Community Development and the San Joaquin County Coroner have been contacted. If the human remains are determined to be of Native American origin, the Native American Heritage Commission and the most likely descendants shall be consulted; and work may only resume when appropriate measures have been taken and approved by the Director of Community Development.*

This section provides a background discussion of the seismic and geologic hazards found in the City and the regional vicinity. This section is organized with an environmental setting, regulatory setting, and impact analysis.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Centeral Valley Regional Water Quality Control Board (January 16, 2020) and the Terra Land Group (February 3, 2020). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.6.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCE

The Planning Area is located in the central 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 is located just south and west of the City. 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.

REGIONAL GEOLOGY

The Planning Area lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the central 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 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 San Joaquin 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.

The Planning Area is relatively flat with natural gentle slope from east to west. The Planning Area's topography ranges in elevation from approximately 50 to 20 feet above sea level. Figure 3.6-1 shows the USGS Lathrop and Manteca Quadrangle Topographic view.

SEISMIC HAZARDS

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the state are subject to some level of seismic ground shaking.

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. Table 3.6-1 represents effects that would be commonly associated with Richter Magnitudes.

TABLE 3.6-1: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	*EFFECTS*
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	"Major Earthquake" with the ability to cause damage over larger areas
≥ 8	"Great Earthquake" can cause damage over several hundred miles

SOURCE: USGS, EARTHQUAKE 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. Table 3.6-2 below presents Modified Mercalli intensity effects at each level.

TABLE 3.6-2: MODIFIED MERCALLI INTENSITIES AND EFFECTS

MM	*EFFECTS*
I	Movement is imperceptible
II	Movement may be perceived (by those at rest or in tall buildings)
III	Many feel movement indoors; may not be perceptible outdoors
IV	Most feel movement indoors; Windows, doors, and dishes will rattle
V	Nearly everyone will feel movement; sleeping people may be awakened
VI	Difficulty walking; Many items fall from shelves, pictures fall from walls
VII	Difficulty standing; Vehicle shaking felt by drivers; Some furniture breaks
VIII	Difficulty steering vehicles; Houses may shift on foundations
IX	Well-built buildings suffer considerable damage; ground may crack
X	Most buildings and foundations and some bridges destroyed
XI	Most buildings collapse; Some bridges destroyed; Large cracks in ground
XII	Large scale destruction; Objects can be thrown into the air

SOURCE: USGS GENERAL INTEREST PUBLICATION 1989-288-913.

The Significant United States Earthquake data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes are identified within the Planning Area; however, significant earthquakes are documented in the region. Table 3.6-3 presents the significant earthquakes in the region.

TABLE 3.6-3: SIGNIFICANT EARTHQUAKES IN THE REGION

MAGNITUDE	*INTENSITY*	*LOCATION*	*YEAR*
7.1	N/A	Ridgecrest	2019
6.5	N/A	Ferndale Offshore	2016
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7	N/A	Santa Rosa	1969
5.3	N/A	Daly City	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: UNITED STATE GEOLOGICAL SURVEY, 2020.

The 2015 Uniform California Earthquake Rupture Forecast, Version 3, or UCERF3, is the latest official earthquake rupture forecast (ERF) for the state of California. It provides estimates of the likelihood and severity of potentially damaging earthquake ruptures in the long- and near-term. Combining this with ground motion models produces estimates of the severity of ground shaking that can be expected during a given period (seismic hazard), and of the threat to the built environment (seismic risk). This information is used to inform engineering design and building codes, plan for disaster, and evaluate whether earthquake insurance premiums are sufficient for the prospective losses.

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.

FAULTS

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement. These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years;
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive:

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

The U.S. Geological Survey identifies potential seismic sources within 5 miles of the Planning Area. The closest known faults classified as active by the U.S. Geological Survey include an unnamed fault east of the City of Tracy, located approximately 5 miles to the west of Manteca, and the San Joaquin fault, located approximately 15 miles to the southwest of Manteca. The Midway fault is located approximately 20 miles to the west. Other faults that could potentially affect the Manteca include the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault. Figure 3.6-2 provides a map of known area faults.

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. Manteca does not have surface expression of active faults and fault rupture is not anticipated. Figure 3.6-2 shown regional faults in relation to Manteca.

SEISMIC HAZARD ZONES

Alquist-Priolo Fault Zones

An active earthquake fault, per California's Alquist-Priolo Act, is one that has ruptured within the Holocene Epoch (≈11,000 years). Based on this criterion, the California Geological Survey identifies Earthquake Fault Zones. These Earthquake Fault Zones are identified in Special Publication 42 (SP42), which is updated as new fault data become available. The SP42 lists all counties and cities within California that are affected by designated Earthquake Fault Zones. The Fault Zones are delineated on maps within SP42 (Earthquake Fault Zone Maps).

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 Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Greenville fault zone, is located approximately 25 miles southwest of Manteca.

LIQUEFACTION

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, specific soil characteristics and seismic shaking must exist for liquefaction to be possible. Liquefaction susceptibility based on soil types, deposit, and age is presented below.

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. Soil data from the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2020) suggests that the potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high.

EARTHQUAKE-INDUCED LANDSLIDES

Earthquake-Induced Landslide Zones Areas are areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. The California Geological Survey Landslides Maps have not mapped any landslide areas in the Planning Area or its vicinity. The City is relatively

flat and areas susceptible to landslides are anticipated to be in the more sloped portions of the Planning Area.

OTHER GEOLOGIC HAZARDS

Soils

A Custom Soil Survey was completed for the Planning Area using the NRCS Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-3. Table 3.6-4 below identifies the type and range of soils found in the Planning Area.

TABLE 3.6-4: PLANNING AREA SOILS

UNIT SYMBOL	*NAME*	*ACRES*	*PERCENT OF PLANNING AREA*
108	Arents, saline-sodic, 0 to 2 percent slopes	395.45	1.47%
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	515.08	1.91%
130	Columbia fine sandy loam, drained, 0 to 2 percent slopes	390.26	1.45%
131	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes, occasionally flooded	14.70	0.05%
141	Delhi fine sand, 0 to 5 percent slopes	1,126.56	4.18%
142	Delhi loamy sand, 0 to 2 percent slopes, MLRA 17	3,857.41	14.31%
143	Delhi-Urban land complex, 0 to 2 percent slopes	3,626.69	13.46%
144	Dello sand, partially drained, 0 to 2 percent slopes, occasionally flooded	59.89	0.22%
145	Dello loamy sand, drained, 0 to 2 percent slopes	279.24	1.04%
150	Dumps	35.86	0.13%
152	Egbert mucky clay loam, partially drained, 0 to 2 percent slopes	23.78	0.09%
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	84.96	0.32%
160	Galt clay, 0 to 1 percent slopes, MLRA 17	87.86	0.33%
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	85.32	0.32%
169	Guard clay loam, drained, 0 to 2 percent slopes	100.71	0.37%
175	Honcut sandy loam, 0 to 2 percent slopes	416.88	1.55%
196	Manteca fine sandy loam, 0 to 2 percent slopes	113.20	0.42%
197	Merritt silty clay loam, partially drained, 0 to 2 percent slopes	364.64	1.35%
254	Timor loamy sand, 0 to 2 percent slopes	2,020.36	7.50%
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	7,724.89	28.66%
260	Urban land	125.55	0.47%
265	Veritas sandy loam, partially drained, 0 to 2 percent slopes	32.31	0.12%
266	Veritas fine sandy loam, 0 to 2 percent slopes	5,377.84	19.95%
284	Water	93.31	0.35%
--	**Totals**	26,952.75	100.00%

SOURCE: NRCS CUSTOM SOIL SURVEY 2020.

As shown in Table 3.6-4, the majority of soils within the Planning Area consist of course and fine sands and sandy loams. Below is a brief description of prominent soils within the Planning Area.

Delhi soil series (fine sands and loamy sands). This series consists of very deep, somewhat excessively drained soils. They formed in wind modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans and terraces. Slopes are 0 to 5 percent in the Planning Area. They have negligible to slow runoff and rapid permeability. Common uses for this series include: growing grapes, peaches, truck crops, alfalfa and for home sites. Principal native plants are buckwheat and a few shrubs and trees. Typical vegetation is annual grasses and forbs.

Timor loamy sand. This series consists of deep, moderately well drained soils. They formed in granitic alluvium. Timor soils are on low fan terraces or alluvial fans. Slopes is 0 to 2 percent. They have slow runoff and rapid permeability. Common uses for this series include: irrigated cropland growing primarily almonds, alfalfa, onions, tomatoes, small grains, grapes and pasture. Vegetation consists of red brome, filaree, soft chess, wildoats, ripgut brome and scattered California White Oaks.

Tinnin loamy coarse sand. This series consists of well drained soils on low fan terraces and alluvial fans. These soils are very deep, and form in alluvium derived from granitic rock sources. Slopes range from 0 to 2 percent. This series is characterized as well draining, slow runoff, and rapid permeability. Common uses for this series are irrigated cropland growing primarily almonds, alfalfa, onions, tomatoes, small grains, grapes and pasture. Vegetation consists of red brome, filaree, soft chess, wildoats, ripgut brome and scattered valley oaks.

Veritas fine sandy loam. This series consists of deep to duripan, moderately well drained soils. They formed in alluvium derived from mixed rock sources. Veritas soils are on low fan terraces. They have slow runoff and moderately rapid permeability. Common uses for this series include irrigated cropland. Alfalfa, barley and corn are the principal crops. Vegetation is annual grasses, forbs and scattered valley oaks.

Erosion

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of erosion factors is provided by the NRCS Physical Properties Descriptions:

> 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. Erosion factor Kw indicates the erodibility of the whole soil, whereas Kf indicates the erodibiity of the fine soils. The estimates are modified by the presence of rock fragments.

The *Custom Soils Report* identified the erosion potential for the soils in the Planning Area. 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 Planning Area, the erosion factor Kf varies from 0.02 to 0.37, which is considered a low to moderate potential for erosion. The NRCS does not provide erosion factors for the urban land soils, however, the erosion potential for the urban land soils in the City is considered to be low. Furthermore, given the drainage characteristics of the majority of the soils and the nearly level topography of the Planning Area, water erosion hazard is considered low. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall, however this potential for wind erosion diminish during the winter.

Expansive Soils

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of linear extensibility (also known as shrink-swell potential or expansive potential) is provided by the NRCS Physical Properties Descriptions:

> "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 in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

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 NRCS Web Soil Survey, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential. The majority of the Planning Area soils have a low potential, and small portions of the western Planning Area have a moderate to high potential. Figure 3.6-4 provides a map of the shrink-swell potential of the soils within the Planning Area and general vicinity.

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. Oftentimes, lateral spreading is directly associated with areas of liquefaction. The potential for liquefaction is moderate to high in many areas of the city, however because the Planning Area is essentially flat, lateral spreading of soils has not been observed within the Planning Area.

Landslide

The California Geological Survey classifies landslides with a two-part designation based on Varnes (1978) and Cruden and Varnes (1996). The designation captures both the type of material that failed and the type of movement that the failed material exhibited. Material types are broadly categorized as either rock or soil, or a combination of the two for complex movements. Landslide movements are categorized as falls, topples, spreads, slides, or flows.

Landslide potential is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance, vegetation removal, wildfires, etc.

The Planning Area is essentially flat; therefore, the potential for a landslide is low.

Subsidence

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. Drainage sufficient to create subsidence is uncommon within the City of Manteca. Subsidence has not been identified as an issue in the Planning Area.

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, windlaid 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. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

Naturally Occurring Asbestos

The term "asbestos" is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, peridotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is not identified within San Joaquin County, although it is all located to the east and west of the Planning Area in mountainous areas in Contra Costa and Calaveras Counties. There is no naturally occurring asbestos mapped within Manteca.

PALEONTOLOGICAL RESOURCES

Among the natural resources deserving conservation and preservation, and existing within the Planning Area, are the often-unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. These records – fossils and their geologic context – undoubtedly exist in large quantities below the surface in many areas in and near the City of Manteca, and span millions of years in age of origin. Fossils constitute a non-renewable resource: Once lost or destroyed, the exact information they contained can never be reproduced.

Paleontology is the science that attempts to unravel the meaning of these fossils in terms of the organisms they represent, the ages and geographic distribution of those organisms, how they interacted in ancient ecosystems and responded to past climatic changes, and the changes through time of all of these aspects.

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not

usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils.

Regional Paleontological Setting

SAN JOAQUIN VALLEY

The following summary of the geological evolution of San Joaquin County and the potential for paleontological resources is based on the San Joaquin County General Plan Draft EIR. During the Mesozoic Era (208–65 million years ago), the Sierra Nevada formed, but the region that would become the San Joaquin Valley lay several thousand feet below the surface of the Pacific Ocean. During the Late Cretaceous Period (75–65 million years ago [mya]), flowering plants, early dinosaurs, and the first birds and mammals appeared. The basic form of the Great Central Valley took shape during the Cenozoic period, first as islands, then as mountains. During the late Cenozoic Era (65–2 mya), the Sierra Nevada eroded to mere hills compared to their earlier appearance, the Coast Ranges rose, and the San Joaquin Valley began to form.

During the Paleocene Epoch (65–53 mya), dinosaurs became extinct and mammals gradually evolved as the dominant group of animal life. During the Eocene Epoch (53–39 mya), the western edges of the San Joaquin Valley rose above sea level. Sedimentation and tectonic uplift of geological formations continued until two million years ago. In the subsequent Oligocene Epoch (39–23 mya), sedimentation continued, and during the Miocene Epoch (23–5 mya) the Diablo Range was uplifted. The Pliocene Epoch (5–2 mya) was a time of tremendous uplift, and great quantities of sediment eroded from the nearby mountain ranges accumulated in the valley, eventually forming a deposit thousands of feet thick. In the Pleistocene Epoch (2 million to 10,000 years ago), the Sierra Nevada range was increasingly elevated and glaciated, resulting in the formation of spectacular features such as Yosemite Valley. During the Holocene Epoch (10,000 years ago to the present), the San Joaquin Valley was above sea level and achieved its present appearance, 466 miles long and 19 to 50 miles wide, enclosed by the Siskiyou, Sierra Nevada, Tehachapi, and Coast Ranges on the north, east, south, and west, respectively. The valley contained fresh water lakes and rivers attractive to herds of prehistoric grazing animals, including Columbian Mammoth, camel, bison, and native horse. The fossil remains of these creatures have been found in San Joaquin County and adjacent areas. The vast majority of paleontological specimens from San Joaquin County have been found in rock formations in the foothills of the Diablo Mountain Range. However, remains of extinct animals such as mammoth, could be found virtually anywhere in the county, especially along watercourses such as the San Joaquin River and its tributaries.

PLANNING AREA

The Geologic Map of California, prepared by the California Department of Conservation California Geological Survey, identifies the generalized rock types in the Planning Area is Quaternary Alluvium "Q" which is younger alluvium that consists of marine and nonmarine (continental) sedimentary rocks from the Pleistocene through Holocene Epochs that are composed of alluvium, lake, playa, and terrace deposits, both unconsolidated and semi-consolidated. This type is mostly nonmarine deposits but does include marine deposits near the coast.

According to a records search of the University of California Museum of Paleontology (UCMP) Collections Date, eighty fossils have been found and recorded within San Joaquin County. Over half of them are dated to the tertiary period, with quaternary being the second most frequent period. These are the first and second periods of the Cenozoic Era respectively, during which modern flora, apes, large mammals, and eventually humans developed. The majority of fossils found within the Manteca area have been vertebrate in nature. These fossils include mammoth/mastodon, horse, pocket gopher, and other unspecified rodents, and unidentified artiodactyl (hoofed mammal) bone.

3.6.2 REGULATORY SETTING

FEDERAL

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (42 USC, 7701 et seq.) requires the establishment and maintenance of an earthquake hazards reduction program by the Federal government.

Executive Order 12699

Signed in January 1990, this executive order of the President implements provisions of the Earthquake Hazards Reduction Act for "federal, federally assisted or federally regulated new building construction" and requires the development and implementation of seismic safety programs by Federal agencies.

International Building Code (IBC)

The purpose of the International Building Code (IBC) 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. IBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in

California. The CBSC includes 12 parts: 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 (CAL Green Code), and the 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 Health and Safety Code

Section 19100 et seq. of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

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.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 Seismic Design Methodology (Caltrans 1999) outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make up Caltrans' seismic design.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

LOCAL

City of Manteca Municipal Code

Chapter 15.04 of the Manteca Municipal Code adopts the 2019 CBSC, with amendments to address administrative provisions, additional requirements to address connection of existing slabs to new construction, as the building code of the City.

The City of Manteca Municipal Code includes Chapter 17.48 that requires a soil management report in order to reduce runoff and encourage healthy plant growth as part of the Landscape Documentation Package.

3.6.3 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:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides.
- 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 (1994), creating substantial direct or indirect risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: General Plan implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)

There are no known active or potentially active faults, or Alquist-Priolo Earthquake Fault Zones, located within the Planning Area. However, there are numerous faults located in the region. Figure 3.6-2 illustrates the location of these faults. These include an unnamed fault east of the City of Tracy, the San Joaquin fault, the Midway fault, the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault. Rupture of any of these faults, or of an unknown fault in the region, could cause seismic ground shaking. As a result, future development in the City of Manteca may expose people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

While there are no known active faults located within the Planning Area, the area could experience considerable ground shaking generated by faults outside Manteca. For example, Manteca could experience an intensity of MM V to VII generated by seismic events. The effect of this intensity level could have structural damage. Additionally, as noted previously, most areas of the City susceptible to seismic-related landslides are located in the higher-elevation portions of the City. Soil data from the NRCS Web Soil Survey (NRCS 2020) suggests that the potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

All projects would be required to comply with the provisions of the CBSC, which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

The General Plan policies and actions (listed below) require review of development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind. Policy S-2.9 requires new critical infrastructure and facilities that may be built in the City to incorporate site specific seismic structural design as required by

applicable building codes. All development and construction proposals must be reviewed by the City to ensure conformance with applicable building standards. Development on soils sensitive to seismic activity is only allowed after adequate site analysis, including appropriate siting, design of structure, and foundation integrity. Policy S-2.3 requires assessment and mitigation of hazards related to liquefaction, landslides, and flooding for new development projects or City improvement projects that are identified by the City as susceptible to these hazards. All future projects are subject to CEQA review to address seismic safety issues and provide adequate mitigation for existing and potential hazards identified. With the implementation of the policies and actions in the General Plan, as well as applicable State and City codes, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, liquefaction, and landslides would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.6: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

S-2.7: Maintain an inventory of unreinforced masonry buildings and soft-story buildings. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected.

S-2.8: Ensure that all public facilities, including buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically-induced ground failure, consistent with the California Building Standards Codes and other applicable standards.

S-2.9: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from

the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

S-2c: Review development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

S-2d: Review and update the City's inventory of potentially hazardous buildings and require any development or change in occupancy proposals to address hazards, through measures such as strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing or rehabilitating the building.

Impact 3.6-2: General Plan implementation has the potential to result in substantial soil erosion or the loss of topsoil (Less than Significant)

The General Plan would allow development and improvement projects that would involve some land clearing, mass grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

As noted previously, soil erosion data for the City of Manteca was obtained from the NRCS. As identified by the NRCR web soil survey, the erosion factor K within the City of Manteca varies widely from 0.02 to 0.37. The NRCS does not provide erosion factors for the urban land soils in the City, however, the erosion potential for the urban land soils in the City is considered to be low.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. In addition to compliance with City standards and policies, the Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area of one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The General Plan includes a range of policies and one action related to best management practices, NPDES requirements, and minimizing discharge of materials (including eroded soils) into the storm drain system. With the implementation of the policies and actions in the General Plan, as well as applicable State and City requirements, potential impacts associated with erosion and loss of topsoil would be **less than significant**.

GENERAL PLAN POLICIES AND ACTION THAT MITIGATE POTENTIAL IMPACTS

POLICIES

RC-3.1: Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

CF-8.1: Maintain and improve Manteca's storm drainage facilities.

CF-8.2: Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process and as required by the City's NPDES Municipal Regional Permit. Project applicants shall mitigate any drainage impacts as necessary and shall demonstrate that the project will not result in any increase in off-site runoff during rain and flood events.

CF-8.3: Continue to allow dual-use detention basins for parks, ball fields, and other uses where appropriate.

CF-8.4: Incorporate recreational trails and parkway vegetation design where open stormwater facilities are appropriate and ensure that vegetation does not reduce channel capacity.

CF-8.5: Maintain drainage channels in a naturalized condition where appropriate, incorporating recreational trails, parkway vegetation, and other amenities and ensuring that vegetation does not reduce channel capacity, and consistent with the Resource Conservation Element.

CF-8.6: Continue to work cooperatively with outside agencies such as the San Joaquin County Flood Control and Water Conservation District regarding storm drainage issues.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

CF-8a: Update the Storm Drainage Master Plan and Public Facilities Implementation Plan every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

CF-8b: Continue to complete gaps in the drainage system in areas of existing development.

CF-8c: Identify which storm water and drainage facilities are in need of repair and address these needs through the City's Capital Improvement Program.

CF-8d: Continue to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a during rain and flood events.

Impact 3.6-3: General Plan implementation has the potential to result in development located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (Less than Significant)

Development allowed under the General Plan could result in the exposure of people and structures to conditions that have the potential for adverse effects associated with ground instability or failure. Soils and geologic conditions in the Manteca Planning Area have the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

LANDSLIDE

Figure 3.6-4 illustrates the landslide potential (for non-seismically induced potential) in the vicinity of the Planning Area. The Planning Area is essentially flat; therefore, the potential for a landslides is low. However, the landslide potential increases in the southwestern corner of the City, which contains areas with increased elevation change.

LATERAL SPREADING

Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil move down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The potential for liquefaction is moderate to high in many areas of the city, however because the Planning Area is essentially flat lateral spreading of soils has not been observed within the Planning Area.

SUBSIDENCE

Drainage sufficient to create subsidence is uncommon within the City of Manteca. Subsidence has not been identified as an issue in the Planning Area.

LIQUEFACTION

Figure 3.6-4 shows liquefaction seismic hazard zones mapped within the Planning Area, which delineates areas where liquefaction may occur during a strong earthquake. Areas along existing waterways, such as San Joaquin River, are defined as having the greatest potential for liquefaction.

COLLAPSE

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. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

CONCLUSION

This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below. As future development and infrastructure projects are considered by the City of Manteca, each project will be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Future development and improvement projects would be required to have a specific geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of the State and City codes. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to ensure that development projects address potential geologic hazards, at-risk buildings and infrastructure is evaluated for potential risks, and site-specific studies are completed for area subject to liquefaction. With the implementation of the policies and actions in the General Plan, as well as applicable State and City codes, potential impacts associated with ground instability or failure would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.6: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

S-2.7: Maintain an inventory of unreinforced masonry buildings and soft-story buildings. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected.

S-2.8: Ensure that all public facilities, including buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically-induced ground failure, consistent with the California Building Standards Codes and other applicable standards.

S-2.9: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

ACTIONS

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

S-2c: Review development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.

S-2d: Review and update the City's inventory of potentially hazardous buildings and require any development or change in occupancy proposals to address hazards, through measures such as strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing or rehabilitating the building.

Impact 3.6-4: General Plan implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property (Less than Significant)

Expansive soil properties can cause substantial damage to building foundations, piles, pavements, underground utilities, and/or other improvements. Structural damage, such as warping and cracking of improvements, and rupture of underground utility lines, may occur if the expansive potential of soils is not considered during the design and construction of all improvements.

Linear extensibility is a method for measuring expansion potential. The expansion potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

The linear extensibility of the soils within Manteca ranges from low to very high. Figure 3.6-4 illustrates the shrink-swell potential of soils in the Planning Area. The majority of the Planning Area

has soils with a low potential for expansion, including most of the developed land. The areas with moderate to high expansive soils represent only a small portion of the Planning Area, and would require special design considerations due to shrink-swell potentials. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The Resource Conservation Element of the General Plan establishes policies that are designed to protect from geologic hazards, including expansive soils. Consistency with the General Plan policies will require identification of geologic hazards and risk inventory of existing at-risk buildings and infrastructure. As required by the CBSC, a site-specific geotechnical investigation will identify the potential for damage related to expansive soils and non-uniformly compacted fill and engineered fill. If a risk is identified, design criteria and specification options may include removal of the problematic soils, and replacement, as needed, with properly conditioned and compacted fill material that is designed to withstand the forces exerted during the expected shrink-swell cycles and settlements.

Design criteria and specifications set forth in the design-level geotechnical investigation will ensure impacts from problematic soils are minimized. There are no additional significant adverse environmental impacts, apart from those disclosed in the relevant chapters of this Draft EIR, that are anticipated to occur associated with expansive soils. Therefore, this impact is considered **less than significant**.

GENERAL PLAN POLICY AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICY

S-2.1: Enforce adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions.

S-2.2: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils.

S-2.3: Require new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process.

S-2.6: Continue to require professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during construction on those sites specified in geotechnical studies as being prone to moderate or greater levels of seismic or geologic hazard.

ACTIONS

RC-3a: Require development projects to comply with the California Building Standards Code requirements for specific site development and construction standards for specific soil types.

S-2a: Continue to require preparation of geotechnical reports for proposed development projects, public projects, and all critical structures. The reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement, ground shaking, uncompacted fill, expansive soils, liquefaction, subsidence, and settlement. Recommendations from the report shall be incorporated into the development project to address seismic and geologic risks identified in the report.

S-2b: Review development proposals to ensure compliance with the current State building standards.

Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (Less than Significant)

Wastewater service is provided by the City of Manteca via their network of collection infrastructure and the Wastewater Quality Control Facility (WQCF), which treats municipal sanitary sewage from the City of Manteca, portions of Lathrop, and Raymus Village, just northeast of Manteca.

The WQCF is located southwest of downtown Manteca on 22 acres owned by the City. The WQCF treats municipal wastewater from the City of Manteca and the City of Lathrop, and seasonally accepts industrial food processing waste effluent from Eckert Cold Storage (Nolte, 2007). Per contractual agreement, 8.42 million gallons per day (mgd) of plant capacity is allocated to the City of Manteca and 1.45 mgd is allocated to the City of Lathrop (EDAW, 2007). The WQCF treats an average dry weather flow (ADWF) of about 6 mgd and has an average dry weather design capacity of 9.87 mgd. The facility's current NPDES permit is currently shared between the City and Dutra Farms, Inc. and is effective until May 2020 (CA RWQCB, 2015). The anticipated buildout ADWF within areas served by the WQCF is 27 mgd (EDAW, 2007).

The WQCF is an activated sludge tertiary treatment plant. The facility includes an influent pump station, and primary, secondary and tertiary treatment facilities. Primary treatment at the WQCF consists of aerated grit removal and primary sedimentation. Secondary treatment at the facility consists of nitrification and denitrification in activated sludge aeration basins and subsequent secondary sedimentation. Undisinfected secondary effluent is either stored for agricultural use in a 15-milliongallon pond or blended with food processing waste and applied directly on the agricultural fields owned by the City (190 acres) and Dutra Farms, Inc. (70 acres) (CA RWQCB, 2015).

Secondary effluent not used for crop demands undergoes tertiary treatment, including rapid mixing, flocculation, cloth media filtration, and ultraviolet light (UV) disinfection. Treated tertiary effluent is either pumped to a truck fill station for construction vehicles to receive recycled water

for construction purposes or discharged year-round through a 36-inch diameter pipe into the San Joaquin River (CA RWQCB, 2015). As the practice of discharging to fields is gradually phased out due to land development, effluent will increasingly be diverted to the River (City of Manteca, 2016).

The City is planning to expand the facility from the currently permitted 9.87 mgd to 27 mgd by buildout. The various WQCF facilities are designed to be expanded in phases, based on future growth. Proposed treatment improvements identified in the 2007 WQCF Master Plan include expansion of the primary, secondary, and tertiary treatment facilities, expansion of the solids handling systems and expansion of the co-generation system to generate electricity from methane produced during the treatment process (EDAW, 2007).

The WQCF is currently undergoing expansions to the solids handling streams to provide increased capacity to meet permitted requirements and new State regulations. Improvements include new facilities for receiving Fats, Oils, and Greases (FOGs), and receiving food waste separated from the solid waste streams. The separation of these materials is required by State regulations and is anticipated to provide additional energy generation in the form of biogas from the WQCF (City of Manteca, 2016).

The 2007 WQCF Master Plan reported wastewater flow projections for the City of Manteca of 19.5 mgd by 2023 and 23 mgd by buildout (Nolte Associates, 2007). Projections were based on wastewater generation factors developed from historical studies and developed based on different household densities for different residential land use categories. Assuming a similar level of development as anticipated in the 2007 WQCF Master Plan, future wastewater projections are anticipated to be lower than those estimated in the 2007 WQCF Master Plan because of existing and pending water use efficiency regulations that will reduce indoor water use and wastewater flows.

All new wastewater generated from General Plan land uses will be collected and transmitted to the WQCF for treatment. There will be no septic tanks or alternative waste water disposal systems utilized for new development planned under the General Plan. Therefore, this impact is considered **less than significant** and no mitigation is required.

Impact 3.6-6: General Plan implementation has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant)

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;

2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
6. All identifiable vertebrate fossils are considered significant due to the rarity of their preservation.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and invertebrate animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important.

PALEONTOLOGICAL SENSITIVITY FOR PLANNING AREA

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., “Formation” or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils. While no formations in the Planning Area are assigned a very high sensitivity, the Planning Area is in a region where fossils and paleontological resources have been identified.

CONCLUSION

It is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. Implementation of the proposed General Plan actions would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. This mitigation measure would reduce this impact to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

RC-11.3: Do not approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by CEQA and the National Historic Preservation Act.

ACTIONS

RC-11a: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

RC-11b: Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources and require a paleontological survey in an area that is sensitive for paleontological resources. If significant cultural, archaeological, or paleontological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

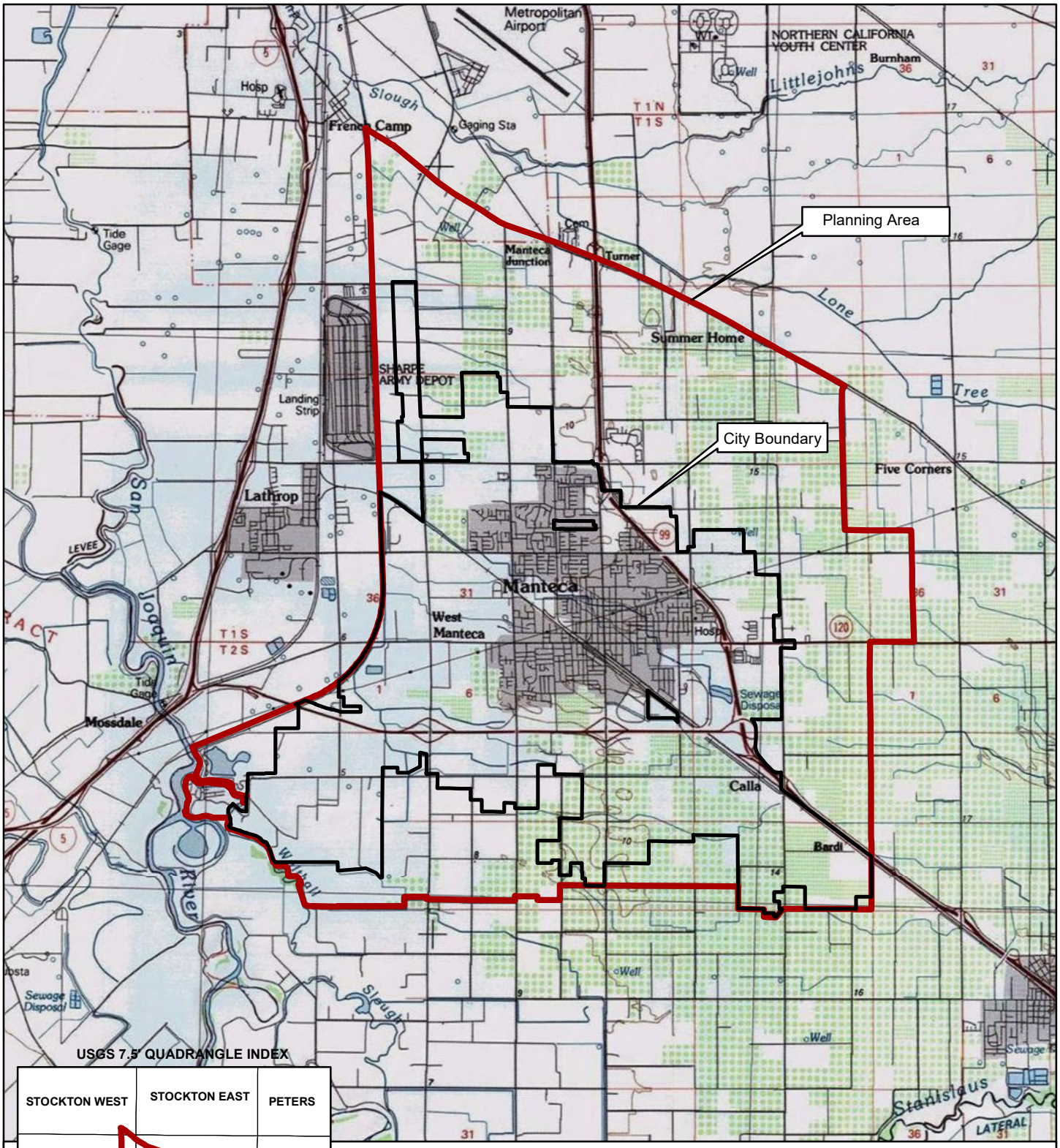
RC-11c: Incorporate significant archaeological sites, where feasible, into open space areas.

RC-11j: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

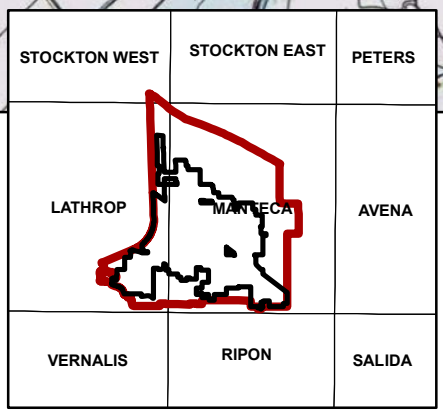
- *If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Community Development Director shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when*

appropriate protections are in place and have been approved by the Community Development Director; and

- *If human remains are discovered during any ground disturbing activity, work shall stop until the Community Development Director and the San Joaquin County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the Community Development Director.*



USGS 7.5' QUADRANGLE INDEX



CITY OF MANTECA GENERAL PLAN

Figure 3.6-1. USGS Topographic Map

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Miles

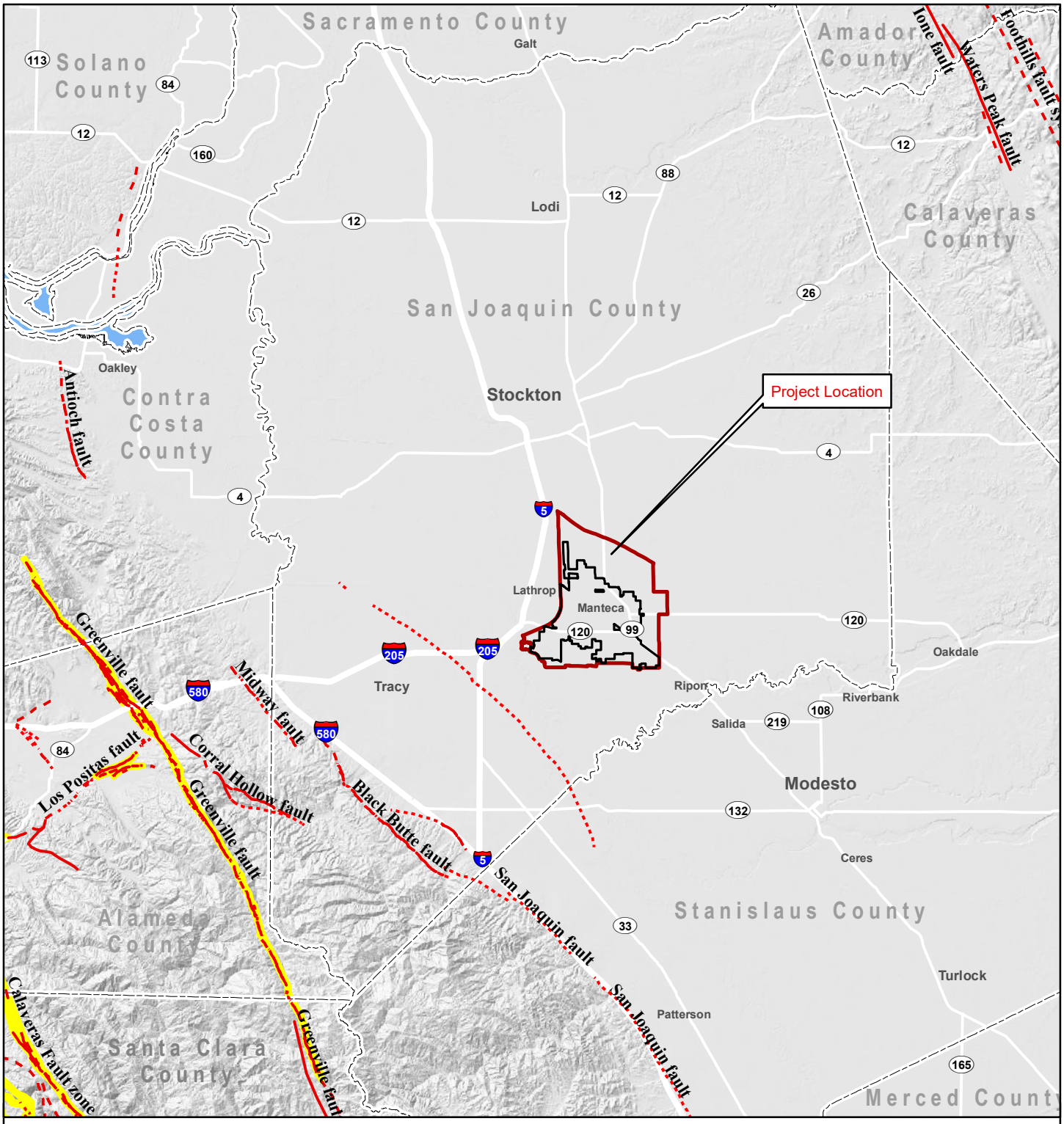
1:100,000

Data sources: San Joaquin County GIS; ArcGIS Online USGS Topographic Map Service.
Map date: December 12, 2016. Revisions: January 6, 2020; December 14 2020.

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Legend

Planning Areas

- Manteca City Limits
- Manteca Planning Area

Quaternary Faults

- Well-constrained
- Moderately-constrained
- Inferred
- Alquist-Priolo Fault Zones

Data sources: US Geologic Survey; CalAtlas. Map date: December 12, 2016.
Revisions: January 6, 2020; December 14, 2020.

CITY OF MANTECA GENERAL PLAN UPDATE

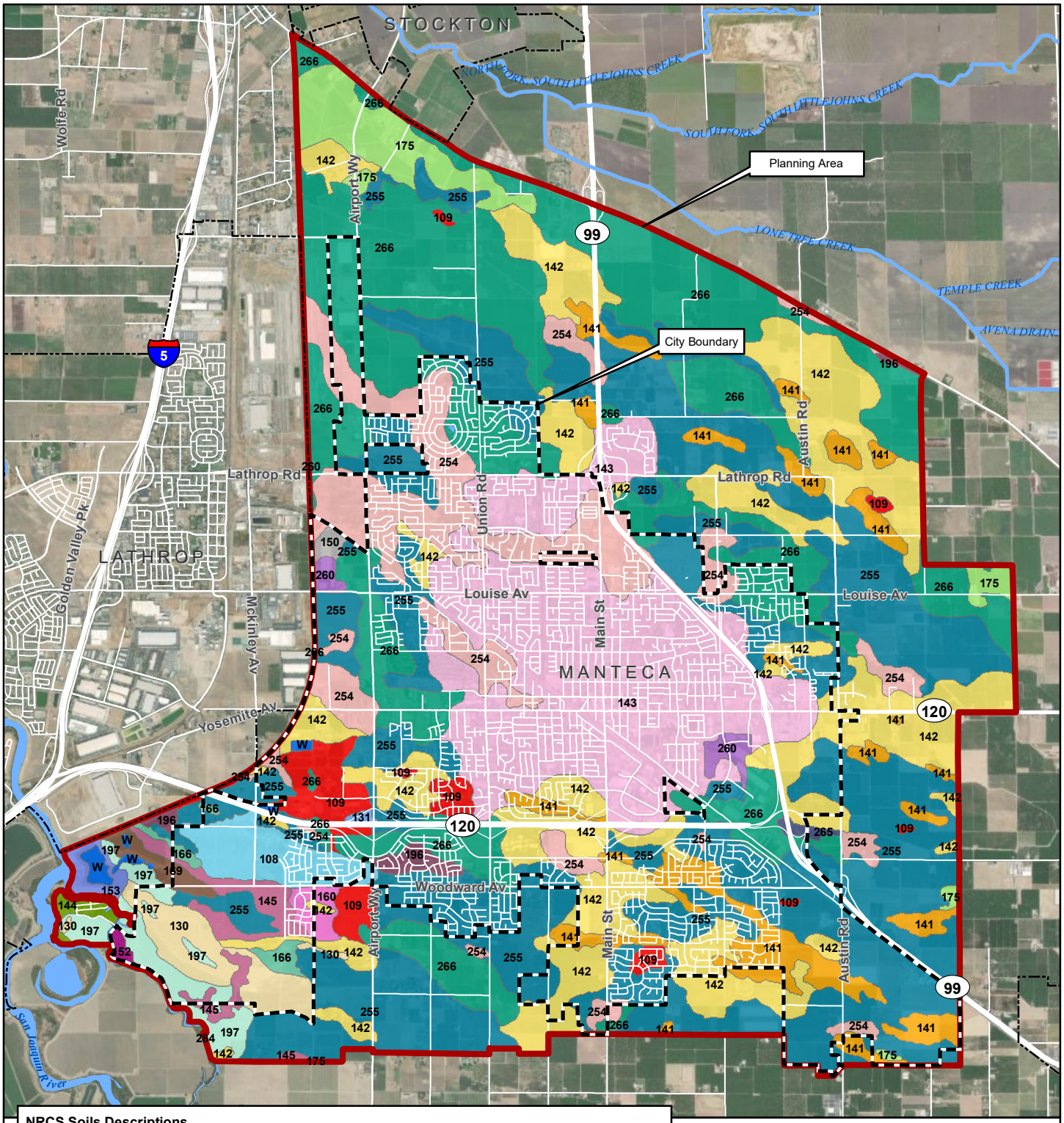
Figure 3.6-2. Earthquake Faults and Alquist-Priolo Zones

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0 2½ 5
Miles

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NRCS Soils Descriptions

- 108:Arents, saline-sodic
- 109:Bisgani loamy coarse sand, partially drained
- 130:Columbia fine sandy loam, drained
- 131:Columbia fine sandy loam, partially drained
- 141:Delhi fine sand
- 142:Delhi loamy sand
- 143:Delhi-Urban land complex
- 144:Dello sand, partially drained, occasionally flooded
- 145:Dello loamy sand, drained
- 150:Dumps
- 152:Egbert mucky clay loam, partially drained
- 153:Egbert silty clay loam, partially drained
- 160:Galt clay, MLRA 17
- 166:Grangeville fine sandy loam, partially drained
- 169:Guard clay loam, drained
- 175:Honcut sandy loam
- 196:Manteca fine sandy loam
- 197:Merritt silty clay loam, partially drained
- 254:Timor loamy sand
- 255:Tinnin loamy coarse sand
- 260:Urban land
- 265:Veritas sandy loam, partially drained
- 266:Veritas fine sandy loam
- 284:Water

CITY OF MANTECA GENERAL PLAN

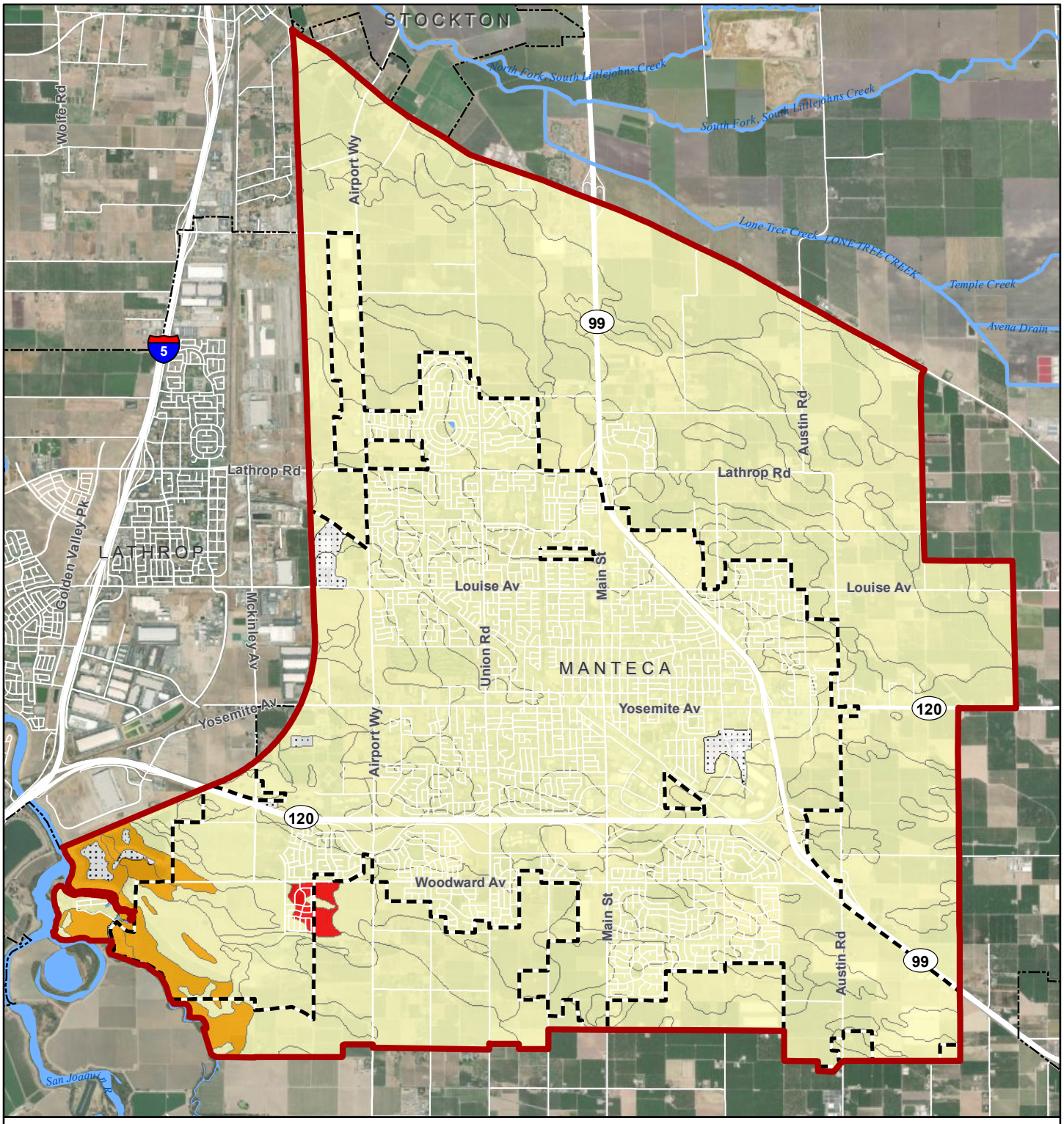
Figure 3.6-3. Soils Map

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Sources: NRCS Web Soil Survey, San Joaquin County, California (CA077), Survey Area Version 13, 9-16-2019.
City of Manteca; San Joaquin County GIS. Map date: January 7, 2020. Revised: December 14, 2020.

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Legend

Planning Areas

- Manteca City Limits
- Surrounding Cities
- Manteca Planning Area

Shrink-Swell Potential of Soils*

- Low
- Medium
- High to Very High
- Not Applicable

CITY OF MANTECA GENERAL PLAN

Figure 3.6-4. Shrink-Swell Potential of Soils

0 ½ 1
Miles

**Shrink-Swell Potential is determined by linear extensibility. Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Soils are considered to have low potential when the linear extensibility is less than 3%, moderate if 3-6%, high if 6-9%, and very high if greater than 9%.*

Sources: NRCS Web Soil Survey, San Joaquin County, California (CA077), Survey Area Version 13, 9-16-2019. City of Manteca; San Joaquin County GIS. Map date: December 13, 2016. Revisions: January 7, 2019; December 14, 2020.

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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from implementation of the General Plan. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section also provides background discussion on energy use in Manteca. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis.

The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the General Plan's consistency with local, regional, statewide, and federal climate change and energy conservation planning efforts and discusses the context of these planning efforts as they relate to the proposed project. Disclosures of the estimated energy usage and greenhouse gas emissions due to implementation of the General Plan are provided.

Emissions of GHGs have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change; however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change presented in this section is presented in terms of the proposed project's contribution to cumulative impacts and potential to result in cumulatively considerable impacts related to GHGs and climate change.

No comments were received during the NOP comment period regarding this environmental topic.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric 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 GHGs 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 GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs 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 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, 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, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2020).

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 440 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2016 (California Air Resources Board, 2018a).

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 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out of-state sources) (15%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Air Resources Board, 2020c).

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 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water 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 (California

Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. 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 (California Environmental Protection Agency, 2010), 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°F in Los Angeles and 95°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

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2018, California's per capita energy usage was ranked fourth-lowest in the nation (U.S. EIA, 2020b). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to 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. In 2016, more than one-fourth of the electricity supply comes from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2020a). In 2016, approximately 50 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 25 percent of the State's utility-scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 14 percent of the State's utility-scale net

electricity generation came from hydroelectric generation, and nuclear energy powered an additional 11 percent. The amount of electricity generated from coal negligible (approximately 0.2 percent) (U.S. EIA, 2020a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

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 (U.S. EIA, 2020b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2019, electricity consumption in San Joaquin County was 5,583 GWh (California Energy Commission, 2020).

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 2016, 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 (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

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). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area, including the City of Manteca. In 2018, natural gas consumption in San Joaquin County was 259 million therms (California Energy Commission, 2020).

3.7.2 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.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC Sections 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

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.

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 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

In 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 publicly 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 GHGs 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

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

SB 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG

emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Statute Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, Section 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources.

(Pub. Utility Code, Section 399.11, subd. (a) [subsequently amended].) As described in the Legislative Counsel's Digest, Senate Bill 1078 required "[e]ach electrical corporation … to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year."

In 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, Section 399.11, subd (a) [subsequently amended].)

Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].)

SB 350, discussed above, increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also Section 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Executive Order, B-16-12, issued in 2012, embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed State government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "ZEV ready";
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and

- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, Senate Bill 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by the 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG

emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Cap and Trade Program

In 2011, CARB adopted the final cap-and-trade program for California (See California Code of Regulations, Title 17, Sections 95801-96022.) The California cap-and-trade program creates a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 CARB guidance, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO2e), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 $MTCO_2e$ per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the cap-and-trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

AB 398 (Stats. 2017, ch. 135) extended the life of the existing Cap and Trade Program through December 2030.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

AB 32 SCOPING PLAN

In 2008, CARB adopted the Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) CO_2e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO_2e under a business-as-usual scenario This is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO_2e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan also includes CARB recommended GHG reductions for each emissions sector of the State GHG inventory. CARB estimates the largest reductions in GHG emissions would be by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (26.1 MMT CO_2e);
- the Low Carbon Fuel Standard (15.0 MMT CO_2e);
- energy efficiency measures in buildings and appliances (11.9 MMT CO_2e); and
- renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e).

In 2011, CARB adopted a cap-and-trade regulation. The cap-and-trade program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The cap-and-trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the State's GHG emissions.

With regard to land use planning, the Scoping Plan expects that reductions of approximately 3.0 MMT CO_2e will be achieved through implementation of Senate Bill (SB) 375, which is discussed further below.

2014 SCOPING PLAN UPDATE

CARB revised and reapproved the Scoping Plan, and prepared the First Update to the 2008 Scoping Plan in 2014 (2014 Scoping Plan). The 2014 Scoping Plan contains the main strategies California will implement to achieve a reduction of 80 MMT of CO_2e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 MMT of CO_2e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount of GHG reductions CARB recommends for each emissions sector of the State's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the ACC program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 SB 32 SCOPING PLAN

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response, CARB adopted an updated Scoping Plan in December 2017. The document reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks.
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2019 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2019 Title 24 standards. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years.

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. This will reduce greenhouse gas emissions by 700,000 metric tons over three years, equivalent to taking 115,000 fossil fuel cars off the road. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

CEQA Direction

In 2008, the Office of Planning and Research (OPR), issued Guidance regarding assessing significance of GHGs in California Environmental Quality Act (CEQA) documents; that Guidance stated that the adoption of appropriate significance thresholds was a matter of discretion for the lead agency. The OPR Guidance states:

> "[T]he global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions. To this end, OPR has asked the CARB technical staff to recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. Until such time as state guidance is available on thresholds of significance for GHG emissions, we recommend the following approach to your CEQA analysis."

Determine Significance

- When assessing a project's GHG emissions, lead agencies must describe the existing environmental conditions or setting, without the project, which normally constitutes the baseline physical conditions for determining whether a project's impacts are significant.
- As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a "significant impact," individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.
- The potential effects of a project may be individually limited but cumulatively considerable. Lead agencies should not dismiss a proposed project's direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence. Documentation of available information and analysis should be provided for any project that may significantly contribute new GHG emissions, either individually or cumulatively, directly or indirectly (e.g., transportation impacts).
- Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project.

The OPR Guidance did not require Executive Order S-3-05 to be used as a significance threshold under CEQA. Rather, OPR recognized that, until the CARB establishes a statewide standard, selecting an appropriate threshold was within the discretion of the lead agency.

In 2010, the California Natural Resources Agency added Section 15064.4 to the CEQA Guidelines, providing new legal requirements for how agencies should address GHG-related impacts in their CEQA documents. As amended in 2019, Section 15064.4 provides as follows:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
>
> (1) Quantify greenhouse gas emissions resulting from a project; and/or

(2) Rely on a qualitative analysis or performance-based standards.

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Section 15126.4, subdivision (c), provides guidance on how to formulate mitigation measures addressing GHG-related impacts:

> Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:
>
> (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
>
> (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;
>
> (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
>
> (4) Measures that sequester greenhouse gases;
>
> (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

California Supreme Court Decisions

THE "NEWHALL RANCH" CASE

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (hereafter referred to as the Newhall Ranch Case).

Because of the importance of the Supreme Court as the top body within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in CEQA documents, the opinion provides very important legal guidance to agencies charged with preparing EIRs.

The case involved a challenge to an EIR prepared by the California Department of Fish and Wildlife (CDFW) for the Newhall Ranch development project in Los Angeles County, which consists of approximately 20,000 dwelling units as well as commercial and business uses, schools, golf courses, parks and other community facilities in the City of Santa Clarita.

In relation to GHG analysis, the Newhall Ranch Case illustrates the difficulty of complying with statewide GHG reduction targets at the local level using CEQA to determine whether an individual project's GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or statement of overriding consideration. The EIR utilized compliance with AB 32's GHG reduction goals as a threshold of significance and modelled its analysis on the CARB's

business-as-usual (BAU) emissions projections from the 2008 Scoping Plan. The EIR quantified the project's annual emissions at buildout and projected emissions in 2020 under a BAU scenario, in which no additional regulatory actions were taken to reduce emissions. Since the Scoping Plan determined a reduction of 29 percent from BAU was needed to meet AB 32's 2020 reduction goal, the EIR concluded that the project would have a less-than-significant impact because the project's annual GHG emissions were projected to be 31 percent below its BAU estimate.

The Supreme Court concluded that the threshold of significance used by the EIR was permissible; however, the BAU analysis lacked substantial evidence to demonstrate that the required percentage reduction from BAU is the same for an individual project as for the entire State. The court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the Supreme Court determined that the EIR's GHG analysis was not sufficient to support the conclusion that GHG impacts would be less than significant.

In addition, the Supreme Court provided the following guidance regarding potential alternative approaches to GHG impact assessment at the project level for lead agencies:

1. The lead agency determination of what level of GHG emission reduction from business-as-usual projection that a new land development at the proposed location would need to achieve to comply with statewide goals upon examination of data behind the Scoping Plan's business-as-usual emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions (the same issues with CEQA compliance addressed in this case);

2. The lead agency may use a project's compliance with performance based standards – such as high building energy efficiency – adopted to fulfill a statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation (See Guidelines Section 15064.4(a)(2), (b)(3); see also Guidelines Section 15064(h)(3)). A significance analysis would then need to account for the additional GHG emissions – such as transportation emissions – beyond the regulated activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as Climate Action Plan or a SB 375 metropolitan regional transportation impact Sustainable Communities Strategy) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to Guidelines 15183.5(a)-(b) for land use and Public Resources Code Section 21155.2 and 21159.28 and Guidelines Section 15183.5(c) for transportation.

3. The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of significance of 1,100 MT CO_2E in annual emission for CEQA GHG emission analysis on new

land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (See Guidelines Section 15064.7).

THE SANDAG CASE

In *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (*SANDAG)*, the Supreme Court addressed the extent to which, if any, an EIR for a Regional Transportation Plan (RTP) with a Sustainable Communities Strategy (SCS) must address the proposed project's consistency with the 2050 target set forth in Executive Order S-03-05 (i.e., 80 percent below 1990 levels). The Court held that SANDAG did not abuse its discretion by failing to treat the 2050 GHG emissions target as a threshold of significance. The Court cautioned, however, that its decision applies narrowly to the facts of the case and that the analysis in the challenged EIR should not be used as an example for other lead agencies to follow going forward. Notably, the RTP itself covered a planning period that extended all the way to 2050.

The Court acknowledged the parties' agreement that "the Executive Order lacks the force of a legal mandate binding on SANDAG[.]" (*Id*. at p. 513.) This conclusion was consistent with the Court's earlier decision in *Professional Engineers in California Government v. Schwarzenegger* (2010) 50 Cal.4th 989, 1015, which held the Governor had acted in excess of his executive authority in ordering the furloughing of State employees as a money-saving strategy. In that earlier case, which is not mentioned in the *SANDAG* decision, the Court held that the decision to furlough employees was legislative in character, and thus could only be ordered by the Legislature, and not the Governor, who, under the State constitution, may only exercise executive authority. In *SANDAG*, the Court thus impliedly recognized that Governors do not have authority to set statewide legislative policy, particularly for decades into the future. Even so, however, the Court noted, and did not question, the parties' agreement that "the Executive Order's 2050 emissions reduction target is grounded in sound science." (3 Cal.5th at p. 513.) Indeed, the Court emphasized that, although "the Executive Order 'is not an adopted GHG reduction plan' and that 'there is no legal requirement to use it as a threshold of significance,'" the 2050 goal nevertheless "expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate.

This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG's regional transportation plan." (*Id*. at p. 515.) Towards the end of the decision, the Court even referred to "the state's 2050 climate goals" as though the 2050 target from E.O. S-03-05 had some sort of standing under California law. (*Id*. at p. 519.) The Court seemed to reason that, because the Legislature had enacted both AB 32 and SB 32, which followed the downward GHG emissions trajectory recommended in the Executive Order, the Legislature, at some point, was also likely to adopt the 2050 target as well: "SB 32 … reaffirms California's commitment to being on the forefront of the dramatic greenhouse gas emission reductions needed to stabilize the global climate." (*Id*. at p. 519.) Finally, the Court explained that "planning agencies like SANDAG must ensure that CEQA analysis stays in step with evolving scientific knowledge and state regulatory schemes." (*Ibid*.)

In sum, the Court recognized that the Executive Order did not carry the force of law, but nevertheless considered it to be part of "state climate policy" because the Legislature, in enacting both AB 32 and SB 32, seems to be following both the IPCC recommendations for reducing GHG emissions worldwide and evolving science. Nothing in the decision, however, suggests that all projects, regardless of their buildout period, must address the 2050 target or treat it as a significance threshold.

LOCAL

City of Manteca Climate Action Plan

The City of Manteca adopted its Climate Action Plan (CAP) in October 2013. The purpose of the CAP is to: 1) outline a course of action for the City government and the community of Manteca to reduce per capita greenhouse gas emissions by amounts required to show consistency with AB 32 goals for 2020 and adapt to effects of climate change, and 2) provide clear guidance to City staff regarding when and how to implement key provisions of the CAP, and 3) provide a streamlined mechanism for projects that are consistent with the CAP to demonstrate that they would not contribute significant greenhouse gas impacts.

The GHG Plan is considered a "Qualified Plan," according to CEQA Guidelines Section 15183.5.2. The City's GHG Inventory is evaluated for baselines years 2005 and 2010 and is projected for years 2020 and 2035. The baseline and Business-As-Usual (BAU) emissions GHG inventories for the City of Manteca is summarized in Table 3.7-1. Table 3.7-2 provides a summary of the City's 2020 target, adjusted-BAU emissions, and the local reductions included within the CAP.

TABLE 3.7-1: CITY OF MANTECA BASELINE EMISSIONS INVENTORY AND BUSINESS-AS-USUAL (BAU) EMISSIONS INVENTORY PROJECTIONS (MT CO_2E)

EMISSIONS SECTOR	*2005*	*2010*	*2020*	*2035*
Transportation	214,075	210,901	275,507	368,297
Electricity – Residential	44,108	47,343	61,212	83,668
Electricity – Commercial	25,014	31,146	35,646	49,327
Natural Gas – Residential	45,527	50,466	65,249	89,186
Natural Gas – Commercial	9,856	11,818	13,526	18,717
Waste	42,305	30,454	21,586	29,505
Ozone Depleting Substance (ODS) substitutes	19,461	26,741	75,711	103,486
Total	**400,346**	**408,869**	**548,437**	**742,186**

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.
SOURCE: MICHAEL BRANDMAN ASSOCIATES, 2013

TABLE 3.7-2: CITY OF MANTECA 2020 TARGET EMISSIONS INVENTORY (MT CO_2E)

INVENTORY	*COMMUNITY EMISSIONS*	*PER CAPITA EMISSIONS (MT CO_2E/PERSON)*
2020 BAU	548,437	6.27
2020 Adjusted	441,707	5.05
2020 Target	429,693	4.91
2020 Local Reductions Required	12,014	0.14
2020 Local Reductions Proposed	12,289	0.14
Target Achieved?	Yes	Yes

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.
SOURCE: MICHAEL BRANDMAN ASSOCIATES, 2013

3.7.3 IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

Climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

The SJVAPCD's has evaluated different approaches for estimating impacts and summarizing potential GHG emission reduction measures. The SJVAPCD staff has concluded that "*existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change*." This is readily understood when one considers that global climatic change is the result of the sum total of GHG emissions, both man-made and natural that occurred in the past; that is occurring now; and will occur in the future. The effects of project specific GHG emissions are cumulative, and unless reduced or mitigated, their incremental contribution to global climatic change could be considered significant.

The *Final Draft Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015) provides an approach to assessing a Project's impacts on greenhouse gas emissions by evaluating the Project's emissions to the "reduction targets" established in ARB's AB 32 Scoping Plan. For instance, the SJVACD's guidance recommends that projects should demonstrate that "*project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business as*

Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in ARB's AB 32 Scoping Plan. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG."

Subsequent to the SJVAPCD's approval of the *Final Draft Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015), the California Supreme Court issued an opinion that affects the conclusions that should/should not be drawn from a GHG emissions analysis that is based on consistency with the AB 32 Scoping Plan. More specifically, in *Center for Biological Diversity v. California Department of Fish and Wildlife*, the Court ruled that showing a "project-level reduction" that meets or exceeds the Scoping Plan's overall statewide GHG reduction goal is not necessarily sufficient to show that the project's GHG impacts will be adequately mitigated: "*the Scoping Plan nowhere related that statewide level of reduction effort to the percentage of reduction that would or should be required from individual projects*..." According to the Court, the lead agency cannot simply assume that the overall level of effort required to achieve the statewide goal for emissions reductions will suffice for a specific project.

Given this Court decision, reliance on a 29 percent GHG emissions reduction from projected BAU levels compared to the Project's estimated 2020 levels as recommended in the SJVAPCD's guidance documents will not be the basis for an impact conclusion in this EIR. Given that the SJVAPCD staff has concluded that "*existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change,*" this EIR will instead rely on a qualitative approach for this analysis. Specifically, the analysis relies on an assessment of the proposed project for consistency with the City of Manteca CAP, which is specifically designed to reduce GHG emissions in accordance with the GHG emission reduction targets identified by the State of California in the CARB Scoping Plan. Additionally, a qualitative analysis of the proposed project's consistency with other relevant planning documents and relevant laws is provided herein.

ENERGY CONSERVATION

The proposed project would result in a significant impact on energy use if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: General Plan implementation has the potential to generate GHG emissions that could have a significant impact on the environment (Less than Significant)

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.

Development that occurs because of implementation of the proposed project would include activities that emit greenhouse gas emissions over the short and long term. A summary of short- and long-term emissions and the analysis for each are included below.

The major projected impacts of climate change in Manteca are expected to be more days of extreme heat over longer periods, as well as potential for flooding. According to the City's CAP, the major sources of GHGs in Manteca are on-road transportation (50%), residential energy (23%), and non-residential energy (9%). Short-term and long-term emissions typically associated with construction and operations of future development projects, which may occur because of implementation of the proposed project, are further described below.

SHORT-TERM EMISSIONS

Short-term greenhouse gas emissions would occur because of construction equipment used for the following: demolition, grading, paving, and building construction activities associated with future development and infrastructure projects that will be undertaken in Manteca over the next 20 years. GHG emissions would also result from worker and vendor trips to and from project sites and from demolition and soil hauling trips. Construction activities are short-term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases. As such, SJVAPCD recommends in its draft threshold to amortize project-specific construction emissions over a 30-year operational lifetime of a project. This normalizes construction emissions so that they can be grouped with operational emissions to generate a precise project GHG inventory. However, the SJVAPCD does not have a current threshold of significance for construction-related GHG emissions for plan-level impacts (including general plans).

Adoption of the proposed General Plan does not directly approve or otherwise entitle any new development projects or infrastructure improvement projects in Manteca. As such, the construction-related GHG emissions of future projects cannot be known or quantified at this time, as it would be highly speculative. Typically, construction-related GHG emissions contribute unsubstantially (less than one percent) to a project's annual greenhouse gas emissions inventory and mitigation for construction-related emissions is not effective in reducing a project's overall contribution to climate change, given how small of a piece of the total emissions construction emissions are. Short-term climate change impacts due to future construction-related activities would be subject to State requirements for GHG emissions and would be assessed on project-by-project basis, as required by the SJVAPCD.

LONG-TERM EMISSIONS

Future development projects will result in continuous GHG emissions from mobile, area, and operational sources. Mobile sources, including vehicle trips to and from development projects, will result primarily in emissions of CO_2, with minor emissions of CH_4 and N_2O. The most significant GHG emission from natural gas usage will be methane. Electricity usage by future development and indirect usage of electricity for water and wastewater conveyance will result primarily in emissions of carbon dioxide. Disposal of solid waste will result in emissions of methane from the decomposition of waste at landfills coupled with CO_2 emission from the handling and transport of solid waste. These sources combine to define the long-term greenhouse gas inventory for typical development projects.

As shown in Table 2.0-2 in Chapter 2.0 of this Draft EIR, buildout of the City's existing General Plan would result in a projected population increase of 116,546 and an increase of 37,969 jobs. The population growth is an approximately 40% increase compared to the previous population forecast.

Table 3.7-3 below summarizes VMT for the Planning Area and total VMT for the existing baseline condition, for the projected proposed General Plan buildout condition, and for the projected existing General Plan buildout condition. The "per service population" metric, which accounts for both population and employment, is a common way to analyze the GHG efficiency of new development in comparison to an existing baseline. The land use modifications and policies proposed as part of the proposed General Plan would result in an overall approximately 4.8% increase in per service population vehicle miles traveled compared to the existing baseline condition. However, the proposed General Plan would result in in an approximately 1.6% reduction in per service population vehicle miles traveled compared to the existing General Plan. Table 3.7-3, below, provides the VMT summary for the proposed project.

As discussed in Chapter 2.0, growth projections for the General Plan should not be considered a prediction for growth, as the actual amount of development that will occur throughout the 20- to 30-year planning horizon of the General Plan is based on many factors outside of the City's control. Actual future development would depend on future real estate and labor market conditions, property owner preferences and decisions, site-specific constraints, and other factors.

TABLE 3.7-3: VMT SUMMARY FOR THE PROPOSED GENERAL PLAN

YEAR/SCENARIO	*TOTAL POPULATION*	*TOTAL EMPLOYMENT*	*VMT*	*VMT PER CAPITA*	*VMT PER SERVICE POPULATION*
VMT – PLANNING AREA					
2019 – Existing Baseline	84,800	16,862	1,784,908	21.05	17.56
Buildout – Existing General Plan	167,963	42,938	3,855,205	22.95	18.28
Buildout – Proposed General Plan	201,346	54,831	4,384,963	21.78	17.12
VMT – TOTAL					
2019 – Existing Baseline	84,800	16,862	3,755,100	44.28	36.94
Buildout – Existing General Plan	167,963	42,938	8,296,900	49.40	39.34
Buildout – Proposed General Plan	201,346	54,831	9,921,000	49.27	38.73

SOURCE: DE NOVO PLANNING GROUP, 2020; FEHR & PEERS, 2020

In order to reduce community-wide GHG emissions, Manteca has an adopted Climate Action Plan, which is a Qualified GHG Reduction Plan. The CAP is designed to streamline environmental review of future development projects in the City of Manteca consistent with CEQA Guidelines Section 15183.5(b), as identified within the CAP itself. The CAP identifies a strategy, reduction measures, and implementation strategies the City will use to achieve the State-recommended greenhouse gas (GHG) emissions reduction targets. The City uses the CAP to achieve GHG emissions reductions in a manner consistent with AB 32 within discretionary projects on a project-by-project basis and through ongoing planning activities and programs.

The proposed General Plan has been developed to be consistent with the adopted CAP, and to further the goals and implementation strategies identified in the CAP.

For example, CAP Strategy Bicycle Infrastructure calls for increasing bicycle infrastructure within the City, including by requiring developers to contribute fair share funding to the construction of planned bike lanes, and to developing bicycle lanes as a means of alternative transportation. Additionally, CAP Strategy: Energy Efficient New Buildings requires developers to exceed Title 24 energy efficiency standards by at least 10 percent, or by providing solar panels or other non-building-related energy efficiency measures such as exterior lighting or water savings. Moreover, CAP Strategy: Energy Efficient Existing Buildings requires the City to encourage residents and business to participate in voluntary energy efficiency programs. Lastly, CAP Strategy: Solar Generation encourages the installation of on-site solar photovoltaic systems. These CAP strategies are supported by the following General Plan policies and implementation measures:

> Policy LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities and, where feasible, site consolidation.
>
> C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.
>
> C-2.8: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied appropriately at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.
>
> C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).
>
> C-4.1: Through regular updates to the City's Active Transportation Plan, establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C.4-6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C-4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle lanes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C-4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

RC-5.3: Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current "green" development standards in the California Green Building Standards Code.

RC-5.4: Support innovative and green building best practices including, but not limited to, LEED certification for all new development, and encourage public and private projects to exceed the most current "green" development standards in the California Green Building Standards Code.

RC-6.4: Require appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2f: Ensure that bicycle and pedestrian access is provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-4a: Periodically update the Active Transportation Plan to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

C.4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C.4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

- Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;

- Require construction standards which promote energy conservation including window

placement, building eaves, and roof overhangs;

- Require all projects to meet minimum State and local energy conservation standards;
- Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;
- Encourage and accommodate projects that incorporate alternative energy;
- Encourage projects to incorporate enhanced energy conservation measures and other voluntary methods of reducing energy usage and greenhouse gas emissions; and
- Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

RC-5b: Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

RC-5c: Develop a public education program to increase public participation in energy conservation.

RC-5d: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

RC-5e: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

RC-5f: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

RC-5g: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

These General Plan policies and implementing actions would support and implement the goals established by the CAP, and that would minimize potential impacts associated with GHG emissions in the Planning Area. Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the reduction of GHG emissions, including the adopted CAP. The City of Manteca has prepared the General Plan to include numerous policies and actions intended to reduce GHG emissions associated with future development and improvement projects. GHG emissions would be minimized through the implementation of the policies and actions listed below.

Crucially, the proposed General Plan includes implementation measure RC-4a, which requires the City to update the City's existing CAP to achieve the State's greenhouse gas reduction targets beyond 2020, which would include the 2030 and 2050 targets. Updates to the CAP would align the City's GHG reduction targets and associated reduction measures with the statewide GHG reduction targets established by AB 32, SB 32, and SB 375 and EOs S-03-05 and B-30-15. The proposed

General Plan's consistency with the existing 2013 Manteca CAP ensures that the proposed project is consistent with a current Qualified GHG Reduction Strategy (i.e., the CAP) and the proposed General Plan ensures that the 2013 Manteca CAP is updated to address State-established GHG reduction targets. Therefore, potential impacts to this topic would therefore be **less than significant**.

CONCLUSION

As demonstrated in the analysis provided above, the proposed General Plan is consistent with the existing 2013 CAP, ensuring consistency with a Qualified GHG Reduction Strategy. Additionally, the proposed General Plan implementation measure RC-4a requires to the City's existing CAP to achieve the State's greenhouse gas reduction targets beyond 2020, which would include the 2030 and 2050 targets. Therefore, the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

While future development would generate GHGs that would contribute to climate change, the implementation of the General Plan policies and action listed below, as well as Federal and State regulations, and implementation of the adopted Manteca CAP would result in a **less than significant** impact.

GENERAL PLAN POLICIES AND IMPLEMENTATION ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-6.8: Encourage the mixing of retail, service, residential, office, and institutional uses on the properties surrounding The Promenade to create a significant retail, employment, and cultural center south of Highway 120.

LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities and, where feasible, site consolidation.

LU-6.10: Encourage the reuse of existing buildings within Downtown and in other developed locations designated for mixed-use development by utilizing the California Existing Building Code which provides flexibility in the retrofitting of buildings.

LU-6.11: Promote the revitalization of underutilized, deteriorated areas and buildings within Downtown and in other developed locations designated for mixed-use development through development incentives, public/private partnerships, and public investments.

LU-8.4: Policy Area 3 is the Austin Road Business Park and Residential Community Master Plan area, with boundaries as shown in Figure LU-6. The primary land uses within Policy Area 3 are envisioned to be a master planned residential community with high-quality parks, community-serving commercial uses, and residential development ranging from very low to high density residential in order to accommodate a broad range of housing types, including executive housing and workforce housing. Residential uses located near SR 99 and adjacent the railroad tracks should include appropriate transitions and buffers to address air quality and noise.

C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-2.8: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied appropriately at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).C-4.1: Through regular updates to the City's Active Transportation Plan, establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.4: Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C.4-6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C.4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle lanes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C.4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C.4.9: Provide sidewalks along both sides of all new streets in the City.

C-5.1: Encourage and plan for the expansion of regional bus service in the Manteca area.

C-5.2: Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-5.3: Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

C-5.5: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-5.6: Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.

C-5.7: Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-5.8: Design future roadways to accommodate transit facilities, as appropriate. These design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.

C-5.9: Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.

C-5.10: Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.

C-5.11: As new areas and neighborhoods of the City are developed, fund transit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development.

C-7.1: Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-7.2: Require development projects that accommodate or employee 50 or more full-time equivalent employees to establish a transportation demand management (TDM) program.

C-7.3: Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.

C-7.4: Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.

C-7.5: Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

C-7.6: Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.

ED-1.3: Prioritize the development of employment-generating uses on sites with vacant buildings or on underutilized commercial, office, and industrial-designated parcels.

ED-1.9: Encourage mixed-use development on vacant and underutilized parcels along the North Main Street and Yosemite Avenue corridors, allowing flexible reaction to changing market conditions.

CF-11.2: Implement and enforce the provisions of the City's Source Reduction and Recycling Program and update the program as necessary to meet or exceed the State waste diversion requirements.

CF-11.3: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

CF-11.4: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.

CF-11.5: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

RC-4.1: Prepare for and respond to the expected impacts of climate change.

RC-4.2: Assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions and be resilient to negative changes and impacts associated with climate change.

RC-5.1: Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.

RC-5.2: Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.

RC-5.3: Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current "green" development standards in the California Green Building Standards Code.

RC-5.4: Support innovative and green building best practices including, but not limited to, LEED certification for all new development, and encourage public and private projects to exceed the most current "green" development standards in the California Green Building Standards Code.

RC-5.5: Encourage the conservation of public utilities.

RC-5.6: Encourage the conservation of petroleum products.

RC-6.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- *Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.*
- *Identifying baseline air pollutant and greenhouse gas emissions.*
- *Encouraging economy clean fuel for city vehicle fleets, when feasible.*
- *Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.*

RC-6.3: Ensure that new construction is managed to minimize fugitive dust and construction vehicle emissions.

RC-6.4: Require appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

RC-6.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:

- *Ensure consistency with the General Plan in terms of zoning districts and development standards;*
- *Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;*

- *Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and*
- *Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.*
- *Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.*

LU-6a: Consider implementing incentives to support developers who construct vertical mixed-use projects and/or who build housing above non-residential ground-floor uses within Downtown.

LU-6d: Promote the intensified use and reuse of existing suites above ground floors.

LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

LU-9c: Encourage and support local transit service providers to increase and expand services for people who are transit-dependent, including seniors, persons with mobility disabilities, and persons without regular access to automobiles by improving connections to regional medical facilities, senior centers, and other support systems that serve residents and businesses.

C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2f: Ensure that bicycle and pedestrian access is provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-4a: Periodically update the Active Transportation Plan to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

C.4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike

lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C.4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

C-5a: Periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-5b: Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

C-5c: Update the City's standard plans to include the option for bus turnouts at intersections of major streets.

C-5d: Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.

C-5e: Work with the school districts to identify and implement opportunities for joint-use public transit that would provide both student transportation and local transit service.

C-5f: Through the development review process, ensure that projects provide increased land use densities and mixed uses, consistent with the Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.

C-5g: Along fixed route corridors, require that new development to be compatible with and further the achievement of the Circulation Element. Requirements for compatibility may include but are not limited to:

- *Orienting pedestrian access to transit centers and existing and planned transit routes.*
- *Orienting buildings, walkways, and other features to provide pedestrian access from the street and locating parking to the side or behind the development, rather than separating the development from the street and pedestrian with parking.*
- *Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.*

C-5h: Review and update the City's funding programs to provide for adequate transit services, including funding for capital, operations, and maintenance, commensurate with growth of the City.

C-7a: Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, and on the City website.

C-7b: Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1c. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9410 could be used to implement this measure.

C-7c: Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes, channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.

*C-7d: Proposed development projects shall consider the list of potential measures below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:**

- *Increase density of development (up to 10.75 percent)*
- *Increase diversity of land uses (up to 12 percent)*
- *Encourage telecommuting and alternative work schedules (up to 4.5 percent)*
- *Implement car-sharing programs (up to 5 percent)*
- *Implement parking management and pricing (up to 6 percent)*
- *Implement subsidized or discounted transit program (up to 0.7 percent)*
- *Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*

**Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010) and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

C-7e: Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.

C-7f: Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and polices (C-4).

C-7g: Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

RC-4a: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050 by reporting on the City's progress annually, updating the Climate Action Plan and GHG inventory regularly to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020, and updating the GHG Strategy in the General Plan, as appropriate.

RC-4b: When updating master plans for infrastructure, including water supply, flood control, and drainage, and critical facilities, review relevant climate change scenarios and ensure that the plans consider the potential effects of climate change and include measures to provide resilience.

RC-4c: Incorporate the likelihood of climate change impacts into City emergency response planning and training.

RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

- *Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;*
- *Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;*
- *Require all projects to meet minimum State and local energy conservation standards;*
- *Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;*
- *Encourage and accommodate projects that incorporate alternative energy;*
- *Encourage projects to incorporate enhanced energy conservation measures and other voluntary methods of reducing energy usage and greenhouse gas emissions; and*
- *Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.*

RC-5b: Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

RC-5c: Develop a public education program to increase public participation in energy conservation.

RC-5d: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

RC-5e: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

RC-5f: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

RC-5g: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

RC-5h: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

RC-6b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous

emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-6c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

- *The use of best available and economically feasible control technology for stationary industrial sources;*
- *All applicable particulate matter control requirements of Air District Regulation VIII;*
- *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
- *Use of alternative energy sources.*

RC-6d: Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

Impact 3.7-2: General Plan implementation has the potential to conflict with adopted plans, policies, or regulations adopted for the purpose of reducing greenhouse gas emissions (Less than Significant)

As described under Impact 3.7-1, the proposed General Plan is consistent with the City's adopted Climate Action Plan, which is a Qualified GHG Reduction Plan. The City's CAP has been developed to satisfy the GHG reduction requirements established by AB 32. As further provided under Impact 3.7-1, the GHG emissions that would be emitted with implementation of proposed General Plan would be required to comply with the existing 2013 Manteca CAP.

In addition, the General Plan will not conflict with the implementation of regional transportation-related GHG targets outlined in San Joaquin Council of Governments' (SJCOG) 2018 Regional Transportation Plan and Sustainable Communities Strategy (2018 RTP/SCS). The 2018 RTP/SCS relied upon the existing Manteca General Plan to determine population, employment, and VMT increases associated with General Plan buildout. However, because the land use modifications contained in the proposed General Plan reduce VMT per capita and per service population, in comparison to the existing General Plan as shown in Table 3.7-1, the proposed General Plan would result in emissions less than those forecasted in the 2018 RTP/SCS. Additionally, the proposed General Plan would not conflict with any of the other provisions of the Scoping Plan or applicable regulations related to GHG reductions because the General Plan includes a comprehensive approach to expanding transit access, increasing mobility options, promoting a pedestrian- and bicycle-oriented urban development pattern, improve the City's jobs to housing ratio, developing complete neighborhoods that accommodate a variety of housing types and are proximate to shopping, services, and jobs, and encourages development of infill sites at comparable or higher densities higher than those allowed by the existing General Plan. All of these comprehensive policy approaches serve to support regional and statewide efforts to reduce GHG emissions, including CARB's Scoping Plan and SJCOG's 2018 RTP/SCS through energy efficiency, green building, VMT reduction, and the other policies and actions listed under Impact 3.7-1.

CONCLUSION

The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. There is a **less than significant** impact relative to this topic.

Impact 3.7-3: General Plan implementation has the potential to result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)

The State CEQA Guidelines require consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix G

of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, a project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project is the updated Manteca General Plan, with a horizon year of 2040. Buildout of the General Plan includes residential, commercial, office, industrial, mixed-use, open space, and other land uses (see Chapter 2.0: Project Description for further detail). As previously discussed, the buildout growth projections are not a prediction for growth as the actual amount of development that will occur through the planning horizon of the General Plan is based on many factors outside of the City's control, including future real estate and labor market conditions, property owner preferences and decisions, and site-specific constraints. The amount of energy used in the Planning Area at buildout would directly correlate to the type and size of development, the energy consumption associated with unit appliances, outdoor lighting, and energy use associated with other buildings and activities. Other major sources of Planning Area energy consumption include fuel used by vehicle trips generated during construction and operational activities, and fuel used by off-road and on-road construction vehicles during construction. The following discussion provides a breakdown of the energy uses in the Planning Area upon buildout of the proposed project.

ELECTRICITY AND NATURAL GAS

At buildout, the City' electricity and natural gas consumption would be used primarily to power buildings (all types of buildings, including residential, commercial, office, industrial, public, etc.). Electricity would primarily come from the electricity utility provider (PG&E), though on-site solar generation would generate a substantial source of energy for the community at General Plan buildout.

FUEL CONSUMPTION - ON-ROAD VEHICLES (OPERATION)

Buildout of the General Plan would generate vehicle trips during its operational phase. As shown in Table 3.7-1, the proposed project would generate approximately 4,384,963 daily VMT in the Planning Area. Fuel consumption is anticipated to represent the largest sector of GHG emissions at General Plan buildout. Energy for on-road vehicles would derive from gasoline, diesel, as well as electricity from PG&E and from on-site solar generation.

FUEL CONSUMPTION - ON-ROAD VEHICLES (CONSTRUCTION)

The proposed project would also generate on-road vehicle trips during construction activities (from construction workers, vendors, and haulers). The vast majority of on-road mobile vehicle

fuel used during the construction activities during buildout of the General Plan would occur during building construction.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during construction activities. A non-exhaustive list of off-road constructive vehicles expected to be used during construction activities includes: cranes, forklifts, generator sets, tractors, excavators, and dozers.

CONCLUSION

Buildout of the General Plan would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel), and from off-road construction activities (e.g., diesel fuel) associated with buildout of the General Plan. Each of these activities would require the use of energy resources. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures. For example, developers would be required to comply with the latest version of the 2019 Building Energy Efficiency Standards (CalGreen), which became effective on January 1, 2020, as also required under General Plan Policy RC-5.3. CalGreen requires developers to implement stringent requirements for home insulation, energy efficiency of appliances, renewable energy, electric vehicle charging, water efficiency and conservation, construction waste reduction, indoor and outdoor air quality, material conservation and resource efficiency, and efficiency of building maintenance and operation.

Additionally, developers would have to comply with proposed General Plan policies and implementing actions that reduce energy usage, promote renewable and/or alternative energy sources, and encourage pedestrian/bicycle modes of transportation, as identified under Impact 3.7-1. For example, Policy LU-6.9 of the proposed General Plan requires mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities. Additionally, Policy RC-5.4 support innovative and green building best practices including, but not limited to, LEED certification for all new development, that exceed the most current “green” development standards in the California Green Building Standards Code. Other General Plan policies and implementation actions would further reduce energy consumption.

Buildout of the General Plan would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio.

PG&E is expected to achieve at least 60% renewables by 2030, and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100). Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards (“part 6”), would be applicable to the

proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, additional project-specific the sustainability features individual development projects could further energy consumption of individual projects. The proposed project would also be in compliance with the planning documents described previously within this section.

As a result, the proposed project would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for during General Plan buildout, including during construction, operations, maintenance, and/or removal. PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the Planning Area. The City of Manteca would comply with all existing energy standards in implementing the General Plan project, and would not result in significant adverse impacts on energy resources. Furthermore, General Plan policies would ensure that connections would be developed between the Planning Area and nearby pedestrian and bicycle pathways, including Policy C-2.15, which would ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas, Policy C-4.1, which would establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, and Policy C-4.5, which would expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails.

Additionally, public transit access exists nearby, reducing the need for local motor vehicle travel. For example, General Plan Policy C.5.1 encourages and calls for planning for the expansion of regional bus service in the Manteca Area; Policy C-5.2 promotes increased commuter and regional passenger rail service; Policy C.5.5 encourages programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents; Policy C-5.6 promotes the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations; and Policy C-5.8 requires that future roadways are designed to accommodate transit facilities.

Furthermore, with implementation of the proposed General Plan, the Planning Area would be linked closely with existing and proposed road, bicycle, and pedestrian networks that would well serve the residents of the Planning Area and neighboring communities. For the reasons stated above, buildout of the General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This is a **less than significant** impact.

GENERAL PLAN POLICIES AND IMPLEMENTATION ACTIONS THAT MITIGATE POTENTIAL IMPACTS

POLICIES

LU-6.8: Encourage the mixing of retail, service, residential, office, and institutional uses on the properties surrounding The Promenade to create a significant retail, employment, and cultural center south of Highway 120.

LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities and, where feasible, site consolidation.

LU-6.10: Encourage the reuse of existing buildings within Downtown and in other developed locations designated for mixed-use development by utilizing the California Existing Building Code which provides flexibility in the retrofitting of buildings.

LU-6.11: Promote the revitalization of underutilized, deteriorated areas and buildings within Downtown and in other developed locations designated for mixed-use development through development incentives, public/private partnerships, and public investments.

LU-8.4: Policy Area 3 is the Austin Road Business Park and Residential Community Master Plan area, with boundaries as shown in Figure LU-6. The primary land uses within Policy Area 3 are envisioned to be a master planned residential community with high-quality parks, community-serving commercial uses, and residential development ranging from very low to high density residential in order to accommodate a broad range of housing types, including executive housing and workforce housing. Residential uses located near SR 99 and adjacent the railroad tracks should include appropriate transitions and buffers to address air quality and noise.

C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-2.8: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied appropriately at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).C-4.1: Through regular updates to the City's Active Transportation Plan, establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

C-4.4: Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

C.4-6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

C.4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle lanes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

C.4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.

C.4.9: Provide sidewalks along both sides of all new streets in the City.

C-5.1: Encourage and plan for the expansion of regional bus service in the Manteca area.

C-5.2: Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-5.3: Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).

C-5.5: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-5.6: Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.

C-5.7: Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-5.8: Design future roadways to accommodate transit facilities, as appropriate. These design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.

C-5.9: Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.

C-5.10: Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.

C-5.11: As new areas and neighborhoods of the City are developed, fund transit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development.

C-7.1: Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-7.2: Require development projects that accommodate or employee 50 or more full-time equivalent employees to establish a transportation demand management (TDM) program.

C-7.3: Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.

C-7.4: Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.

C-7.5: Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

C-7.6: Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.

ED-1.3: Prioritize the development of employment-generating uses on sites with vacant buildings or on underutilized commercial, office, and industrial-designated parcels.

ED-1.9: Encourage mixed-use development on vacant and underutilized parcels along the North Main Street and Yosemite Avenue corridors, allowing flexible reaction to changing market conditions.

CF-11.2: Implement and enforce the provisions of the City's Source Reduction and Recycling Program and update the program as necessary to meet or exceed the State waste diversion requirements.

CF-11.3: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

CF-11.4: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.

CF-11.5: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

RC-4.1: Prepare for and respond to the expected impacts of climate change.

RC-4.2: Assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions and be resilient to negative changes and impacts associated with climate change.

RC-5.1: Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.

RC-5.2: Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.

RC-5.3: Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current "green" development standards in the California Green Building Standards Code.

RC-5.4: Support innovative and green building best practices including, but not limited to, LEED certification for all new development, and encourage public and private projects to exceed the most current "green" development standards in the California Green Building Standards Code.

RC-5.5: Encourage the conservation of public utilities.

RC-5.6: Encourage the conservation of petroleum products.

RC-6.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:

- *Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.*
- *Identifying baseline air pollutant and greenhouse gas emissions.*
- *Encouraging economy clean fuel for city vehicle fleets, when feasible.*
- *Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.*

RC-6.3: Ensure that new construction is managed to minimize fugitive dust and construction vehicle emissions.

RC-6.4: Require appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

RC-6.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

ACTIONS

LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:

- *Ensure consistency with the General Plan in terms of zoning districts and development standards;*
- *Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;*
- *Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and*
- *Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.*
- *Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.*

LU-6a: Consider implementing incentives to support developers who construct vertical mixed-use projects and/or who build housing above non-residential ground-floor uses within Downtown.

LU-6d: Promote the intensified use and reuse of existing suites above ground floors.

LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

LU-9c: Encourage and support local transit service providers to increase and expand services for people who are transit-dependent, including seniors, persons with mobility disabilities, and persons without regular access to automobiles by improving connections to regional medical facilities, senior centers, and other support systems that serve residents and businesses.

C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-2f: Ensure that bicycle and pedestrian access is provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

C-4a: Periodically update the Active Transportation Plan to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

C.4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C.4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

C-5a: Periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-5b: Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

C-5c: Update the City's standard plans to include the option for bus turnouts at intersections of major streets.

C-5d: Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.

C-5e: Work with the school districts to identify and implement opportunities for joint-use public transit that would provide both student transportation and local transit service.

C-5f: Through the development review process, ensure that projects provide increased land use densities and mixed uses, consistent with the Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.

C-5g: Along fixed route corridors, require that new development to be compatible with and further the achievement of the Circulation Element. Requirements for compatibility may include but are not limited to:

- *Orienting pedestrian access to transit centers and existing and planned transit routes.*
- *Orienting buildings, walkways, and other features to provide pedestrian access from the street and locating parking to the side or behind the development, rather than separating the development from the street and pedestrian with parking.*
- *Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.*

C-5h: Review and update the City's funding programs to provide for adequate transit services, including funding for capital, operations, and maintenance, commensurate with growth of the City.

C-7a: Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, and on the City website.

C-7b: Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1c. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9410 could be used to implement this measure.

C-7c: Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes, channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.

*C-7d: Proposed development projects shall consider the list of potential measures below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:**

- *Increase density of development (up to 10.75 percent)*
- *Increase diversity of land uses (up to 12 percent)*
- *Encourage telecommuting and alternative work schedules (up to 4.5 percent)*
- *Implement car-sharing programs (up to 5 percent)*
- *Implement parking management and pricing (up to 6 percent)*
- *Implement subsidized or discounted transit program (up to 0.7 percent)*
- *Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*

**Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010) and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

C-7e: Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.

C-7f: Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and polices (C-4).

C-7g: Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

RC-4a: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050 by reporting on the City's progress annually, updating the Climate Action Plan and GHG inventory regularly to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020, and updating the GHG Strategy in the General Plan, as appropriate.

RC-4b: When updating master plans for infrastructure, including water supply, flood control, and drainage, and critical facilities, review relevant climate change scenarios and ensure that the plans consider the potential effects of climate change and include measures to provide resilience.

RC-4c: Incorporate the likelihood of climate change impacts into City emergency response planning and training.

RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

- *Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;*
- *Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;*
- *Require all projects to meet minimum State and local energy conservation standards;*
- *Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;*
- *Encourage and accommodate projects that incorporate alternative energy;*
- *Encourage projects to incorporate enhanced energy conservation measures and other voluntary methods of reducing energy usage and greenhouse gas emissions; and*
- *Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.*

RC-5b: Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

RC-5c: Develop a public education program to increase public participation in energy conservation.

RC-5d: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

RC-5e: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

RC-5f: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

RC-5g: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

RC-5h: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

RC-6b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

- *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
- *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
- *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
- *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*

- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

RC-6c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

- *The use of best available and economically feasible control technology for stationary industrial sources;*
- *All applicable particulate matter control requirements of Air District Regulation VIII;*
- *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
- *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
- *Use of alternative energy sources.*

RC-6d: Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

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Hazards include man-made or natural materials or man-made or natural conditions that may pose a threat to human health, life, property, or the environment. Hazardous materials and waste present health hazards for humans and the environment. These health hazards can result during the manufacture, transportation, use, or disposal of such materials if not handled properly. In Manteca, hazards to humans can also occur from natural or human induced wildfire and air traffic accidents.

This section provides a background discussion of the hazardous materials and waste, fire hazards, and hazards from air traffic related to the Planning Area. This section is organized with an existing setting, regulatory setting, and impact analysis. Additional analysis related to wildfire hazards is contained in Section 3.16, Wildfire, of this EIR.

No comments were received during the NOP comment period regarding this environmental topic.

3.8.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS AND WASTE

Hazardous Materials

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous Waste

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled and is not properly contained, including soil or groundwater that is contaminated with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Transportation of Hazardous Materials

The transportation of hazardous materials within California is subject to various Federal, State, and local regulations. 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, or the loading of such materials (California Vehicle Code §§ 31602(b), 32104(a)). The California

Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

HAZARDOUS SITES

Envirostor Data Management System

The California 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. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation/Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There are 21 locations within the Manteca Planning Area that are listed in the Envirostor database, consisting of ten school investigation sites with no action required, two school investigation sites which require further evaluation, two certified State Response sites, four tiered permit sites, two evaluation sites referred to other agencies, and one voluntary cleanup site that has land use restrictions. Table 3.8-1 lists the active sites and the inactive (needs evaluation or action required) sites within the Manteca Planning Area. Additionally, Figure 3.8-1 identifies all of the active, evaluation required, and other open status sites from the EnviroStor database within the Planning Area. Following the table is a background discussion of the recent State Response cleanup at the Gordon Research Company and Nur-Al-Huda Academy sites. Additionally, background discussions of the Voluntary Cleanup sites, School Investigation sites, Evaluation sites, and Tiered Permit sites where action or evaluation is required are included.

TABLE 3.8-1: MANTECA SITE CLEANUP AND HAZARDOUS FACILITIES LIST (ENVIROSTOR)

NAME (ENVIROSTOR ID)	*STATUS*	*LOCATION*
STATE RESPONSE		
Gordon Research Company *(60000746)*	Certified	1085 South Union Road
Nur-al-Huda Academy *(60002130)*	Certified	1085 South Union Road
VOLUNTARY CLEANUP		
Satellite Housing *(60000626)*	Inactive – Action Required	280 and 282 N Airport
SCHOOL INVESTIGATION		
Proposed South Manteca High School *(60000456)*	No Further Action	21143 South Tinnin Road
South Airport Way School *(39010023)*	No Further Action	21164 South Airport Way

NAME (ENVIROSTOR ID)	*STATUS*	*LOCATION*
Sand Lane Elementary *(39020001)*	No Further Action	6647 East Woodward Avenue
Tara Park Elementary School Alternative Location *(60001958)*	No Further Action	19589 South McKinley Avenue
Woodward Annex Site (*39010046)*	No Further Action	Woodward Avenue/Spreckels Road
Proposed Manteca High School Addition *(60000342)*	Inactive – Needs Evaluation	206, 216, & 220 S Garfield Avenue
South Manteca Elementary School *(39010014)*	No Further Action	Tannehill Drive
McParland Annex *(39010024)*	No Further Action	Louise Avenue/Union Road
East Union High School District Farm Project *(60001277)*	No Further Action	2901 East Louise Avenue
North Main Street Community School *(39010015)*	No Further Action	1271, 1275, & 1281 North Main Street
Union Station School Site *(39010041)*	Inactive – Needs Evaluation	14051 & 14455 South Union Road
Proposed Union Ranch Elementary School *(70000179)*	No Further Action	14032, 14390, & 144444 Union Road
EVALUATION		
Schmiedt Soil Service, Inc *(39070036)*	Refer: Other Agency	20696 South Manteca Road
United Agri Products *(39510023)*	Refer: Other Agency	301 Wetmore
TIERED PERMIT		
Olin Interconnect Technologies *(71003418)*	No Further Action	544 Industrial Park Drive
ISE Labs, Inc., Assembly Operations *(71003510)*	Inactive – Needs Evaluation	400 Industrial Park Drive
Qualex, Inc. – Manteca *(71003156)*	Inactive – Needs Evaluation	555 Industrial Park Drive
Advanced Tech Interconnect *(71003427)*	No Further Action	555 Carnegie Street

SOURCE: CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL, ENVIROSTOR DATABASE, 2020.

STATE RESPONSE SITES

The Gordon Research Company site is located within a residential district of Manteca. The southwestern corner of the property abuts the northwestern corner of the Brock Elliot Elementary School.

According to information provided by the DTSC, state and local agencies involvement in the site began in 1984 in response to a complaint. An inspection by agency representatives revealed that

Mr. Larry Gordon was engaged in chemical reformulation and repackaging of chemicals for resale without the required permits. A review of the available DTSC file revealed that prior to 1988, a chemical formulation, repackaging and resale businesses operated at the Site. The businesses were known as Gordon Research Company and U.S. Gordon Subproperty. These businesses purchased bulk chemicals and stored them at the site.

In 1984,1988, and 2007, site inspections by regulatory agencies identified a range of potentially hazardous materials and conditions on the site, including unpermitted materials unlabeled containers, high pressure cylinders, open containers with handwritten notations, and deteriorated and leaking containers.

In 2007, the DTSC issued an Imminent and Substantial Determination and Order that specified the assessment and remedies necessary to address existing conditions at the site and removal and clean-up activities began on the site. In 2010 and 2011, DTSC conducted a Preliminary Endangerment Assessment where soil and groundwater samples were taken from the property in order to determine extent of contamination.

In May 2017, the DTSC settled with a prospective purchaser, the Nur-Al Huda Academy, for past costs and cleanup of the property for redevelopment. As shown in Table 3.8-1, this site is located on the same site as the Gordon Research Company site.

The Nur-Al-Huda Academy site property owner worked with DTSC to remediate the site in order to establish a school, Nur-Al-Huda Academy, on the site. In April 2018, DTSC approved a Remedial Action Workplan (RAW) for the removal of 600 cubic yards of soil contaminated with Arsenic, Benzo(a)pyrene, Cadmium, lead, PCBs, total Petroleum hydrocarbon and Dioxin, as well as a RAW Addendum in September 2018 for a domestic well abandonment. The DTSC oversaw the completion of the removal action at the site conducted in accordance with the RAW and RAW Addendum, which resulted in the removal of contaminated soil to reduce concentrations of hazardous materials to levels that would allow unrestricted sensitive land use. On February 12, 2020, the DTSC certified that all appropriate removal actions were completed and that acceptable engineering practices were implemented.

VOLUNTARY CLEAN-UP

The Satellite Housing site is the only active Voluntary Cleanup site located within the Manteca Planning Area. The Satellite Housing site is located at 280 and 282 North Airport Way on an irregular-shaped parcel, totaling approximately 3.37 acres, near the western city limits of Manteca. The site is in a residential area of Manteca and is improved with two residential structures.

According to information provided by the DTSC, surficial soil samples from the site were determined to contain high levels of chlordane near the residential structures, which exceeded the California Human Health Screening Levels. Satellite Housing entered into a Voluntary Cleanup Agreement with DTSC in June 2007 to conduct additional soil sampling investigations on-site, complete a Removal Action Workplan (RAW) for on-site remediation, and implement the RAW under the oversight of DTSC. According to DTSC records, Satellite Housing submitted the additional soil sampling investigation to DTSC in October 2008, which identified Chlordane

concentrations exceeding 0.43 milligrams per kilogram and determined that remediation would be required. A draft RAW has been submitted to DTSC in March 2009; however, no additional activities have been completed and the site maintains an "Inactive – Action Required" status.

SCHOOL INVESTIGATION

There are two School Investigation sites located within the Planning Area requiring further evaluation, including the Proposed Manteca High School Addition site and the Union Station site.

The Proposed Manteca High School site is located at 206, 216 & 220 S Garfield Avenue on an approximately 0.7-acre project site north of the Manteca High School. The Manteca Unified School District voluntarily brought this project into DTSC for review. According to a Phase II report prepared for the site, lead concentrations were detected at up to 360 mg/kg, resulting in the removal of an on-site shed and approximately 50 cubic yards of soil in April/May 2006. The removal was conducted without DTSC oversight; thus, DTSC required a Phase I Addendum to evaluate the site for organochlorine pesticide impacts. Prior to collecting samples for the Phase 1 Addendum, the site was completely graded two to three feet below the original surface, and not native soil was sampled. Therefore, on October 17, 2007, DTSC issued a letter recommending a Preliminary Environmental Assessment be prepared due to the significant grading on-site. The District subsequently chose to remove the project from DTSC oversight and has maintained an "Inactive – Needs Evaluation" status since October 17, 2007. The Union Station site is located on a 20-acre project site historically used for agricultural activities west of Union Road and North of Lathrop Road (APNs 204-100-09 and 204-100-15). According to DTSC records, DTSC entered into an Environmental Oversight Agreement (Docket Number HSA-A 02/03-190) with the Manteca Unified School District to provide oversight for a Preliminary Endangerment Assessment for the proposed Union Station School site in July 2003. In August 2003, the DTSC identified completion of a Preliminary Environmental Assessment Work Plan for the site; however, no action has been completed following acceptance of the PEA Work Plan and the site has maintained an "Inactive – Needs Evaluation" status.

TIERED PERMIT

There are two Tiered Permit sites located within the Planning Area requiring further evaluation, including the ISE Labs, Inc. Assembly Operations site at 400 Industrial Park Drive and the Qualex, Inc. site at 555 Industrial Park Drive. The EnviroStor database does not contain details regarding the past actions completed on-site or for the "Inactive – Needs Evaluation" status of each site.

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

There are no Cortese List sites located in the Planning Area.

GeoTracker

GeoTracker is the California Water Resources Control Board's data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites.

LEAKING UNDERGROUND STORAGE TANKS

There are 60 locations within the Manteca Planning Area that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). Fifty-eight of the locations have undergone LUST cleanup and the State has closed the case. There are two locations in the Planning Area, Frank's One Stop at 2071 W. Yosemite Avenue and Rainwater Car Wash at 420 W. Yosemite Ave., with an open case. Table 3.8-2 lists the location of open and closed cases for LUSTs in Manteca. Additionally, Figure 3.8-1 identifies the location of the open cases for LUSTs in the Planning Area.

TABLE 3.8-2: MANTECA LUST CLEANUP SITES

NAME	*ACTIVITY*	*LOCATION*
OPEN CASES		
Frank's One Stop	Open - Verification Monitoring	2072 Yosemite Ave. W
Rainwater Car Wash	Open - Verification Monitoring	420 Yosemite Ave. W
CLOSED CASES (CLEANUP COMPLETED)		
7-11 Store #2243-17647	Completed - Case Closed	1048 Yosemite Ave. W
7-Eleven Store #21756	Completed - Case Closed	853 Yosemite Ave. E
ABF Freight	Completed - Case Closed	2427 Yosemite Ave. W
Ace Tomato Co Inc	Completed - Case Closed	2771 E. French Camp Rd.
Arco #6020 Case #2	Completed - Case Closed	1711 Yosemite Ave. E
Arco #6020 Case #1	Completed - Case Closed	1711 Yosemite Ave. E
Beacon #3-492	Completed - Case Closed	470 Main St. N
Bob's Muffler	Completed - Case Closed	466 Moffat Blvd.
Boyett Petroleum	Completed - Case Closed	419 Main St. S
Brophy Texaco (Former)	Completed - Case Closed	941 Yosemite Ave. E
Cal-West Concrete Cutting Inc	Completed - Case Closed	1153 Vanderbilt Cir.
Cardoza Enterprises	Completed - Case Closed	1151 Louise Ave.
Carl Karcher Enterprises	Completed - Case Closed	800 Mellon St.
Carrol/Richie Property	Completed - Case Closed	443 Sycamore Ave.
Center Plumbing	Completed - Case Closed	2001 Main St. N
Chevron #9-1848	Completed - Case Closed	1257 Yosemite Ave. W
City of Manteca	Completed - Case Closed	210 Wetmore St. E
City of Manteca Public Works	Completed - Case Closed	220 Oak St.
Claudio Dell'eva	Completed - Case Closed	260 Main St. S

NAME	*ACTIVITY*	*LOCATION*
Delicato Vineyards	Completed - Case Closed	12001 Hwy 99 S
Diamond Lumber	Completed - Case Closed	151 Main St. S
E-Z Serve #100878	Completed - Case Closed	1012 Yosemite Ave. W
Eckert Cold Storage	Completed - Case Closed	757 Moffat Blvd.
Food & Liquor #76	Completed - Case Closed	890 Main St. N
Frank's Exxon #2	Completed - Case Closed	1399 Yosemite Ave. E
Frank's Exxon #4	Completed - Case Closed	14800 Frontage Rd W & Hwy 99 S
House of Redwood	Completed - Case Closed	1199 Vanderbilt Cir.
Jackpot Food Mart	Completed - Case Closed	1434 Yosemite Ave. W
Jiffy Lube	Completed - Case Closed	1130 Main St. N
Karlson Bros Trucking	Completed - Case Closed	23675 Airport Way S
Lathrop Gas and Food Mart	Completed - Case Closed	14800 West Frontage Rd., Hwy 99
Lee Jennings Enterprises	Completed - Case Closed	815 Moffat Blvd.
Manteca Bean	Completed - Case Closed	229 Moffat Blvd.
Manteca Equipment Rental	Completed - Case Closed	616 Main St. S
Manteca School Dist (Case #1)	Completed - Case Closed	2901 Louise Ave. E
Manteca Unified School Dist	Completed - Case Closed	2901 Louise Ave. (Case #2)
Manteca Unified School Dist	Completed - Case Closed	660 Mikesell Rd.
Manteca-Lathrop Fire Protect.	Completed - Case Closed	9121 Lathrop Rd. E
MBP-Manteca	Completed - Case Closed	983 Moffat Blvd.
Mountain Valley Express	Completed - Case Closed	1299 Vanderbilt Cir.
Payless Shoe Store	Completed - Case Closed	1160 Yosemite Ave. W
Pitts Property	Completed - Case Closed	203 Lincoln Ave. S
Ponte's Car Wash Case #2	Completed - Case Closed	707 Yosemite Ave. E
Ponte's Car Wash Case #1	Completed - Case Closed	707 Yosemite Ave. E
Pony Express Courier	Completed - Case Closed	959 Moffat Blvd.
Private Residence	Completed - Case Closed	Private Residence
Quick Stop #121	Completed - Case Closed	1196 Louise Ave. W
Rino Gas (Diablo Gasoline)	Completed - Case Closed	1001 Yosemite Ave. E
Royal Oaks S&L	Completed - Case Closed	510 Main St. N
Samuel Farrow	Completed - Case Closed	440 Main St. N
San Joaquin Delta College Farm	Completed - Case Closed	5298 Brunswick Rd.
Shell SS	Completed - Case Closed	1071 Main St. N
Southland 7-11 #19976	Completed - Case Closed	1399 Main St. N
Super Stop Market	Completed - Case Closed	290 Main St. N
Ted Peters Trucking	Completed - Case Closed	1985 Yosemite Ave. W
Tuff Boy Trailers	Completed - Case Closed	5151 Almondwood Dr.
Union #5417	Completed - Case Closed	1700 Yosemite Ave. E
Western Stone Products	Completed - Case Closed	1945 Lathrop Rd. E

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2020.

PERMITTED UNDERGROUND STORAGE TANK (UST)

There are 38 locations within the Manteca Planning Area that have Underground Storage Tanks (UST) that are permitted through the California Water Resources Control Board. Table 3.8-3 lists the location of the 38 permitted underground storage tanks in the Planning Area.

TABLE 3.8-3: MANTECA PERMITTED UST SITES

NAME	*LOCATION*
7-Eleven Inc #17647	1048 West Yosemite
7-Eleven Inc #19976	1399 N. Main Street
A&A Gas & Food Mart	1330 E Yosemite Avenue
AGS Fuel Inc dba Circle-K Chevron	1490 S Main Street
Ahmeds Son Inc	1257 W Yosemite Avenue
Arco AMPM	85 E Louise Avenue
Arco AMPM #83831	1904 Daniels Street
Cagasoline Express	2115 W Yosemite Avenue
Chevron	1231 N Main Street
Chevron Station #209167	1234 E Yosemite Avenue
Chevron USA #201761	1103 South Main Street
Costco Wholesale #1031	2440 Daniel Street
Cruisers Manteca #29	1137 W Lathrop Road
DBA Circle K, Refuel Petroleum Inc.	419 S Main Street
Diamond Gas and Mart DBA Quick Serve	824 E Yosemite Avenue
Dino Mart	1001 E Yosemite Avenue
Frontier California Inc.: Manteca CO	430 W Center Street
H&S Energy Products #3034	1434 W Yosemite Avenue
Jiffy Lube #598	1130 North Main Street
JM Dairy	12700 E Louise Avenue
Kaiser Foundation – Manteca	1777 W Yosemite Avenue
Main Street Arco AM PM	1100 South Main Street
Manteca Gas & Food	1229 E Louise Avenue
Manteca Liquor & Food	890 Main Street
Manteca Valero	1700 E Yosemite Avenue
National Petroleum Manteca	2072 W Yosemite Avenue
Nella Oil #487	983 Moffat Boulevard
One Stope Market	1151 W Louise Avenue
Quicki Kleen Car Wash	707 E Yosemite Avenue
Quick Stop Market #2121	1196 W Louise Avenue
Quick Stop Market #5124	505 N Main Street
Raymond Dowell	8330 E Southland Road
Save on Fuel	420 W Yosemite Avenue
SJ Delta Farm College	5298 Brunswick Road
Super Stop Gas & Liquor	290 N Main Street, Suite C
Tiger Express Stores	1399 E Yosemite Avenue
Tulare Farms, LLLP	2771 E French Camp Road
Yosemite Avenue Arco AMPM	1711 E Yosemite Avenue

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2020.

WATER BOARD PROGRAM CLEANUP SITES

There are 11 locations in the Manteca Planning Area that are listed in the GeoTracker database for Water Board Cleanup Sites. Six of the locations have undergone cleanup and the State has closed the case. There are five locations in the Planning Area with an open case, including the Former Suprema Cheese Wastewater Pond north of Lathrop Road and East of Airport Road, the Tri-Ag Service, Inc. site at 2112 South Main Street, the 99 Auto Recycling site (De Rose Property) at 430 Moffat Boulevard, the French Cleaners at 416 Yosemite Avenue, and the ISE Labs Incorporated site at 400-560 Industrial Park Drive. Table 3.8-4 lists the location of open and closed cases for Water Board Program Cleanup Sites in the Manteca Planning Area. Additionally, Figure 3.8-1 identifies the location of open cases in the Planning Area.

TABLE 3.8-4: MANTECA WATER BOARD CLEANUP SITES

NAME	*LOCATION*
OPEN – REMEDIATION	
Former Suprema Cheese Wastewater Pond	N. Of Lathrop Rd. And E. Of Airport Road
OPEN – SITE ASSESSMENT	
Tri-Ag Service, Inc.	2112 South Main Street
OPEN - INACTIVE CASE	
99 Auto Recycling (De Rose Property)	430 Moffat Boulevard
French Cleaners	416 West Yosemite Avenue
ISE Labs Incorporated	400-560 Industrial Park Drive
CLOSED CASES (CLEANUP COMPLETED)	
Evans Estates	South Main Street
Former Spreckels Sugar Company, Parcel 35	407 Spreckels Avenue
Karlson Trucking	9909 East Woodward Avenue
Lineage Logistics	730 Spreckels Avenue
Sterling Transit	410 S. Main Street
Ted Peters Trucking Mantic Facility	1985 W Yosemite Avenue

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2020.

WATER BOARD CEASE AND DESIST ORDERS

On March 19, 2004, the Regional Water Quality Control Board, Central Valley Region, adopted Waste Discharge Requirements Order No. R5-2004-0028, (Order) NPDES No. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility. Cease and Desist Order No. R5-2004-0029 (CDO) was also issued, which includes requirements and time schedules to bring the discharge into full compliance with the final effluent and receiving water limitations contained in the Order.

On July 17, 2007, the City released a Draft EIR for the Manteca Wastewater Quality Control Facility (WQCF) and Collection System Master Plans project, which would allow the expansion of the WQCF treatment capacity from 9.87 million gallons per day (mgd) to 27 mgd average dry weather flow (ADWF), would allow the construction of new trunk sewers to accommodate growth planned for in the City's existing General Plan (adopted in 2003), and would allow the construction of a new recycled water distribution system. The WQCF expansion resulted in the construction of treatment

facilities to achieve compliance with water quality limitations including rapid mixing and flocculation tanks to address turbidity requirements and a tertiary ultraviolet (UV) light disinfection treatment system to address wastewater reuse requirements. The new wastewater treatment system was completed two months ahead of the regulatory deadline set by the ACL Order No. R5-2005-0128 and was awarded a 2010 Merit Award in the American Council of Engineering Company's (ACEC) California Engineering Excellence Awards competition[1].

Order Nos. R5-2004-0028 and R5-2004-029 were rescinded by Order No. R5-2009-0095, which has been rescinded by a series of subsequent orders. The City is currently operating under Order No. 2015-0026, Waste Discharge Requirements/NPDES Permit CA0081558, adopted on April 17, 2015. Since Order No. 2015-0026 was adopted, the City has received subsequent orders including Nos. R5-2019-0512, No. R5-2019-0534, and R5-2020-0525 which have each been settled by the City's payment of the penalties assessed by each order.

Solid Waste Information System (SWIS)

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 City has seven solid waste facilities listed in the database, four of which are active. The site details are listed in Table 3.8-5 below.

TABLE 3.8-5: CIWMB FACILITIES/SITES

NUMBER	*NAME*	*ACTIVITY*	*REGULATORY*	*STATUS*
39-AA-0008	Lovelace Transfer Station	Large Volume Transfer/Proc Facility	Permitted	Active
39-AA-0015	Forward Landfill, Inc.	Solid Waste Landfill	Permitted	Active
39-AA-0020	Forward Resource Recovery Facility	Large Volume Transfer/Proc Facility	Permitted	Active
39-AA-0037	Delicato Vineyards	Composting Operation (Ag)	Permitted	Active
39-CR-0024	Manteca City Dump	Solid Waste Disposal Site	Pre-regulations	Closed
39-CR-0025	Manteca County Dump	Solid Waste Disposal Site	Pre-regulations	Closed
39-CR-0032	Spic and Span Private Garbage Dump	Solid Waste Disposal Site	Pre-regulations	Closed
39-CR-0005	F & W Cattle Co. #1	Solid Waste Landfill	Unpermitted	Close

SOURCE: CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY, 2020.

The Lovelace Transfer Station is located at 2323 Lovelace Road. The facility is owned by the County of San Joaquin, is administered by the Public Works Department, and is inspected numerous times each year. The most recent inspection of this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) shows no violations or areas of concern.

The Forward Landfill is located at 9999 S. Austin Road. The facility is owned by Forward Inc./Allied Waste North America and is inspected numerous times each year. The most recent inspections of

[1] https://www.nv5.com/news/awards/2010-manteca-wastewater-quality-control-facility/

this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) shows no violations or areas of concern.

The Forward Resources Recovery Facility is located at 9999 N. Austin Road. The facility is owned by Forward Inc./Allied Waste North America and is inspected numerous times each year. The most recent inspections of this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) show no violations or areas of concern.

The Delicato Vineyards composting operation is located at 12001 S. Highway 99. The facility is owned by Delicato Vineyards and is inspected numerous times each year. The most recent inspections of this facility (as of 12/17/2020) by the Local Enforcement Agency (San Joaquin County Health Services Department Environmental Health Division) show no violations or areas of concern.

HAZARDS FROM AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2011), prepared by the State Division of Aeronautics, 21 percent of general aviation accidents occur during takeoff and initial climb and 44.2 percent of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the approximate probability of such accidents. Nearly 77 percent of accidents during this phase of flight occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions. (California Division of Aeronautics, 2011).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site fairly close to the extended runway centerline.

The probability of accidents increases as the flight path nears the approach end of the runway. (California Division of Aeronautics, 2011).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed. (California Division of Aeronautics, 2002).

Takeoff and Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While the majority of approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially due to the fact that pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics, 2002).

Local Airport Facilities

There are no private or public airport facilities in the Planning Area.

Stockton Metropolitan Airport: The Stockton Metropolitan Airport is located approximately 3.5 miles north of the Manteca City limits. This airport is a County-owned facility that occupies approximately 1,609 acres at an elevation of 23 feet above mean sea level (MSL). The acreage within the airport influence area is 56,184 acres.

The Stockton Metropolitan Airport is designated as a Non-hub Commercial Service Airport within the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). The airport is served by Allegiant Air, which provides service to Phoenix/Mesa, Arizona and Las Vegas, Nevada. In addition to commercial service, Stockton Metropolitan Airport offers a wide

range of fixed base operators (FBOs) providing fuel, aircraft maintenance, aircraft hangar and tie-down rental, aircraft rental, flight training, aircraft management services, and pilot lounges for corporate and general aviation pilots. The airport also houses FBOs that support air cargo operations.

Stockton Metropolitan Airport is served by a parallel runway system in a northwest-southeast orientation. Runway 11L-29R is 10,650 feet long and 150 feet wide and is constructed of asphalt. Runway 11R-29L is 4,448 feet long and 75 feet wide and also constructed of asphalt. Runway 11L-29R is accommodated by several instrument approach procedures aiding pilots in navigation to the runway. Runway 29R contains a medium intensity approach lighting system with runway alignment lights (MALSR) to provide runway alignment guidance for pilots in reduced visibility conditions. Runway 11L-29R is served by a four-light Precision Approach Path Indicator (PAPI- 4) at both ends and contains high intensity runway lighting (HIRL) to indicate the location of the runway edge. Runway 11R-29L does not contain approach or runway edge lighting.

The northernmost portion of the Planning Area is located within the airport influence area for the Stockton Metropolitan Airport identified in the Airport Land Use Compatibility Plan (ALUCP). The majority of this land within the airport influence area is zoned for agricultural uses by the City's General Plan 2023. Other land uses within the airport influence area include park, industrial, commercial, public, low density residential, and medium density residential.

The lands within the City limits that are located in the airport influence area for the Stockton Metropolitan Airport are not within the Airport's noise exposure contours. However, the lands within the City that are located in the airport influence area are within two of the Airport's Safety Zones: Traffic Pattern Zone 7b and Zone 8. Lands within Traffic Pattern Zone 7b cannot be developed with non-residential intensities greater than 450 persons per acre and must have open land over 10 percent of the site. Additionally, uses within Traffic Pattern Zone 7b cannot be hazardous to flight, and outdoor stadiums are prohibited. Non-residential development on land within Traffic Pattern Zone 8 is not subject to a maximum intensity or open space requirement. Airspace review is required for development greater than 100 feet tall on lands within Zone 7b or Zone 8. Similarly, new dumps or landfills within Zone 7b or Zone 8 are subject to the FAA notification and review and are further subject to restrictions and conditions outlined by the FAA. Figure 3.8-2 identifies the portions of the Planning Area located within the Traffic Pattern Zone 7a, 7b, and 8 of the Stockton Metropolitan Airport's Safety Zone.

New Jerusalem Airport: The New Jerusalem Airport is located approximately 6.5 miles southwest of the Manteca City limits. This airport is owned and operated by the City of Tracy. New Jerusalem Airport is served by one runway, Runway 12-30, which is 3,530 feet long and 60 feet wide, constructed of asphalt. The runway has a full-length parallel taxiway. There are no airfield support facilities located at the airport.

The airport is unattended and serves as a staging area for aerial chemical application, pilot training activities, as well as powered parachute and ultralight activities. The number of operations at the airport is estimated to be 4,000 annually. Additional improvements are not anticipated within the planning horizon and the long-range forecast of operations for the airport is anticipated to remain

at 4,000. It should be noted that the Planning Area is not within any of the New Jerusalem Airport's safety zones.

Major Regional Airport Facilities

San Francisco International Airport (SFO): SFO is the largest airport in the region, and a hub for United Airlines. It provides a wide range of domestic airline service and all of the region's long-haul international flights. San Francisco serves 68% of regional Bay Area air passengers and 43% of regional air cargo shipments.

Metropolitan Oakland International Airport (OAK): Oakland Airport has traditionally been the hub for low cost carriers and a major air cargo center due to operations by FedEx and UPS. Oakland serves 17% of Bay Area regional air passengers and 52% of air cargo.

Norman Y. Mineta San Jose International Airport (SJC): Traffic at San Jose Airport has been affected by the recent realignment of airline services in the Bay Area. The airport does not currently offer any long-haul international flights, and air cargo facilities are limited due to space constraints. San Jose serves 15% of the Bay Area regional air passengers and 6% of air cargo.

Sacramento International Airport (SMF): The Sacramento Airport served nearly 9 million passengers in 2012 with 150 daily departures to 36 destinations. Southwest provides the majority of flights. Many Sacramento area air passengers use Oakland and San Francisco for their air service needs. Conversely, some Bay Area passengers choose Sacramento Airport.

National Transportation Safety Board Aviation Accident Database

The NTSB Aviation Accident Database does not identify any aircraft accidents with Manteca identified as the nearest location between January of 1983 to 2020. (National Transportation Safety Board, November 2020).

FIRE HAZARDS

Fuel Rank

Fuel rank is a ranking system developed by the California Department of Forestry and Fire Protection (CalFire) that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10 percent, 11-25 percent, 26-40 percent, 41-55 percent, 56-75 percent, and over75 percent. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The City of Manteca contains areas with "moderate" and "non-wildland fuel" ranks. The areas warranting "moderate" fuel ranks possess combustible material in sufficient quantities combined with topographic characteristics that pose a wildfire risk. CalFire data for the areas immediately surrounding the Planning Area also include "moderate" and "non-wildland fuel" ranks. Areas west of Interstate 5, approximately 15 miles or further southwest of the Planning Area, are designated as "moderate" and "high" fuel ranks.

Fire Hazard Severity Zones

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards. Figure 3.8-3 identifies the Fire Hazard Severity zones within the Manteca Planning Area and surrounding areas.

LOCAL RESPONSIBILITY AREAS

The majority of the Planning Area is not located within a Local Responsibility Area (LRA). Four portions of the Planning Area are located in an LRA: a developed area near Airport Way and W. Yosemite Avenue, a developed area near E. Yosemite Avenue and Austin Road, a developed area with agricultural fields located west of the intersection of East Southland Road and Southland Court; and a developed area near W. Louise Avenue and S. Airport Way. Manteca is an LRA that is served by the Manteca Fire Department. The Manteca Fire Department serves approximately 71,164 residents throughout approximately 17.2 square miles within the City limits. The City of Manteca is not categorized as a "Very High" FHSZ by CalFire. No cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire.

STATE RESPONSIBILITY AREAS

There are no State Responsibility Areas (SRAs) within the vicinity of the Planning Area.

FEDERAL RESPONSIBILITY AREAS

There are no Federal Responsibility Areas (FRAs) within the vicinity of the Planning Area.

Fire Threat

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme. Fire threat can be

used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes.

As shown in Figure 3.8-4, the majority of the Planning Area within Manteca is considered to have no fire threat with some concentrations of land considered to have a low to moderate fire threat to people. The majority of the land with a low to moderate fire threat to people is located in the southeast corner of the Planning Area, at the intersections along State Route 120, and generally along the City Limits and Highway 99. The Planning Area also contains small portions of land categorized as high fire threat to people generally found along Lathrop Road, the intersection of Union Road and State Route 120, and various locations generally along the City Limits.

3.8.2 REGULATORY SETTING

FEDERAL

Aviation Act of 1958

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA is charged with the creation and maintenance of a National Airspace System.

Federal Aviation Regulations (CFR, Title 14)

The Federal Aviation Regulation (FAR) establish regulations related to aircraft, aeronautics, and inspection and permitting.

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.

Clean Water Act

The Clean Water Act (CWA), which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

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. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous material 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.

Environmental Protection Agency

The primary regulator of hazards and hazardous materials is the EPA, whose mission is to protect human health and the environment. The City of Manteca is located within EPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.

FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of "Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire" by the U.S. Departments of the Interior and Agriculture.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

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.

Resource Conservation and Recovery Act

The Resources Conservation and Recovery Act (RCRA) established EPA's "cradle to grave" control (generation, transportation, treatment, storage and disposal) over hazardous materials and wastes. In California, the DTSC has RCRA authorization.

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 established 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. The RCRA was further amended in 1988 to set additional standards for USTs.

In July 2015, the EPA revised the federal UST regulation, which strengthened the 1988 federal UST regulations by increasing emphasis on properly operating and maintaining UST equipment. The revision added new operation and maintenance requirements and addressed UST systems deferred in the 1988 UST regulation. The purpose of the revision was to help prevent and detect UST releases, which are a leading source of groundwater contamination. To ensure compliance performance measures reflect the 2015 UST regulation, the Environmental Protection Agency (EPA) and the Association of State and Territorial Solid Waste Management Officials coordinated to update existing compliance performance measures and add new measures. The measures required states to switch from tracking compliance against significant operational compliance measures to the more stringent technical compliance rate (TCR) measures. As of October 2019, only 43.7 percent of USTs were in compliance with all TCR categories.

STATE

Aeronautics Act (Public Utilities Code §21001)

The Caltrans Division of Aeronautics bases the majority of its aviation policies on the Aeronautics Act. Policies include permits and annual inspections for public airports and hospital heliports and recommendations for schools proposed within two miles of airport runways.

Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect *public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses* (Pub. Util. Code §21670). Furthermore, each ALUC must prepare an ALUCP. Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

Assembly Bill 337

Per AB 337, local fire prevention authorities and CalFire are required to identify Very High Fire Hazard Severity Zones (VHFHSZ) in LRAs. Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

California Code of Regulations

Title 3 of the California Code of Regulations (CCR) pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application;
- Damage non-target crops or animals or any other public or private property; and
- Contaminate public or private property or create health hazards on said property.

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation, and maintenance of the state's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

California Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

California Health and Safety Code

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12 establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

Division 20 establishes DTSC authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a State superfund framework that mirrors the Federal program.

Division 26 establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

California Health and Safety Code and Uniform Building Code Section 13000 et seq.

State fire regulations are set forth in §13000 *et seq*. of the California Health and Safety Code, which is divided into "Fires and Fire Protection" and "Buildings Used by the Public." The regulations provide for the enforcement of the Uniform Building Code and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

California Vehicle Code §31600 (Transportation of Explosives)

This code establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

California Public Resources Code

The State's Fire Safety Regulations are set forth in Public Resources Code §4290, which include the establishment of SRAs.

Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone who "…*owns, leases, controls, operates, or maintains a building or structure in, upon, or*

adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material" (§4291(a)).

Food and Agriculture Code

Division 6 of the California Food and Agriculture Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

State Oversight of Hazards and Hazardous Materials

The DTSC is chiefly responsible for regulating the handling, use, and disposal of toxic materials. The State Water Resources Control Board (SWRCB) regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The RWQCB oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the Federal and California Division of Occupational Safety and Health (Cal/OSHA) and the California Department of Health Services (DHS) at the state level. Air quality is regulated through the CARB and San Joaquin Valley Air Pollution Control District. The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CalFire provides fire protection services for State and privately-owned wildlands.

Water Code

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the SWRCB and the RWQCB. In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

LOCAL

Certified Unified Program Agencies

Senate Bill 1082 (1993) required the establishment of a unified hazardous waste and hazardous materials management program. The result was Cal EPA's United Program, which consolidates the actions of DTSC, the SWRCB, the RWQCB's, OES, and the State Fire Marshall. DTSC oversees the implementation of the hazardous waste generator and onsite treatment program, one of six environmental programs at the local level, through Certified Unified Program Agencies (CUPAs). CUPAs have authority to enforce regulations, conduct inspections, administer penalties, and hold hearings. San Joaquin County implements the CUPA that has enforcement authority over the City of Manteca. Offices are located in Stockton.

San Joaquin Valley Air Pollution Control District

San Joaquin Valley Air Pollution Control District (SJVAPCD) has jurisdiction over the City of Manteca and deals with pollutants that get into the air from stationary (including fumes, dust and smoke, some asbestos) and mobile sources. SJVAPCD's mission is to improve the health and quality of life

for all Valley residents through efficient, effective and entrepreneurial air quality management strategies. SJVAPCD responds to complaints about smells, answers questions about air quality management permits, and reviews development projects for compliance with air quality and greenhouse gas significance thresholds. The SJVAPCD and air quality are addressed in detail in Section 3.3, Air Quality, of this EIR.

San Joaquin County

Hazardous waste programs are managed and implemented locally through the County of San Joaquin CUPA. The County hosts a variety of hazardous waste collection events throughout the County in an effort to deter improper disposal of hazardous wastes.

Household Hazardous Waste (HHW) Collection Facilities receive hazardous waste that comes from homes and, in some cases, from small business hazardous waste generators. Household wastes include pesticides, batteries, old paint, solvents, used oil, antifreeze, and other chemicals that should not go into a regular municipal landfill.

San Joaquin County Public Health Services monitors the possible groundwater and soil contamination from underground tanks. Its funding mechanism is a billing contract with the State Water Quality Control Board. Public Health Services clean-up enforcement falls under Title 23, California Code of Regulations. Case workers monitor site-specific development and must be contacted prior to development.

The City of Manteca and San Joaquin County Public Works Department deal with illegal discharges to sanitary or industrial sewers, and sometimes collect household hazardous waste. They also help to guard against illegal discharges to storm sewers (releases to the street, etc.).

Households Hazardous Waste

HHWs include pesticides, batteries, old paint, solvents, used oil, antifreeze, and other chemicals that should not go into a regular municipal landfill. HHW programs focus on removing dangerous substances from homes and preventing their release into the environment through landfills, sewer systems and illegal dumping. The City of Manteca and San Joaquin County Public Works Solid Waste Division host a variety of hazardous waste collection events throughout the year to assist in the elimination of household hazardous waste. HHW Collection Facilities receive hazardous waste that comes from homes and, in some cases, from small business hazardous waste generators.

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 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; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: General Plan implementation has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant)

Future development, infrastructure, and other projects allowed under the General Plan may involve the transportation, use, and/or disposal of hazardous materials. Hazardous materials are typically used in industrial, and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, associated with previous activities on a site. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the Cal OSHA and the DTSC consistent with the requirements of Federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are

required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police and Fire) would respond. All future projects allowed under the General Plan would be required to comply with the provisions of Federal, State, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

In addition to the requirements associated with Federal and State regulations and the Municipal Code, the General Plan includes policies and actions to address potential impacts associated with hazardous materials among other issues. These policies and actions in the General Plan, which are listed below, would ensure that potential hazards are identified on a project site, that development is located in areas where potential exposure to hazards and hazardous materials can be mitigated to an acceptable level, and that business operations comply with Federal and State regulations regarding the use, transport, storage, and disposal of hazardous materials. The General Plan also includes policies and actions to ensure that the City has adequate emergency response plans and measures to respond in the event of an accidental release of a hazardous substance.

As described previously in the regulatory setting, hazardous materials regulations related to the use, handling, and transport of hazardous materials are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code. These laws were established at the state level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the state (e.g., Cal OSHA in the workplace or DTSC for hazardous waste) and/or the County. The haulers and users of hazardous materials are listed with the City of Manteca Fire Department and are regulated and monitored by the San Joaquin County. In addition, implementation of Title 49, Parts 171-180, of the Code of Federal Regulations would reduce any impacts associated with the potential for accidental release of hazardous materials. Therefore, implementation of the General Plan policies and actions listed below, as well as Federal and State regulations, would ensure that potential impacts associated with the routine use, transport, storage, or disposal or accidental release of hazardous materials would be reduced to **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

S-4.1: Maintain an awareness of hazardous materials throughout the Manteca region.

S-4.2: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials to protect the health and safety of Manteca residents.

S-4.3: As part of the development review process, consider the potential for the production, use, storage, transport, and/or disposal of hazardous materials and provide for appropriate controls on such hazardous materials consistent with federal, state, and local standards.

S-4.4: Use the environmental review process to comment on Hazardous Waste Transportation, Storage and Disposal Facilities proposed in the Manteca Planning Area and throughout the County to request a risk assessment and ensure that potentially significant, widespread, and long-term impacts on public health and safety of these facilities are identified and mitigated, as such impacts do not respect jurisdictional boundaries.

SAFETY ELEMENT ACTIONS

S-4a: As part of the development review process, require projects that result in significant risks associated with hazardous materials to include measures to address the risks and reduce the risks to an acceptable level.

S-4b: Review development proposals to address proximity of users and transporters of significant amounts of hazardous materials relative to sensitive uses, such as schools and residential neighborhoods.

S-4c: Continue to require the submittal of information regarding hazardous materials manufacturing, storage, use, transport, and/or disposal by existing and proposed businesses and developments to the Manteca Fire Department.

S-4d: Annually coordinate with the Manteca Fire Department and 911 dispatch center to ensure that the City maintains a current database of hazardous materials.

S-4e: Coordinate with the Manteca Fire Department, other local agencies, and Union Pacific Railroad to strictly regulate and enforce the use, storage, transport, and/or disposal of hazardous materials under California Administrative Code Title 19 requirements.

S-4f: Continue to work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

S-4g: Cooperate fully with Union Pacific Railroad and other agencies, such as the California Highway Patrol, in the event of a hazardous material emergency.

S-4h: Continue the City hazardous waste pick-up program for household hazardous materials.

Impact 3.8-2: General Plan implementation has the 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 (Less than Significant)

The Manteca Unified School District (MUSD) provides school services for grades K through 12 within the communities of Manteca, Lathrop, Stockton, and French Camp. The District is approximately 113 square miles and serves more than 23,500 students. Within the City of Manteca, there are thirteen schools serving elementary age and middle school students (grades K-8), one K-6 school, four high schools (grades 9-12), one 7-12, and one vocational high school (grades 11-12). Table 3.8-6 lists MUSD schools in Manteca grades serves location and the most recent enrollment for each school.

TABLE 3.8-6: PUBLIC SCHOOLS SERVING MANTECA

SCHOOL	*GRADES SERVED*	*ADDRESS*	*ENROLLMENT 2018-2019 SCHOOL YEAR*
ELEMENTARY AND MIDDLE SCHOOLS			
George McParland Elementary School	K-8	1601 Northgate Dr.	1,121
Stella Brockman Elementary School	K-8	763 Silverado Dr.	853
Brock Elliott Elementary School	K-8	1110 Stonum Ln.	849
Golden West Elementary School	K-8	1031 North Main St.	531
Joshua Cowell Elementary School	K-8	740 Pestana Ave.	608
Lincoln Elementary School	K-8	750 E Yosemite Ave.	646
Manteca Community Day	K-6	737 W Yosemite Ave.	4
Neil Hafley Elementary School	K-8	849 Northgate Dr.	766
New Haven Elementary School	K-8	14600 Austin Rd.	530
Nile Garden Elementary School	K-8	5700 E Nile Rd.	651
Sequoia Elementary School	K-8	710 Martha St.	798
Shasta Elementary School	K-8	751 E Edison St.	763
Veritas Elementary School	K-8	1600 Pagola Ave.	938
Walter Woodward Elementary School	K-8	575 Tannehill Dr.	867
HIGH SCHOOLS			
Calla High School	9-12	130 S Austin Rd.	160
East Union High School	9-12	1700 N Union Rd.	1,603
Manteca Community Day School	7-12	737 W Yosemite Ave.	44
Manteca High School	9-12	450 E Yosemite Ave.	1,663
Sierra High School	9-12	1700 Thomas St.	1,377
Manteca Unified Vocational Academy (be.tech)	11-12	2271 W. Louise Ave.	121

SOURCES: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2018-19

The General Plan Land Use Element includes land use designations, but does not propose actual development projects, businesses, or school facilities. As such, it is not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste in proximity to a school site. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste would be business industrial park, business park, commercial, industrial, and agricultural industrial uses. Some of these uses would likely occur within ¼ mile of an existing school. Each of these uses may use a variety of hazardous materials commonly found in urban areas including: paints, cleaners, and cleaning solvents. If handled appropriately, these materials do not pose a significant risk. The Business Industrial Park land use designation generally provides for sites for large uses in an office park environment that would include multi-tenant building. Allowed uses include administrative, offices, research and development, light industrial, including manufacturing and assembly, and commercial storage. The Business Professional land use designation for professional and administrative offices, medical and dental clinics, laboratories, financial institutions, public and quasi-public uses, and similar and compatible uses. The Commercial land use designation generally

provides for a variety of neighborhood, community, and regional-serving retail and service uses; offices; restaurants; service stations; highway-oriented and visitor commercial and lodging; auto-serving and heavy commercial uses; wholesale; warehousing; public and quasi-public uses; commercial recreation and public gathering facilities, such as amphitheaters or public gardens; and similar and compatible uses. The Industrial designation provides for manufacturing, processing, assembling, research, wholesale, and storage uses, trucking terminals, railroad and freight stations, industrial parks, warehouses, distribution centers, light manufacturing, public and quasi-public uses and similar and compatible uses. The Agricultural Industrial land use provides for limited industrial uses directly related to agriculture and compatible uses, such as wineries, food packaging and processing, storage of food and beverages processed on-site, agricultural education, and agricultural research and development.

The proposed General Plan is not anticipated to directly lead to the establishment of new businesses that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste because the General Plan does not approve any specific development project. However, given the unknown nature of future business establishments within the commercial and industrial use areas, the potential for hazardous materials is present. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

Nevertheless, all hazardous materials would be required to be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the SJVAPCD, RWQCB, DTSC and the local CUPA (San Joaquin County). In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. As part of the development review process, the City's proposed General Plan also includes policies and requirements, listed below, that require projects that may result in significant risks associated with hazardous materials to include measures to address and reduce the risks to an acceptable level such that surrounding uses are not exposed to hazardous materials in excess of adopted state and federal standards, and also require the submittal of information regarding hazardous materials manufacturing, storage, use, transport, and/or disposal by existing and proposed businesses and developments to the Manteca Fire Department. Compliance with all existing regulations as well as General Plan policies and actions related to land use compatibility and hazardous materials would ensure that the impact is **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

S-4.1: Maintain an awareness of hazardous materials throughout the Manteca region.

S-4.2: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials to protect the health and safety of Manteca residents.

S-4.3: As part of the development review process, consider the potential for the production, use, storage, transport, and/or disposal of hazardous materials and provide for appropriate controls on such hazardous materials consistent with federal, state, and local standards.

S-4.4: Use the environmental review process to comment on Hazardous Waste Transportation, Storage and Disposal Facilities proposed in the Manteca Planning Area and throughout the County to request a risk assessment and ensure that potentially significant, widespread, and long-term impacts on public health and safety of these facilities are identified and mitigated, as such impacts do not respect jurisdictional boundaries.

SAFETY ELEMENT ACTIONS

S-4a: As part of the development review process, require projects that result in significant risks associated with hazardous materials to include measures to address the risks and reduce the risks to an acceptable level.

S-4b: Review development proposals to address proximity of users and transporters of significant amounts of hazardous materials relative to sensitive uses, such as schools and residential neighborhoods.

S-4c: Continue to require the submittal of information regarding hazardous materials manufacturing, storage, use, transport, and/or disposal by existing and proposed businesses and developments to the Manteca Fire Department.

S-4d: Annually coordinate with the Manteca Fire Department and 911 dispatch center to ensure that the City maintains a current database of hazardous materials.

S-4e: Coordinate with the Manteca Fire Department, other local agencies, and Union Pacific Railroad to strictly regulate and enforce the use, storage, transport, and/or disposal of hazardous materials under California Administrative Code Title 19 requirements.

S-4f: Continue to work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.

Impact 3.8-3: General Plan implementation has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Less than Significant)

There are no hazardous materials release sites compiled pursuant to Government Code Section 65962.5 located in the Planning Area.

There are 19 locations with a Manteca address that are listed in the Envirostor database. Ten sites are listed as school investigation sites with no action required, one site is listed as a school investigation site which requires further evaluation, two sites were listed as active and are under state cleanup programs, two sites were listed as no further action, two sites were listed as inactive and need further evaluation, one site was referred to the RWQCB, and one site is a voluntary cleanup site that has land use restrictions. As previously shown, Table 3.8-1 lists the active sites

and the inactive (needs evaluation or action required) sites within Manteca. Following the table is a background discussion of these sites.

There are 60 locations within Manteca (i.e., with a Manteca address) that are listed in the GeoTracker database. Fifty-eight of the locations have undergone LUST cleanup and the State has closed the case. There two six locations in Manteca with an open case. As previously shown, in Table 3.8-2 lists the location of the open and closed cases for LUSTs in Manteca.

The City of Manteca has seven solid waste facilities listed in the SWIS database, four of which are active. The first active facility is the Lovelace Transfer Station (39-AA-0008), a large volume transfer and processing operation located at 2323 Lovelace Road. The second active facility is the Forward Landfill, Inc. (39-AA-0015), an active solid waste landfill, located at 9999 S. Austin Road. The third active facility is the Forward Resource Recovery Facility (39-AA-0020), a large volume transfer and processing facility at 9999 N. Austin Road. The fourth active facility is the Delicato Vineyards (39-AA-0037), a compositing operation located at 12001 S. Highway 99.

The above-mentioned sites are subject to various Federal and State laws and regulatory agencies, including the CERCLA, EPA, DTSC, and RWQCB. Development allowed by the General Plan could create a hazard to the public or the environment through a disturbance or release of contaminated materials if the development occurs on or adjacent to contaminated sites without appropriate measures to contain or mitigate the existing contamination. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

Federal and State regulations ensure that existing hazards, including those associated with known hazardous materials sites, are addressed prior to development. Compliance with Federal and State regulations would ensure that potential impacts associated with the hazardous conditions on sites listed pursuant to Government Code Section 65962.5 would be **less than significant**.

Impact 3.8-4: General Plan implementation is not located within an airport land use plan, two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area (Less than Significant)

Hazards related to airports are typically grouped into two categories: air hazards and ground hazards. Air hazards jeopardize the safety of an airborne aircraft and expose passengers, pilots, and crews to danger. Examples of air hazards include tall structures, glare-producing objects, bird and wildlife attractants, radio waves from communication centers, or other features that have the potential to interfere with take-off or landing procedures, posing a risk to aircraft. Ground hazards jeopardize the safety of current and future residents and/or workers in the vicinity of an airport. The most obvious ground hazard is a crash, which may produce a serious, immediate risk to those residing in or using areas adjacent to the airport. Most accidents occur during take-off and landing. Therefore, the higher the density around an airport, including transportation facilities, the higher the risk associated with this type of hazard.

There are no airport facilities located within the Planning Area. The nearest airport facilities within the vicinity of the Planning Area are the Stockton Metropolitan Airport, located approximately 3.5 miles north of the Manteca City limits, and the New Jerusalem Airport, located approximately 6.5 miles southwest of the Manteca City limits.

The New Jerusalem Airport is owned and operated by the City of Tracy. New Jerusalem Airport is served by one runway, Runway 12-30, which is 3,530 feet long and 60 feet wide, constructed of asphalt. The airport is unattended and serves as a staging area for aerial chemical application, pilot training activities, as well as powered parachute and ultralight activities. The Planning Area is located outside of the airport influence areas for the New Jerusalem Airport; therefore, it is not anticipated that this airport would pose a hazard to people residing or working in the Planning Area.

As previously mentioned, the Stockton Metropolitan Airport is located in unincorporated San Joaquin County adjacent to the City of Stockton City Limits southern boundary. This airport is a County-owned facility that occupies approximately 1,609 acres at an elevation of 23 feet above Mean Sea Level (MSL). The Stockton Metropolitan Airport is designated as a Non-hub Commercial Service Airport within the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). The airport is served by Allegiant Air, which provides service to Phoenix/Mesa, Arizona and Las Vegas, Nevada. In addition to commercial service, Stockton Metropolitan Airport offers a wide range of fixed base operators (FBOs) providing fuel, aircraft maintenance, aircraft hangar and tie-down rental, aircraft rental, flight training, aircraft management services, and pilot lounges for corporate and general aviation pilots. The airport also houses FBOs that support air cargo operations.

The NTSB Aviation Accident (NTSBAA) Database identifies one aircraft accident (nonfatal) on October 16, 1969 at the Stockton Metropolitan Airport; however, the accident did not occur within the City of Manteca. Additionally, the NTSBAA Database does not identify any aircraft accidents with Manteca identified as the nearest location between January of 1983 to 2020. (National Transportation Safety Board, 2017).

As shown in Figure 3.8-2, the northernmost portion of the Planning Area is located within the airport influence area for the Stockton Metropolitan Airport identified in the ALUCP. The majority of this land within the airport influence area is zoned for agricultural uses by the City's General Plan 2023. Other land uses within the airport influence area include park, industrial, commercial, public, low density residential, and medium density residential.

The lands within the Planning Area that are located in the airport influence area for the Stockton Metropolitan Airport are not within the Airport's noise exposure contours. The lands within the Planning Area that are located in the airport influence area are within three of the Airport's Safety Zones: Traffic Pattern Zone 7a, 7b, and Zone 8. Lands within Traffic Pattern Zone 7a and 7b cannot be developed with non-residential intensities greater than 450 persons per acre and must have open land over 10% of the site. Additionally, uses within Traffic Pattern Zone 7a cannot be hazardous to flight, include waterways that create a bird hazard, and outdoor stadiums are prohibited. Similarly, uses within Traffic Pattern Zone 7b cannot be hazardous to flight, and

outdoor stadiums are prohibited. Non-residential development on land within Traffic Pattern Zone 8 is not subject to a maximum intensity or open space requirement. Airspace review is required for development greater than 100 feet tall on lands within Zone 7a, 7b or Zone 8. Similarly, new dumps or landfills within Zone 7a, 7b, or Zone 8 are subject to the FAA notification and review and are further subject to restrictions and conditions outlined by the FAA.As shown in Figure 3.8-2, the proposed General Plan Land Use map would place a variety of land uses within the airport influence area for the Stockton Metropolitan Airport, including Agricultural Industrial, Agriculture, Commercial, Commercial Mixed Use, Very Low Density Residential, Low Density Residential, Medium Density Residential, High Density Residential, Business Park Industrial, Business Professional, Industrial, and Park uses. Overall, these proposed land uses are generally consistent with the Stockton Metropolitan Airport ALUCP; however, the Commercial and Public/Quasi-Public land use designations located within Traffic Pattern Zones 7a and 7b could potentially conflict with the Stockton Metropolitan Airport ALUCP. The Commercial land use designations allows public gathering facilities, such as amphitheaters. Additionally, the Public-Quasi-Public land use designation allows commercial recreation uses, including public and private parks, beach and water access, recreation fields.

The City of Manteca has prepared the General Plan to include numerous policies and actions intended to ensure future developments are consistent with the Stockton Metropolitan ALUCP. General Plan Policy LU-2.10 requires development within the Stockton Metropolitan Airport Influence Area to be consistent with the compatible uses identified in the Project Review Guidelines for the Airport Land Use Commission. As described above, lands within the Planning Area include lands within Zone 7 (traffic pattern zone) and Zone 8 (airport influence area). Additionally, General Plan Action LU-2i requires all applications for development within the Stockton Metro Airport Area of Influence to be referred to the ALUC and the Stockton Metro Airport for comment to ensure that all future plans have limited impacts to the community of Manteca. Implementation of the General Plan policies and actions discussed above and listed below, as well as Federal and State regulations, would ensure that potential impacts relative to this topic would be reduced to **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU-2.10: Ensure that development within the Stockton Metropolitan Airport Influence Area (Figure LU-3) is consistent with the compatible uses identified in the Project Review Guidelines for the Airport Land Use Commission. Lands within the Planning Area include lands within Zone 7 (traffic pattern zone) and Zone 8 (airport influence area).

LAND USE ELEMENT ACTIONS

LU-2i: Refer all applications for development within the Stockton Metro Airport Area of Influence to the Airport Land Use Commission and the Stockton Metro Airport for comment.

Impact 3.8-5: General Plan implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

The General Plan would allow a variety of new development, including residential, commercial, industrial, and public projects, which would result in increased jobs and population in Manteca. Road and infrastructure improvements would occur to accommodate the new growth. Future development and infrastructure projects are not anticipated to remove or impede any established evacuation routes within the City. Furthermore, the General Plan does not include land uses, policies, or other components that conflict with adopted emergency response or evacuation plans. However, given that the type, location, and size of future development and infrastructure projects is not known at this time, there is the potential that the City could receive a development proposal that could potentially interfere with an established emergency evacuation route or plan. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

The General Plan ensures that the City's emergency access routes, emergency contact lists, and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency. Important new critical facilities would be located to ensure resiliency in the event of a natural disaster. Implementation of the General Plan policies and actions listed below would reduce this potential impact to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTION THAT MITIGATE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

S-1.1: Maintain and periodically update the City's Emergency Plan.

S-1.2: Ensure the availability and functionality of critical facilities during flooding events.

S-1.3: Locate new critical City facilities, and promote the location of non-City critical facilities, including hospitals, emergency shelters, emergency response centers, and emergency communications facilities, outside of flood hazard zones and geologic hazard areas where feasible. Critical facilities that are, or must be, located within flood hazard zones or areas with geologic hazards should incorporate feasible site design or building construction features to mitigate potential risks, including those associated with geologic, seismic, and flood events, to ensure accessibility, operation, and structural integrity, during an emergency and to minimize damage to the facility.

S-1.4: Encourage community awareness of seismic, flooding, and other disaster safety issues, including building safety, emergency response plans, and understanding steps to take for safety during and after a disaster, including identified evacuation routes.

S-1.5: Continue to cooperate with San Joaquin County and other public agencies in implementing the Countywide Emergency Preparedness Plan and Local Hazard Mitigation Plan.

SAFETY ELEMENT ACTIONS

S-1a: Regularly conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-1b: Regularly review County and State emergency response procedures that must be coordinated with City procedures.

S-1c: Cooperate with San Joaquin County OES, Manteca Fire Department, Lathrop Manteca Fire District, Manteca Police Services, the reclamation districts, and other agencies with responsibility for emergency management in emergency response planning, training and provision of logistical support.

Impact 3.8-6: General Plan implementation has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires (Less than Significant)

Wildfires are a potential hazard to development and land uses located in the foothill and forested areas of the city. The severity of wildfire problems depends on a combination of vegetation, climate, slope, and people. The vegetation and topography found in the eastern portions of the Planning Area, coupled with hot, dry summers, present fire hazards during critical fire periods for much of the county. In addition to natural factors such as lightning, human activity is a primary factor contributing to the incidence of wildfires. Campfires, smoking, debris burning, arson, public utility infrastructure, and equipment use are common human-related causes of wildfires.

The City of Manteca is not categorized as a "Very High" FHSZ and no cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire. The majority of the Planning Area is not located within an LRA and categorized as Urban Unzoned or Non-Wildland/Non-Urban. As shown in Figure 3.8-3, four portions of the Planning Area are located within an LRA categorized as a Moderate FHSZ. The first is a developed area located near the intersection of Airport Way and Yosemite Avenue; the second is a developed area located east and southeast of the intersection of Austin Road and Yosemite Avenue; the third is an area located west of the intersection of East Southland Road and Southland Court; and the fourth is a developed area located near the Wet Louise Avenue and South Airport Way. It should be noted that there are no State Responsibility Areas or Federal Responsibility Areas within the vicinity of the Planning Area.

Fire threat determinations is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create four threat classes ranging from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes. As shown on Figure 3.8-4, the Planning Area contains tiny concentrations of land categorized as high fire threat to people generally found along Lathrop Road, the intersection of Union Road and State Route 120, and various locations generally along the City Limits; however, it should be noted that the majority of the Planning Area within Manteca is considered to have no fire threat with some concentrations of land considered to have a low to moderate fire threat to people. The majority of the land with a

low to moderate fire threat to people is located in the southeast corner of the Planning Area, at the intersections along State Route 120, and generally along the City Limits and Highway 99.

The General Plan includes policies and actions, listed below, for adequate water supply and water flow availability, ensuring adequate emergency access, adequate fire protection services, fire safe design site standards, and ensuring public awareness regarding fire safety. All future projects allowed under the General Plan would be required to comply with the provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with wildland fire hazards as required under CEQA. Development under the General Plan would allow development to place people and/or structures in undeveloped areas that are identified as having a low to moderate risk of wildland fires; therefore, this is considered a potentially significant impact, which would be mitigated to a **less than significant** level through the implementation of the policies and actions listed below.

GENERAL PLAN POLICIES AND ACTION THAT MITIGATE POTENTIAL IMPACTS

COMMUNITY FACILITIES ELEMENT POLICIES

CF-3.1: Through adequate staffing and station locations, maintain a maximum five-minute travel response time 90% of the time for fire and emergency calls and an overall fire insurance (ISO) rating of 3 or better for all developed areas within the City.

CF-3.2: Provide fire services to serve the existing and projected population.

CF-3.3: Periodically review, and if necessary, amend, the criteria for determining the circumstances under which fire service will be enhanced.

CF-3.4: Design and maintain roadways in such a way so as to maintain acceptable emergency vehicle response times.

CF-3.5: Ensure that new development is designed, constructed, and equipped consistent with the requirements of the California Fire Code in order to minimize the risk of fire.

CF-3.6: Ensure that new development is served with adequate water volumes and water pressure for fire protection.

SAFETY ELEMENT POLICIES

S-1.1: Maintain and periodically update the City's Emergency Plan.

S-1.4: Encourage community awareness of seismic, flooding, and other disaster safety issues, including building safety, emergency response plans, and understanding steps to take for safety during and after a disaster, including identified evacuation routes.

S-1.5: Continue to cooperate with San Joaquin County and other public agencies in implementing the Countywide Emergency Preparedness Plan and Local Hazard Mitigation Plan.

S-2.9: Require compliance with the State's building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

COMMUNITY FACILITIES ELEMENT ACTIONS

CF-3a: Continuously monitor response times and provide the City Council with an annual report on the results of the monitoring.

CF-3b: Continue to enforce the California Building Code and the California Fire Code to ensure that all construction implements fire-safe techniques, including fire resistant materials, where required.

CF-3c: As part of the City's existing development review process for new projects, the Fire Department will continue to make determinations on projects' potential impacts on fire protection services. Requirements will be added as conditions of project approval, if appropriate.

CF-3d: The Planning Commission and City Engineer will review proposed residential street patterns to evaluate the accessibility for fire engines and emergency response.

SAFETY ELEMENT ACTIONS

S-1a: Regularly conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-1b: Regularly conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-1:c Cooperate with San Joaquin County OES, Manteca Fire Department, Lathrop Manteca Fire District, Manteca Police Services, the reclamation districts, and other agencies with responsibility for emergency management in emergency response planning, training and provision of logistical support.

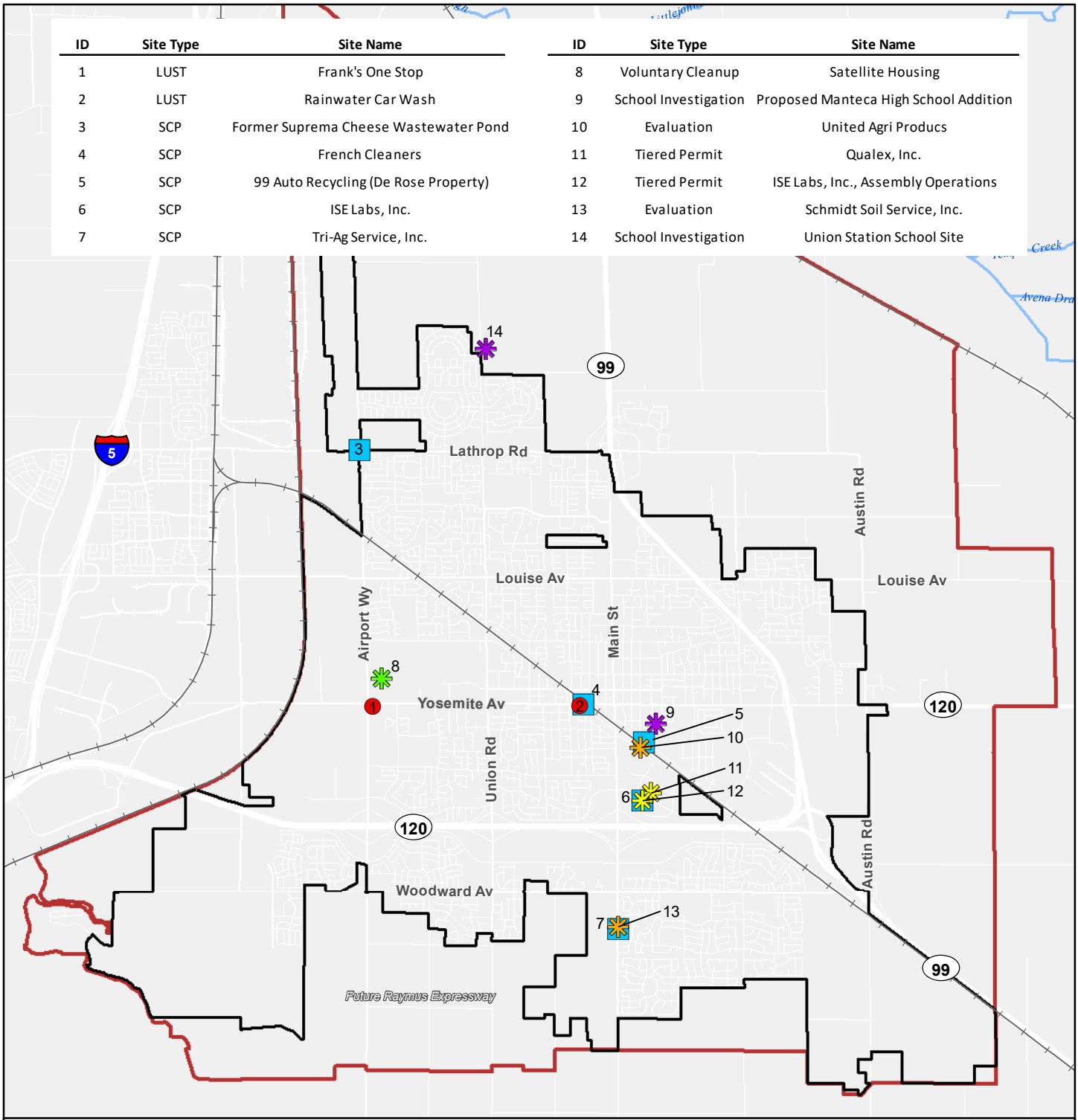
S-2b: Review development proposals to ensure compliance with the current State building standards.

S-4a: As part of the development review process, require projects that result in significant risks associated with hazardous materials to include measures to address the risks and reduce the risks to an acceptable level.

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ID	Site Type	Site Name
1	LUST	Frank's One Stop
2	LUST	Rainwater Car Wash
3	SCP	Former Suprema Cheese Wastewater Pond
4	SCP	French Cleaners
5	SCP	99 Auto Recycling (De Rose Property)
6	SCP	ISE Labs, Inc.
7	SCP	Tri-Ag Service, Inc.

ID	Site Type	Site Name
8	Voluntary Cleanup	Satellite Housing
9	School Investigation	Proposed Manteca High School Addition
10	Evaluation	United Agri Producs
11	Tiered Permit	Qualex, Inc.
12	Tiered Permit	ISE Labs, Inc., Assembly Operations
13	Evaluation	Schmidt Soil Service, Inc.
14	School Investigation	Union Station School Site



Legend

- City of Manteca
- Manteca Planning Area
- Active Leaky Underground Storage Tank (LUST) Site
- Open Water Board Site Cleanup Program (SCP) Site
- Evaluation Site
- School Investigation Site
- State Response Site
- Tiered Permit Site
- Voluntary Cleanup SIte

CITY OF MANTECA GENERAL PLAN

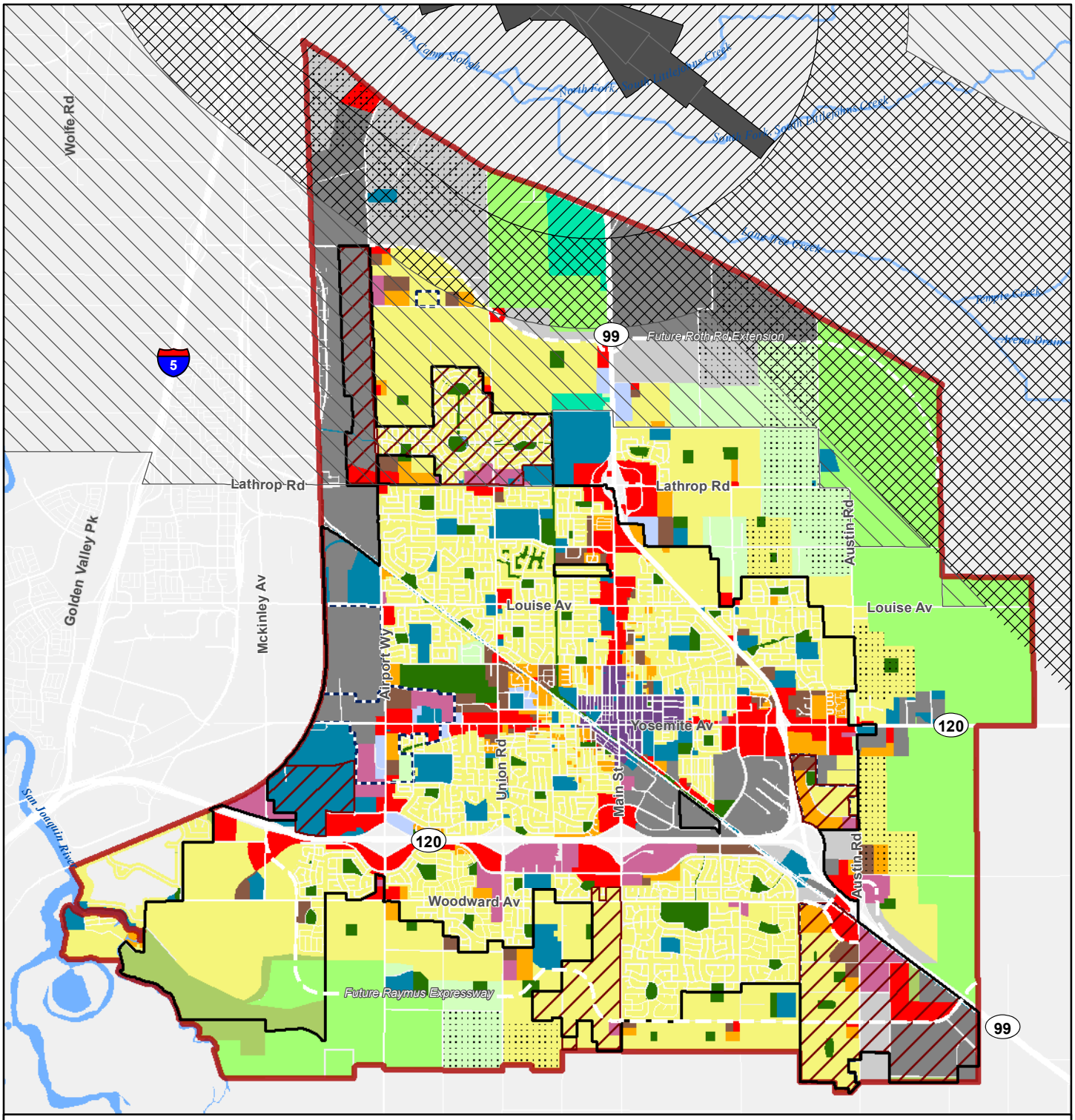
Figure 3.8-1. Hazardous Sites

0 ½ 1
Miles

Sources: City of Manteca; San Joaquin County; EnviroStor; GeoTracker. Map date: December 17, 2020.

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Legend

- City of Manteca
- Manteca Planning Area
- Policy Area
- Urban Reserve Overlay
- Master/Specific Plan Overlay

Stockton Metropolitan Airport Areas

- Zones 1-6: Runway, Approach, Turning, and Property Zones
- Zone 7a (TPZ): Traffic Pattern Zone
- Zone 7b (TPZ): Traffic Pattern Zone
- Zone 8 (AIA): Airport Influence Area

General Plan Designations

- Agricultural Industrial
- Agriculture
- Commercial
- Commercial Mixed Use
- Downtown
- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Business Industrial Park
- Business Professional
- Industrial
- Open Space
- Park
- Public/Quasi-Public

Sources: City of Manteca; San Joaquin County. Map date: December 17, 2020.

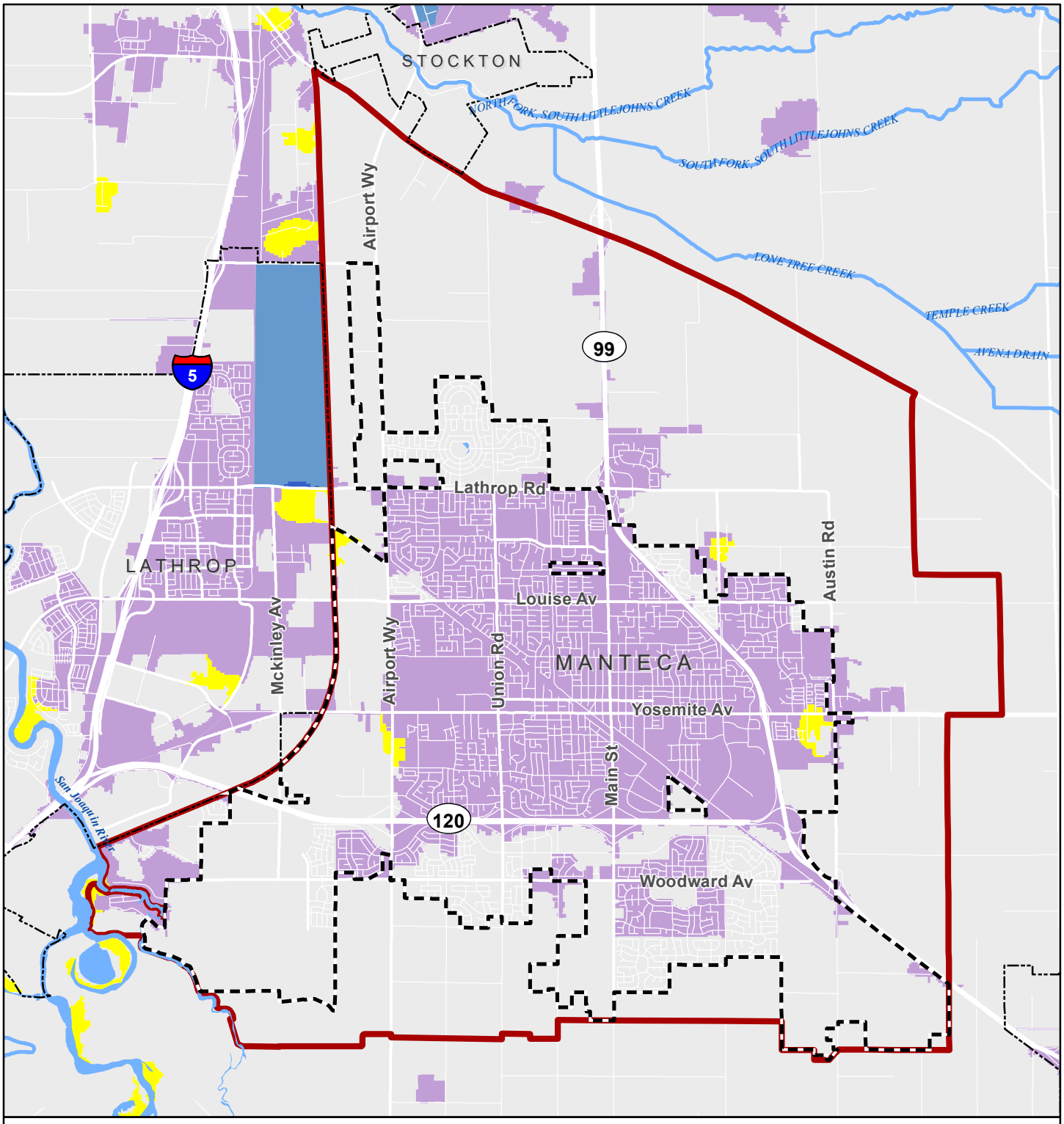
CITY OF MANTECA GENERAL PLAN

Figure 3.8-2.
Stockton Metropolitan Airport

0 ½ 1
Miles

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Legend

Planning Areas

- Manteca City Limits
- Surrounding Cities
- Manteca Planning Area

Responsibility Area: Hazard Class

- Federal: Moderate
- Federal: Urban Unzoned
- Local: Moderate
- Local: Non-Wildland/Non-Urban
- Local: Urban Unzoned

CITY OF MANTECA GENERAL PLAN

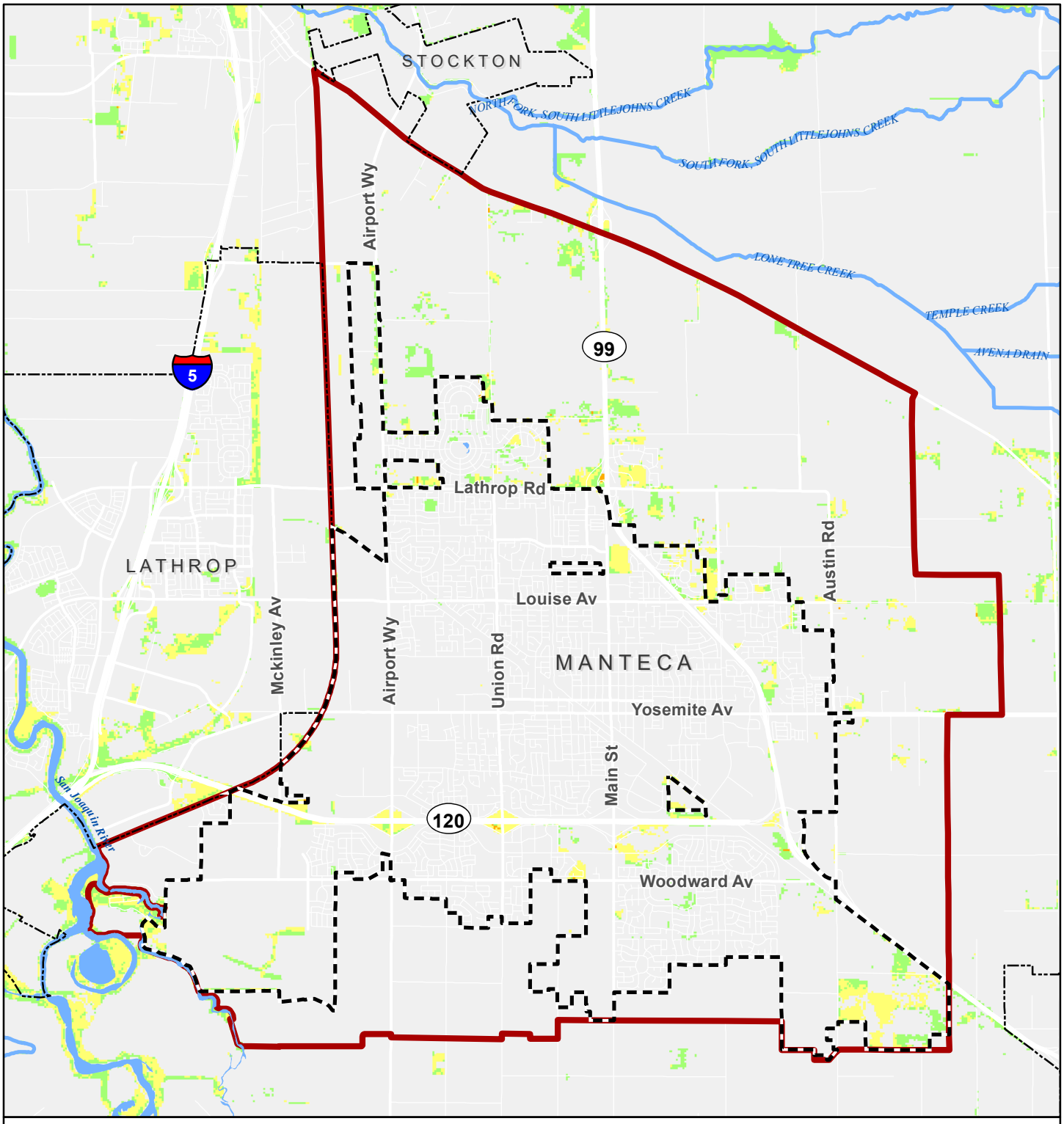
Figure 3.8-3. Fire Hazard Severity Zones

0 ½ 1
Miles

Sources: California Department of Forestry and Fire Protection, Fire and Resource Assessment Program (CALFIRE-FRAP), 2007; San Joaquin County. Map date: January 10, 2020. Revised: December 14 2020.

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Legend

Planning Areas

- Manteca City Limits
- Surrounding Cities
- Manteca Planning Area

Threat Class

- Low
- Moderate
- High
- Very High (not within the City or SOI)
- Extreme (not within the City or SOI)
- Not Mapped

CITY OF MANTECA GENERAL PLAN

Figure 3.8-4. Fire Threat to People

N

0 ½ 1

Miles

Sources: California Department of Forestry and Fire Protection, Fire and Resource Assessment Program (CALFIRE-FRAP), fthrt14_2; San Joaquin County. Map date: January 10, 2020. Revised: December 14, 2020.

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